Notes from the South-East Research Framework Public Seminar on the Lower and Middle Palaeolithic (13/10/07)

Chair: Francis Wenban-Smith

Speakers: David Bridgland, Martin Bates, Francis Wenban-Smith, Mark Roberts, Peter Harp, Matthew Pope

Notes: Jake Weekes

Introduction

Francis Wenban-Smith (FWS)

FWS opened the meeting by discussing how the South-East Research Framework articulates with national research priorities, and argued that such priorities are definitely needed in order to focus future work. A number of similar regional framework projects have been running in parallel, but it is important to keep in mind the fact that these modern 'regions' do not reflect archaeological resource. The South-East is particularly interesting, however, in terms of how archaeological remains relating to the Pleistocene, such as flint tools, faunal and floral remains, are located in various sedimentary contexts as a result of the unique configuration of solid and drift geology in the region. These various contexts and consequent research priorities would be reflected in the following papers.

River terrace sequences of the Thames, Kent and Sussex

David Bridgland (DB)

Beginning with the Thames sequence, DB presented an updated model for the morphology of deposits representing the Pleistocene cycle of warm and cold climates, and discussed how this relates to contextualising finds and chronological reconstruction. Most of the evidence from the Thames comes from the north bank because of migration of the river in a southerly direction over time. Archaeologists used to think that the earliest archaeological deposits were to be found at Anglian levels (c.480000 BP), but now tend to think all the evidence is later than this period, which saw the diversion of the Thames by the Anglian glaciation. Bridgland's updated model for the Thames terrace staircase (2006) factors in evidence for interglacial deposits tending to be concentrated at a higher level of each terrace, with those deposits often sandwiched between cold climate gravels. The cold climate deposits are ubiquitous, but securely dated interglacial deposits are rare, as therefore are really good archaeological sites with the possibility of *in situ* flint working floors, for example. DB argued however that no deposits should be overlooked simply because archaeological evidence of human activity was not expected in them. At the very least, important contextual information could be sought.

There is not a lot of Palaeolithic material from the upper Medway in Kent, perhaps because there is no flint, but there is more from the lower Medway. DB pointed out that the gravel deposits at Limpsfield are at a very high level, containing a lot of artefacts, but that there is not much interglacial evidence in the Medway terrace sequence overall. In the Palaeolithic, the Medway flowed across modern day Essex and the Thames was diverted into the Medway; these palaeo-channels are still represented off-shore: an under-explored resource. The Stour in east Kent has well known sites at Fordwich and Sturry, in some of the lower terraces in the sequence (at about 100ft above sea level).

DB concluded by discussing deposits associated with Sussex rivers. The Solent is particularly important in relation to the rivers of Sussex, but we don't know as much about the nature of the Sussex deposits as we do about those of the Kent rivers and the Thames (there is also not as much flint in the areas through which the Sussex rivers flow). It is particularly noteworthy that the Arun is known to have good evidence, however, and more work could be done on this in comparison with evidence from the raised beaches at Boxgrove.

Pleistocene fluvial sequences in Kent and Sussex: some thoughts

Martin Bates (MB)

MB continued with Pleistocene fluvial sequences in Kent and Sussex, and raised questions about the ways in which sequences of deposits containing Palaeolithic material are traditionally understood, particularly highlighting issues of sequence discontinuity, abnormality and complexity. Researchers can sometimes be too quick to slot data into traditional chronological frameworks, and perhaps need to re-think such methods in light of more detailed evidence of the complex formation processes of deposit sequences.

In terms of deposit discontinuity, MB highlighted some inherent problems with interpreting evidence from the Sussex coastal plain and its varied distribution of marine deposits. Terraces further inland will not be found out to sea because they are at a higher level. Also, Sussex rivers have declining terrace systems west to east, and, in comparing material along drainage basins, further problems arise in relating and correlating across transitions in the geology through which the rivers flow.

Sequence abnormality is also an important caveat, as recent work carried out on the Hoo peninsula in Kent shows, for example that at Allhallows-on-sea. Developer-funded work on a golf course site comprised geotechnical pits on the lower slopes, which revealed thin interglacial deposits, originally misidentified as London Clay on the basis of the height of the deposits above mean sea level. Evidence derived from molluscs in the deposits showed that they actually dated to Marine Isotope Stage 7–9 (190,000–340,000 BP), further emphasising the need to date Pleistocene deposits whether or not they contain artefacts. The deposits consisted of laminated sands and silts, including early interglacial pollen and molluscs, suggesting channel water from salt to brackish: remnants of a Pleistocene channel. The implications for dating other deposits are obvious, there being a conflict in terms of the age of deposits and their expected age in relation to elevations in the landscape.

At another site at Kingsnorth (upstream from the All Hallows example), work ahead of gravel extraction and the building of a power station revealed palaeo-channels via remote sensing techniques (electrical conductivity). Transects across the site showed the top of a terrace dating to approximately 170,000–180,000 BP. In this case there was much sequence complexity resulting from fluctuations in an estuarine situation, highlighting the need to rethink simplistic application of river terrace models in all circumstances. In other examples radiocarbon dates have also showed that applications of generalised models can be incorrect in specific locations.

Discussion: in a comment from the chair, FWS suggested that the key point to take away from these geological contributions was that dating of deposits of this age is difficult; if we accept that dating is an important part of Palaeolithic archaeological investigation, then this also needs to be accepted at a curatorial level — leading to accepting the significance of dating, faunal recovery and palaeo-environmental investigation of deposits with no archaeological remains. This type of work can date nearby sites with Palaeolithic remains, and is also of interest in elucidating a story of landscape history and development that is of general interest in its own right.

Fluvial and Aeolian/Colluvial/Solifluction contexts

Francis Wenban-Smith (FWS)

FWS proceeded to give an overview of the types of contexts and deposits from which Palaeolithic material can be derived in the South-East, noting first the complex structure of solid geology that characterises the region, and its implications for Palaeolithic archaeology, affecting both the nature of the ancient environment and its resources, and also varied survival of evidence. Although Pleistocene ("Drift") geology is relatively well represented in the region, its survival is still spatially and chronologically fragmentary. The range of deposits present liable to contain Palaeolithic remains could be grouped into four main categories: Fluvial; Aeolian/Colluvial/Solifluction; Raised Beaches; and Residual. These have particular formational characteristics that affect the importance and interpretive potential of any contained Palaeolithic remains. FWS focused his comments on the Fluvial and Aeolian/Colluvial/Solifluction contexts, the other context types being subsequently covered by Mark Roberts and Peter Harp (see below).

Fluvial deposits in the South-East are varied and contain about 95% of the Palaeolithic material in the region. The majority of these deposits consist of high-energy gravel, but they also include zones and bodies of both lower energy gravel as well as beds of fine-grained sands/silts deposited very gently. All of these fluvial facies may contain artefacts, in a range of concentrations from absent to abundant. FWS argued that assumptions about finds from river gravels being always significantly disturbed need to be revisited, as many hand-axes found within such contexts are in good condition, suggesting that they are at least close to their original discard location. Colluvial, Solifluction and Aeolian contexts, although sometimes reflecting major disturbance, can also often form relatively gently, and so may also, *contra* usual expectations, contain largely undisturbed Palaeolithic remains.

FWS concluded that Fluvial and Colluvial/Solifluction/Aeolian deposits are all extremely varied, and may contain a range of evidence in a variety of states of disturbance, but the material is often minimally disturbed. No homogenous approach can be adopted for their analysis, and all are potentially equally important for contributing to different aspects of the study of the Palaeolithic period in the region.

Palaeolithic archaeological evidence from the Pleistocene marine sequence of Sussex, UK

Mark Roberts (MR)

MR's paper on Palaeolithic archaeological evidence from the Pleistocene marine sequence of Sussex dealt initially with the raised beaches. The distribution of raised beaches is still a developing corpus, as while the formations at the boundary with the downs are now mostly mapped and well known, more are emerging in the area of the lower coastal plain.

Aldingbourne and Boxgrove are the best known sites because they have been revealed by quarrying, but quarrying activity is now drying up in this area due to commercial factors. MR argued that there is, however, an ongoing need to be aware of changing the commercial climate because it could change again and impact further on raised beaches. The raised beaches contain the remains of a marine resource, and in consequence much of the material has been battered and rolled, but there are also well-preserved artefacts and other types of evidence within the finer deposits. Recent work has focussed on mapping and modelling the deposits as much as possible. Actually most of this work has been done through borehole surveys rather than open areas of excavation. The data from the beach deposits are very complicated, with a wide variety of different levels of preservation. At Boxgrove there is excellent preservation of floral and faunal remains, in association with a mass of hand-axes. This shows the potential of these types of sites, but MR wondered if it would ever be possible to carry out this sort project again, given the meticulous excavation and large burden of post-excavation required. Beyond Boxgrove (Goodwood/Slindon raised beach), there is the Aldingbourne formation to consider (this beach is not as amazing as that at Boxgrove in terms of quality and quantity of evidence, so we might wonder if it needs the same protection) and the Brighton/Norton raised beach.

However, there is also a series of other beaches further out on the Sussex coastal plain, in particular those at Merston, Pagham and Selsey (each progressively further south). These have been subjected to various methods/mechanisms of data recovery, and their chronology remains a moot point (they may all represent regressional phases, for example). Rare chalky cold climate deposits (with no archaeology), at eroded anticlines that these beaches do not cross, should also be investigated, being potentially of great importance for understanding cold stages of the Pleistocene in the area.

MR also noted other Sussex rivers, which are now known to be far older than previously thought and need further examination (for example the river Ems), and also discussed the importance of modelling the Rother and Arun valleys. Another important aspect not to be overlooked is the deposition of exotic rocks on the Sussex

coastal plain. MR argued for further research into all such metamorphic and igneous rocks, looking at their provenance; these could tell us a great deal about the environment that people of the Palaeolithic knew. Finally, MR pointed out that evidence of the landscape that Palaeolithic people lived in is very fragile, and that developers and funding bodies need to be made aware that, although deposits dating to the Palaeolithic are not always going to have artefacts, their analysis is still vital for the building of an overall picture.

Lower and Middle Palaeolithic remains on Clay-with-flints geology

Peter Harp (PH)

PH turned attention to Lower and Middle Palaeolithic remains on Clay-with-flints geology in the region, pointing out that such deposits are a potentially significant but still little understood context for Palaeolithic finds.

There are a number of difficulties inherent in analysing such deposits. There has been much historical debate about how Clay-with-flints is formed, for example, and geological maps have tended to be quite generalised about the exact location and nature of the material. PH suggested that "deposits mapped as Clay-with-flints" might be a better designation in many cases, and that the subject could also be classified even more generally as dealing with 'high level deposits'. The deposits tend to be shallow (often only 1–2m), and so easily turbated, although the Kingswood site in Surrey is an important anomaly in this respect, with deep deposits up to 13m.

PH then traced a brief history of study of Clay-with-flints, before turning to current debates about whether Clay-with-flints sites represent *in situ* archaeology or mainly residual finds. Scott-Jackson has argued that flint artefacts recovered from stratified deposits are *in situ*, but most others (Winton, for example) feel that turbation would have played a much greater role in deposit and site formation processes, as indicated by the contorted stratigraphy at sites, such as that at Kingswood, were excavation has revealed a complex sequence of deposits.

PH suggested that refitting flints could be good evidence for *in situ* working, but his general view was that Clay-with-flints sites are best interpreted as being in approximately the 'right place' in relation to the original Palaeolithic landscape. Associated artefacts are, after all, generally in good condition. This can vary, however, and re-cortication of worked flint has often taken place. This process results from a combination of factors. The original surface of the flint is likely to have been weathered as a result of general acidity of this type of clay deposit, but this is also coupled with episodes of temporary alkalinity, creating a new cortex on the flint surface. Many flint objects will also have also been subjected to thermal weathering as a result of their being so close to the surface in these characteristically shallow deposits. The acidity of such deposits also makes for a general lack of faunal remains being present (although there may be occasional exceptions, see below).

There are likely to be a lot of Clay-with-flints sites in the region, making understanding the morphology of such contexts (and therefore adopting an appropriate methodology) more significant than might previously have been

recognised. PH argued that micro-stratigraphic excavation methods such as those advocated by Scott-Jackson are not only questionable in terms of analytical validity, but extremely impractical on large areas. In fact, the lack of a viable method for analysing such sites has led to inappropriate methods being deployed in some developer funded cases, with disastrous results for the evidence. Other methods, such as field walking, aerial photographs and shallow resistivity surveys might all be used in a more multi-disciplinary approach.

Artefacts often seem to be sitting on top of the Clay-with-flints underneath a loess layer. Doline features might therefore be good mechanisms for artefact preservation, and if loess is present then there is more possibility of faunal remains surviving, protected from the acidity of the clay. Comparison of patination and condition of flints could be instructive; periglacial loess deposition for example might be contributing to the variable patination resulting from episodes of alkalinity discussed earlier. Comparison of artefact types could further qualify such evidence.

The Middle Palaeolithic of Sussex: reassessing the record

Matthew Pope (MP)

MP presented a reassessment of the Middle Palaeolithic record of Sussex, considering a range of depositional environments.

MP pointed out that there are no Levallois elements in the upper raised beaches in Sussex, and that the total early Middle Palaeolithic record for county can now only be considered to be a mere six sites. All represent surface finds from plough soil, and there has been no follow up investigation of possible underlying contexts. MP suggested that developer-led archaeology should use surface finds more often to locate possible underlying sites.

Overall then, Sussex has a very low number of find spots and artefacts relating to this period. There is, however, a good record of interglacials for investigating demographic changes. Either the low levels of artefactual evidence are backing up a depopulation hypothesis for Marine Isotope Stages 6–7, or we are actually looking in the wrong places for the evidence. In this respect, finer grained deposits overlying the chalk could be good places for future investigation.

In terms of the late Middle Palaeolithic, there are again only very low numbers of artefacts, and perhaps again evidence has not been sought in the right places. Excavations at Beedings in Sussex, for example, might show the sorts of contexts that need to be investigated further. In this case, geophysical surveys had revealed fissuring in the bedrock. These features were sample excavated, and found to contain a fine silty deposit, with clasts/sills comprised of frost-fractured material. The upper deposits within these geological features were found to contain hard hammer Palaeolithic material with a white/bluish-grey patina, and at least one spatial focus of working material (spalls) was apparent, perhaps representing an original flint knapping event. The finds might be of Late Middle Palaeolithic date, and there is apparently great potential here for finding such material in context, on small areas of intact ancient land surfaces that have slumped into widening fissures. It is significant

that the Wood's Hill biface (only clear sub-triangular biface from Sussex) comes from an identical landscape position near to Beedings, and may therefore derive from similar preservational circumstances.

There may be a real need therefore to revisit the mapping of geology in such areas, in order to take more note of localised conditions such as fissuring, before returning to comparisons at a regional level. Ice wedge polygons might also be reconsidered in this light. Moreover, there is in fact a wide variety of bifacial tool forms of which 'classic' types form a small proportion, so there may be more sites that are currently unrecognised, as they are thought to belong to another chronological phase. MP also drew attention to the need to find sites with other data types; the Horton Pit, for example, contained evidence of Devensian fauna. The environmental and archaeological record for the Devensian need to be integrated further.

MP concluded by suggesting a number of ways forward for the Middle Palaeolithic Archaeology of Southern Britain, including:

- Prospecting for new contexts: periglacial features on flood plains, structural faults preserving buried surfaces, etc

- Systematic re-assessment of claimed find-spots: the need to re-adjust our expectations of Mousterian bifacial technology

- Consideration of landscape distribution patterns and suggestions of behavioural/ecological niches, to establish the tolerances of the British Mousterian.

Discussion:

Discussion focussed on the need for further understanding of Palaeolithic chronology, and to attempt to improve modelling of (a) the distribution of Pleistocene deposits of potential Palaeolithic significance and (b) the likely locations within Pleistocene bodies of remains of higher importance. FWS commented that this is indeed a desirable goal, but that it can not be easily achieved as we presently have very little accurate data to work from, and it is of course important to avoid presuming (prior to more systematic investigation) that areas where we currently have little or no evidence are in fact barren; the absence of evidence is not necessarily evidence of absence. The only way this aim can be addressed is through major targeted investigations, sampling suitable deposits and areas within deposits. It is also important, however, to cater for the unexpected appearance of significant remains, as any number of case studies had recently shown, for instance the sites of Red Barns and the Ebbsfleet elephant, both of which were identified outside of the normal archaeological process in areas where current understanding indicates zero potential for any, let alone highly important, Palaeolithic remains. Moreover, it was argued that researchers should continue to educate curators, who often do not have much knowledge of Palaeolithic archaeology, over how to approach investigation of the subject. Clay-with-flints was identified as a particular problem, with the lack of chronology, and it was felt that the onus was on the specialists and academics to help curators by making a case of how such material is contributing to Palaeolithic

research before they can develop approaches for its study in the face of impact by development. It is important (a) that channels of communication between specialists and curatorial archaeologists are fostered and maintained, in order that PPG16 work relates to research agendas, and (b) to maintain an open mind (despite all attempts to model and predict locations of high potential) as to the possibility of significant Palaeolithic remains being found in unexpected locations, particularly at the evaluation stage.