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9

Palaeolithic British Isles

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9.1 Introduction

When the Pitt Rivers Museum (PRM) was founded in 1884, the study of the Palaeolithic period in Europe (*c.* 750,000–8,000 BCE) was already well established. The Palaeolithic has long been recognised as being a subject of interest for the PRM, both as a key element in the study of the human past, and also as part of the comparative study of human technology. This Chapter begins with a brief summary of the PRM's Palaeolithic collections from the British Isles (9.2), before providing a region-by-region account of the British material, and its significance and potential (9.3). Following a brief consideration of the PRM's collections of naturally perforated fossil sponges (9.4), concluding comments are provided in section 9.5.

9.2 Overview of British Palaeolithic Material in the Pitt Rivers Museum

The PRM's collection from Palaeolithic Britain is large. Some 3,714 database records represent *c.* 5,661 objects from some 250 sites and findspots, most with some associated contextual information. These include c. 286 objects from the PRM founding collection, from early recognised Palaeolithic sites in southern and southwestern England and East Anglia, as well as from the sites in Acton, London investigated and published by Pitt-Rivers (Lane Fox 1869, 1872), and from other sites in the London area. The size of the collection reflects the interest of successive PRM curators and researchers in the subject, and the close relationships between the fields of anthropology and Palaeolithic archaeology at the PRM during the 20th century.

In common with most museums in Britain, the collection is dominated by Lower and Middle Palaeolithic material, while Upper Palaeolithic material forms a very small proportion of the holdings (1–4%). This situation presumably results from at least three factors: the visibility of handaxes and other larger objects in the archaeological record, the practices of collectors concentrating on gravel quarries and similar exposures where Lower Palaeolithic material was known to occur, and the general focus of 19th- and 20th-century Palaeolithic research being directed to the oldest finds.

The temporal and geographical character of the British Palaeolithic collections bears a close relationship to the development of the discipline nationally between the 1850s and the 1950s, and this, together with the abundance of well-contexted material, allows considerable scope for research into the history of the subject as well as of individual sites and areas. Of particular interest is the potential for research into the acceptance and definition of the subject in the mid-19th century, the expansion and professionalization of

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the subject in the 1910s and 1920s, and the development of the eolith controversy from about the 1880s to the 1940s including the related discussions concerning the distinction between human manufacture and natural formation processes (see O'Connor 2007; Ellen and Muthana 2010).

While the PRM's Lower and Middle Palaeolithic British collections have been previously partially documented in various reviews (Roe 1968, 1981; Wymer 1968; 1985; 1999), the enhancement of documentation and collections care at the PRM over the past 20 years has significantly improved access to the archaeological material, and the Lower and Middle Palaeolithic collections can now be shown to be more extensive than previously thought, and with much higher research potential. This is even more the case for the Upper Palaeolithic material at the PRM, which has been very little studied or published as yet.

Objects identified on the Museum database as eoliths – of which the PRM holds at least 443 from England, mainly from Kent and Wiltshire – are not discussed in this chapter. There is, however, the possibility that some of these collections will contain actual artefacts. Also not included is material previously published as being held by the PRM, but which was in fact only on research loan to the Museum and has now been returned to the legal owners. This includes the Lower Palaeolithic Thames Valley material collected by R.J. MacRae (Lee 2001) and Upper Palaeolithic material excavated by J. Campbell from limestone caves in the Creswell area (Bonsall 1977; Campbell 1977).

The Lower Palaeolithic material is the overriding strength of the PRM's British Palaeolithic collections. It is known to be a major research resource and much of the material is recorded in two major compendia published in the 1960s (Roe 1968; Wymer 1968), two further major works in the 1980s (Roe 1981; Wymer 1985), and the results of the Southern Rivers Project in the 1990s (Wymer 1999). A large part of the Middle Palaeolithic collections are also included in these works, but are perhaps not as well known as the Lower Palaeolithic material. There are few records for Upper Palaeolithic artefacts, but many have proved to be misidentifications of later prehistoric material when assessed (see county sections for details). This paucity of Upper Palaeolithic material is surprising given the fact that the first two major works on the British Upper Palaeolithic were written by students associated with the PRM (Garrod 1926; Campbell 1977). However, the present evaluation has shown the potential for additional Upper Palaeolithic material to be identified in the future, stored in amongst the later prehistoric collections. For example, a collection of *c.* 42 Upper Palaeolithic stone tools collected by George F. Lawrence from Lakenheath, Suffolk (1897.11.43–85), which were previously recorded as Neolithic or Mesolithic in date (see 9.3.14 below).

The collection consists mainly of type series and specimens from well-known sites, and provides an excellent resource for study of the Lower and Middle Palaeolithic periods in Britain. A majority of the material derives from fluvial terrace deposits (dominated by river gravels and sands) and can be correlated with the major Pleistocene river systems in the south and east of England. Much was discovered during gravel extraction in the days when sediments were dug and sorted by hand. Most of the material comes from people actively investigating the Palaeolithic, whether professionals or knowledgeable amateurs. With the exception of the material from La Cotte de St Brelade, Jersey, there appear to be no significant excavated collections, although there are some large systematically collected assemblages. There is a small proportion of stray finds, but far fewer than in most regional museums, probably reflecting the clear research focus of the PRM. Indeed, a high proportion of the material appears to have been acquired through the academic contacts and collecting networks of museum staff members,

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and in many cases reflects their research interest. This is especially true during the curatorship (1884–1939) of Henry Balfour.

The majority of the collection consists of stone tools, which are the most abundant artefact type recovered from all Palaeolithic sites. There is very little Pleistocene fauna from British Palaeolithic sites held at the PRM, perhaps because such material was collected by the adjoining Oxford University Museum of Natural History (OUMNH). The only faunal material held by the PRM is a small assemblage from the 'Rodent layer' excavated at La Cotte de St Brelade, Jersey by R.R. Marett (1921.73; see 9.3.23 below), and a few fragments of large mammal bones and teeth found in the same gravel deposits as handaxes or from the limestone caves of Somerset (see 9.3.19 below). A single palaeo-botanical sample of leaf impressions from Hertfordshire is contained in the collection (1941.9.96). There are also a few plaster casts, photographs and drawings listed in the Palaeolithic collections. Finally, there are also a few groups of naturally perforated fossil sponges, which have been claimed as personal ornaments from the Lower Palaeolithic, and were the subject of much speculation. These are discussed in a separate section at the end of this chapter (9.4 below).

Some 306 British Palaeolithic records relate to material acquired in the 1880s, mainly from either the original PRM founding collection or by transfer from the OUMNH. Most of these objects were collected in the 1860s and 1870s, although a small group from Kent's Cavern, Devon (1887.1.171–187) was excavated in the 1820s by Reverend John MacEnery. The most recent acquisition was a flake transferred from Hampshire Museum Service in 1994 (1994.4.195). Most of the material in the collection was found during the late 19th and early 20th centuries.

There was steady increase in acquisitions of British Palaeolithic material up to a peak in the 1920s, and then a significant decline in the 1930s and 1940s, with very few acquisitions in the post-war period. The decline in acquisitions is in contrast to research activity on the Palaeolithic at the PRM, which steadily increased in the late 20th century culminating in the founding of the Donald Baden-Powell Quaternary Research Centre in 1975 for the teaching of Palaeolithic Archaeology at the University of Oxford. The Centre moved to the Oxford University Institute of Archaeology in 2003, where it continues to provides facilities for Palaeolithic teaching and research. There are three chronological peaks in collecting activity represented in the PRM's British Palaeolithic collections. The first relates to work in connection with the initial recognition and definition of the Palaeolithic in the 1860s and 1870s, before the founding of the PRM. General Pitt-Rivers is well known to have been interested in both stone tools and the antiquity of humans (Bowden 1991), so it is not surprising that there is a large collection of early finds in the PRM founding collection. The second reflects a major peak in interest in the Palaeolithic nationally in the 1910s and 1920s, as well as the activities of Henry Balfour during his curatorship of the PRM, including the acquisition of the A.M. Bell collection. The third, two-part, peak represents the material transferred from Ipswich Museum in 1966, much of which was either collected in the 1930s and 1940s, or for which there is an unknown collection date. Very little recent collecting activity is represented in the PRM collections, probably due to a combination of the current collecting policy of the PRM and the modern cultural heritage practice of British archaeological material being deposited locally.

The PRM British Palaeolithic collections have been enhanced by two major transfers of material from other museums. The first was in 1892 when the OUMNH transferred to the PRM a substantial quantity of material considered of more archaeological than natural historical interest. This included Palaeolithic material from the collection of John Wickham Flower (1807–1873). The other transfer was in 1966, when Ipswich Museum sold both archaeological and ethnographic

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material to the PRM. It appears that in both cases the original museums probably still retain documentation concerning the transferred collections. There is already a good system for information sharing between the PRM and the OUMNH, which has been of value in preparing this chapter. There seems to be considerable scope for similar work in relation to the material from the Ipswich Museum transfer and it is hoped that a programme of documentation sharing and enhancement between the two museums can be undertaken in the near future.

9.3 Regional Overviews of the British Palaeolithic Collections

Due to the large size of the PRM's British Palaeolithic collections, this chapter will consider the English material by geographic region, for ease of comparison with previous work and with datasets held by regional and national heritage authorities. Within this structure, analysis of the 3,783 records for English Palaeolithic material in the PRM collections shows that almost half is from South East England (1802 records), with the East of England accounting for almost as many (1,477 records). There are far smaller collections from the South West (246 records) and London (229 records), and only a single doubtful artefact from the East Midlands, despite the known distribution of Palaeolithic finds in that region. No other English regions are represented in the collections.

There are also a small number of artefacts from Wales (7 records) and a sizable collection from the Channel Islands (213 records, mainly from a single site). The records for Scotland (17 records) and Northern Ireland (15 records) all proved to be either misidentifications of later period artefacts or natural pieces that relate to the eolith debate in the 1920s–1930s, and are not discussed in this review. However, the Irish material has featured in recent research (1966.2.200A–201A) (Woodman 1998). It was transferred from Ipswich Museum in 1966 and consists of some of the large limestone flakes found at Rosses Point, County Sligo, which J.P.T. Burchell believed to be of Lower Palaeolithic age (Burchell 1927). Peter Woodman's research has established that, while some of the material is natural, most probably relates to quarrying during the Neolithic or later periods. In addition, a few records are for objects recorded simply as from 'England' (28 records), or the 'British Isles' (2 records), and are not considered further here. Details of the dating of assemblages are not generally provided, but where they are essential they are referred to by Marine Isotope Stage (MIS) (Walker 2005).

9.3.1 South East Region: Berkshire

Most of the material in the Berkshire collection probably comes from the gravels of the Boyn Hill and Lynch Hill river terrace deposits in the Maidenhead area of the Middle Thames Valley. The largest group is a collection of 13 Lower Palaeolithic artefacts from Boyn Hill, Maidenhead donated by Armand Donald Lacaille (1941.6.3–5). The artefacts are likely to have been collected in connection with his work on Palaeolithic artefacts found in the Boyn Hill terraces (Lacaille 1940, 1961), but this needs to be confirmed. One flake donated by Kenneth Oakley comes from the well-known Lower Palaeolithic site at Cannoncourt Farm Pit, Furze Platt, Maidenhead (1988.47.1). It was donated in 1939, and perhaps was collected in relation to his work with W.B.R. King on the Pleistocene succession in the Lower Thames Valley (King and Oakley 1936). If provenances and/or contexts could be determined for any of these objects then they would be useful for any future re-examination of the Palaeolithic industries from these terraces in the Middle Thames. Larger collections from sites in these gravel terraces are held by the OUMNH and Reading Museum (Wymer 1968). The most recent analysis of the collections from Furze Platt was

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by Shelley Cranshaw, a research student at the Donald Baden-Powell Quaternary Research Centre in the late 1970s and early 1980s (Cranshaw 1983).

Four objects are provenanced only to Maidenhead and are of little research value. Two were donated by C.G. and B.Z. Seligman (1940.12.634) and 2 were purchased from Stevens Auction Rooms and the field collector is unknown (1927.83.28, 1927.87.2). A final object was donated by the Assyriologist Reginald Campbell Thompson and is provenanced only to 'near Maidenhead' (1937.19.1).

The PRM also holds a small collection of 10 artefacts from Lynch Hill terrace deposits at Baker's Farm Pit, Slough (1984.31.1–10), just inside the Berkshire border. The material was collected by Frederick Maitland Underhill, probably in the 1920s and 30s, and was donated by his wife in 1984. Llewellyn Treacher also amassed a large collection from the site and his material, now in the OUMNH, has been published by Shelley Cranshaw (1983). A.D. Lacaille describes the site in his 1940 paper. An additional object from Baker's Farm was transferred from the Hampshire County Museum Service in 1994 (1994.4.195). It was collected before 1935, but the collector is unknown.

The collection also contains 3 handaxes from the Reading area: one from Pangbourne (1966.2.589) and 2 from Tilehurst (1966.2.590, 1966.2.597). They were all acquired as part of the 1966 purchase from Ipswich Museum and the original collectors are unknown. These are of low research interest.

9.3.2 South East Region: Buckinghamshire

The only material from Buckinghamshire in the collection is a small collection of 22 Lower Palaeolithic artefacts from the Burnham area (1915.44.1–22). There were originally 23 objects in the collection, but one was sent to the National Museum of Southern Rhodesia in 1948 as part of an exchange of collections. The material was purchased in June 1915 from Staff Sergeant Major Albert Marshall, an attendant of the British Museum (Natural History) then on military duty in Taplow, Bucks. Marshall had lived in the Burnham region for several years and had collected the material himself. He had been advised to approach the PRM by Ray Lankester, who had seen the collection. The PRM accession book, two letters from Marshall to Balfour and an annotated traced map provide information about the findspot. The material was obtained from a depth of 15 feet below the surface in a gravel pit located midway between Burnham and Taplow, Buckinghamshire, between the 100 foot and 200 foot levels O.D. The pit was in the neighbourhood of Lent and was immediately to the east of the disused Open Dell Pit. Wymer (1968) believes that this may refer to the well-known pits at Lent Rise. However, the exact location of the pit has not been determined as yet and it is not recorded by Lacaille (1940) in his work on the Middle Thames gravels. The collections could be looked at as part of a reassessment of the Lower Palaeolithic at Lent Rise or the Burnham area.

9.3.3 South East Region: Hampshire

All of the provenanced Palaeolithic material from Hampshire in the PRM collections comes from the area around Southampton in the gravels of the former Solent River and its tributaries, especially the River Test. Much of this material was discovered in the late 19th century, and a majority consists of handaxes, although there is a small proportion of flake material. The Palaeolithic of the Hampshire Basin and the Solent region is a focus of current research at the University of Reading and the Ancient Human Occupation of Britain project (e.g. Ashton and Hosfield 2010, and references therein), and the PRM material could usefully be included in a review of the evidence for the area. The flake material would be of particular interest if any artefacts were

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produced by the Levallois technique, but all provenanced material would be useful for any study of the distribution of Palaeolithic artefacts in the region.

Thirty-two artefacts are from to Southampton. Twenty-five of these were collected by Henry Balfour between 1877 and 1886 (1929.9.14, 1929.9.16–37), although one has since been sent to the Australian Museum in Sydney as part of an exchange of collections. Two were found by Worthington George Smith about 1880 (1902.19.48–9). Five were found prior to 1918 by Henry Devenish Skinner (1918.21.1–4). Two handaxes were acquired by Albert Tenyson Morley Hewitt before 1948 (1969.36). Morley Hewitt was a well-known Hampshire amateur archaeologist and the excavator of Rockbourne (West Park) Roman Villa near Fordingbridge in the 1940s-1970s. His Palaeolithic material comes mainly from Hampshire, Wiltshire and Dorset locations within a 20 miles radius of Fordingbridge, but not from the immediate area of the town.

Thirty artefacts have more precise locations within Southampton. Twenty-five come from Shirley, Southampton (1920.66.1–25), they were collected by Neville Ward and donated by A.O. Tindall. One is provenanced to Shirley Road, Southampton, and was purchased from Fred Snare (1900.61.4). Another is provenanced to Shirley Warren, Southampton (1912.18.1) and was donated by William Dale, an early collector of Palaeolithic material from the area (Dale 1896). One handaxe from Highfield was acquired by Morley Hewitt before 1948 (1969.36). The PRM founding collection contains 2 handaxes from Hill Head, Southampton Water (1884.122.142, 1884.122.160). Three handaxes from Warsash, close to Southampton Water in the Eastern Solent area, were donated by Morley Hewitt (1969.36). A single object found in 1877 in Bishopstoke, Eastleigh was donated by Henry Balfour (1935.4.5).

From the western Solent, 5 artefacts come from the Lymington area. The PRM founding collection contains one ovate from Lymington (1884.122.144) and three from Barton Cliff, near modern Barton-on-Sea, to the west of Lymington (1884.122.145, 1884.122.148, 1884.122.155). All 4 were discovered in 1876 and may have been found by Pitt-Rivers himself (A. Stevenson, pers. comm.). Another handaxe from Barton Cliff was collected in 1893 and donated by Morley Hewitt (1969.36). The Pleistocene gravels at the top of Barton Cliff are subject to marine erosion and have been well-known for producing handaxes since the mid-19th century.

Thirty six artefacts come from the Test valley gravels just to the north of Southampton. Eight were found in the well-known Kimbridge Gravel Pit, Mottisfont (1940.12.635) and were donated by C.G. and B.Z. Seligman. Another 4, donated by Roger Gregory, are described as being 'from gravels 300 yards from the Test R., below Kimbridge, Hants., found by Mr. A. Humbert' (1911.34.1–4). From this description these objects may also come from the Kimbridge Pit, which was actually a series of pits to the east of Dunbridge Lane near Kimbridge. Ten artefacts from Belbin's Pit, Romsey were donated by Morley Hewitt (1969.36) and are described as being six handaxes, three flakes and a worked fragment. Hewitt also donated a handaxe from Crossfield (1969.36). Two objects donated by the Seligmans are also provenanced to Romsey (1940.12.636).

The provenance of 14 objects is recorded simply as 'Hampshire': 13 from the A.M. Bell collection, purchased in 1920 (1921.91.468), and one purchased at the Stevens Auction Rooms in 1927 (1927.87.4). They are of very limited research value.

9.3.4 South East Region: Isle Of Wight

The PRM holds a large collection of Lower Palaeolithic material from the well-known site at Priory Bay on the Isle of Wight. It was donated by Edward Bagnall Poulton (1856–1943), the Hope Professor of Zoology at the University of Oxford, in 1893.

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The material was collected by Edward, his wife Emily, son Ronald, daughters Margaret and Janet, and two others, during visits to the family's holiday home, St Helen's Cottage at St Helen's near Priory Bay on the Isle of Wight (Poulton 1919). Professor Poulton's son, Ronald William Poulton (1889–1915) described the Priory Bay site and finds in his article on the Palaeolithic on the Isle of Wight (Poulton 1909). Edward Poulton donated his entire collection from the site in 1910 (1910.55), but the collection was never fully catalogued. It is described in the PRM's accession book as

> 'A large collection of Palaeolithic implements and flakes (some very fine) collected in Priory Bay, N.E. Isle of Wight. Of these some are quite sharp and unrolled and came from the gravel capping the clay cliff below Nodes Fort, others were picked up on the shore close by and most of these are much rolled and abraded by sea action'.

A further handaxe from the same site was donated by Edward Poulton in 1914 (1914.57.1). Derek Roe estimated that the collection contained about 150 objects, based on Ronald Poulton's publication (Roe 1968). Two rolled artefacts were sent to the National Museum of Southern Rhodesia in 1948 as part of an exchange of collections.

Modern excavations have been conducted on the deposits on top of the cliff at Priory Bay in 1986 and 2001 (Wenban-Smith and Loader 2007). This work established that the basal gravels contain rolled artefacts in secondary context, but possible *in situ* Palaeolithic occupation surfaces could be found in the gravel surface and overlying sands and silts (ibid.). A modern assessment of the Poulton material has potential for contributing to future research on the Priory Bay site.

9.3.5 South East Region: Kent

The majority of the PRM Palaeolithic collections from Kent are from classic Lower Palaeolithic sites of the Lower Thames area. Many of these sites were discovered during quarrying for chalk needed to manufacture Portland cement (a water-resistant cement that hardens by reacting with water), which had became a major industry in the North Kent area during the late 19th century. Some sites, such as those at Swanscombe, were known from the 1880s, but most were discovered and/or investigated in the 1910s–1930s. Many of the small cement companies joined together in 1900 to form the Associated Portland Cement Manufacturers Ltd (later Blue Circle Industries), a company which supported the work of the British Museum in investigating the archaeological finds from the gravel deposits which overlay the chalk at some of their pits. Some of the Kent Palaeolithic material was acquired directly by the PRM, but over 40% derives from the 1966 purchase of collections from Ipswich Museum. Some significant components of the collection are assemblages of material from sites that are currently being researched by the Ancient Human Occupation of Britain project, and can be considered of high research potential. The Kent collections are a highlight of the British Palaeolithic material held by the PRM.

Ebbsfleet Valley (Burchell's site)

One of the key collections acquired by the PRM as part of the purchase of Ipswich Museum collections was material from James Percy Tufnell Burchell's work in the Ebbsfleet Valley, Northfleet (Burchell 1933, 1935, 1936a, 1936b, 1954). Wymer described the site as having 'one of the most critical sections in the Lower Thames Valley' producing Palaeolithic artefacts from several different horizons within a well-stratified sequence of deposits (1968: 356). Wymer was able to relate the assemblages to individual horizons at Ebbsfleet as Burchell had labelled most of the finds according to their stratigraphic position. Wymer based his work on the British

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Museum collection of material from the excavations, and he also noted that material from the site was held by the Cambridge University Museum of Archaeology and Anthropology (CUMAA) (Wymer 1968: 356–359). Unfortunately, he seems to have been unaware that the PRM also held material from the site, but this could be due to the material being in transit from Ipswich to Oxford at the time he was doing his work. The Ebbsfleet site has been re-evaluated several times since Wymer's original work, most recently by the Ancient Human Occupation of Britain project which lists it as one of the three main Middle Palaeolithic sites in the Ebbsfleet Valley, probably dating to the end of MIS 8 or start of MIS 7 (Scott *et al.* 2010). However, this work was undertaken mainly on the material from the site held by the British Museum, and the PRM collection does not seem to have been included. If this proves to be the case, then these finds would be a high priority for research.

The PRM holds 177 artefacts from Burchell's Ebbsfleet site (1966.2.215–363, 1966.2.501–528), and most of these are marked with the find horizon in similar manner to the material held by the British Museum. Another 27 are attributed to an unspecified Burchell site in Northfleet, which is also likely to be Ebbsfleet (1966.2.364–390) as many of the artefacts are marked with finds horizons that correspond to those for Ebbsfleet. For example, a Levallois flake recorded as being from Northfleet (1966.2.365) is marked 'Melt-water Gravel Capping Coombe Rock. Northfleet'. This object is also labelled with the Ipswich Museum accession number '1932.115', and it is possible that documentation held at Ipswich might be able to resolve the issue.

Southfleet Chalk Pit (Baker's Hole)

Of similar importance is material from the Southfleet Chalk Pit, Northfleet, commonly known as Baker's Hole. The site is regarded as having been the most prolific Middle Palaeolithic Levallois site in Britain, and is thought to date to the end of MIS 8 or start of MIS 7 (Wymer 1968: 354–6; 1999: 83; Bridgland 1994). The site was first described by Flaxman Spurrell in 1883, but collecting only really began when the Associated Portland Cement Manufacturers Limited (APCML) extended the chalk pit there in 1907 (Abbott 1911). Two major publications about the site appeared in 1911. One, by the geologist and archaeologist William Lewis Abbott, mainly discusses the material collected by James Cross of Camberwell (Abbott 1911). The other, by Reginald Allender Smith of the British Museum, concerns the large quantity of material from the site amassed by the APCML and recovered by their employees during the course of their work (Smith 1911). The site has been reassessed periodically since then, most recently by the Ancient Human Occupation of Britain project that considers it to be another of the three main Middle Palaeolithic sites in the Ebbsfleet Valley although the assemblages are the result of field collecting rather than excavation (Scott *et al.* 2010; Scott 2010). Most of these assessments seem to have been largely based on the material collected by Spurrell and the APCML and held by the British Museum as well as on the publications. The PRM collections from the site are derived from three sources: the James Cross collection donated by William Johnson Sollas; a set of material from the APCML collection donated via Reginald Smith; and single objects from other antiquarian collections.

In his 1911 paper on the Southfleet Chalk Pit (Bakers' Hole) finds, Lewis Abbott records:

> 'In 1907 more extensive workings were undertaken by the Amalgamated Cement Co., and that enthusiastic collector, Mr. James Cross, who was paying weekly visits to the Thames valley pits, was soon on the spot, and with a zeal quite worthy

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> of the immense amount of unique material recovered, he got together the magnificent collection upon which the next part of this paper is for the most based…' (Abbott 1911: 466).

Cross was a Fellow of the Geological Society (elected 1906) and an active collector of Palaeolithic material in Kent. His death is recorded in the Proceedings of the Geological Society for 1918, and in the same year William Johnson Sollas, Professor of Geology at Oxford, purchased a collection of artefacts from the Cross collection, half of which he resold to the PRM (90 artefacts). The PRM purchase included 66 objects from Baker's Hole (1918.57.25–90) marked with a small printed label '"Palaeolithic implement Baker's Hole, Northfleet Kent 20–40" O.D. James Cross, F.G.S. 1908.'. There is no doubt that this material is part of that discussed in the Abbott paper as some of the objects can be identified in the published plates of photographs. This is of considerable research interest as a distinct group of published material from the site that was collected and described by geologists a few years earlier than the material described by Smith. It is also of interest to the history of archaeology as being the material upon which Abbott attempted to classify what was then an new industry type – suggesting the name 'Ebbsfleetian' for the Middle Palaeolithic Levallois industries of the Thames Valley and the terms 'Prestwich' for Levallois cores and 'Evans' for Levallois flakes.

Abbott also describes how he interested the APCML in the finds being made on their property:

> 'Last summer I wrote the Managing Director of the Combine upon whose property the pit is situated, begging him to have the valuable relics preserved, and I am pleased to say that both he and the next official have since taken an interest in the subject, and have got together an immense collection altogether too large for me to describe separately here' (Abbott 1911: 467).

The material collected by the company was however described by Reginald Allender Smith of the British Museum (Smith 1911). It is estimated that about 750 artefacts from this collection were donated by the company to the British Museum. Of these, 299 objects are still in the national collection and the rest was distributed to other museums as type series sets (Scott 2010: 80). One of those sets was a collection of 38 objects donated to the PRM by the APCML through Smith (1915.42.1–38). This material is described as coming from the '50 ft gravel (terrace) deposits, Coombe Rock, at Northfleet, Kent' apart from a handaxe which is recorded as 'probably derived from the 100 ft terrace'. The material is of value as part of the collection described by Smith and should be included in any reassessment of that material.

Also from Baker's Hole are a few individual artefacts. The A.M. Bell collection contains an artefact (1921.91.458) on which is written 'Baker's Hole, Northfleet 20–40' OD', perhaps indicating that it might once have come from the Cross collection. Two Levallois flakes from 'Baker's Hole' were donated by Alfred Barnes for the displays of human flaking (1940.4.30–31). Their original collector is unknown, but might have been Barnes himself. A single object from the E.B. Tylor collection (1917.53.46) is provenanced to Palaeolithic gravels, Southfleet, Kent, and is likely to be an early find from the site before it became known as Baker's Hole.

Sadly much material that probably came from Baker's Hole was only marked 'Northfleet' (Roe 1968: 168), and a few objects in the PRM may fall into this category. These are: a handaxe donated from the E.B. Tylor collection (1917.53.48), an object purchased from Rev. R. Wilson (1910.72.36) and 2 handaxes and 2 flake tools from 'terrace gravels. Northfleet' donated by Henry Balfour (1915.37.6–8, 13). These six objects are all of limited research value.

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Swanscombe (Barnfield Pit)

Barnfield Pit (originally known as Milton Street Pit), is probably the most famous Lower Palaeolithic site in Britain with a long geological succession containing different archaeological horizons, rich paleontological faunas and the 'Swanscombe skull' a rare fossil hominin find from Britain. Owned by the APCML the site has been excavated several times, initially by the British Museum in 1910s (Smith and Dewey 1913) and most recently by the London Institute of Archaeology in late 1960s and 70s. There have also been several small-scale sampling investigations at various times. The report on the 1968–1972 excavations forms the most recent publication of the site and summarises the earlier work (Conway *et al.* 1996).

John Wymer records that the first handaxes were found at the site in about 1885, and that Henry Stopes (1852–1902) started to accumulate the first major collection of material there about the same time (1968: 334). The extensive Stopes collection and detailed catalogue were acquired by the National Museums and Galleries of Wales (NMGW) in 1912 and have been the subject of a recent Aggregates Levy Sustainability Fund project (Wenban-Smith 2004). The PRM collection contains 6 'palaeoliths' donated by Henry Stopes that are recorded as coming from the 'great pit'. Four were found by himself (1894.29.1–4), and 2 by other people (1894.29.5–6). These objects were not included in the recent project which focused on material held by the NMGW. However, it would be of interest to determine how they compare with the catalogued collection, and why Stopes donated them to the PRM instead of retaining them.

Other material in the PRM collections also appears to derive from antiquarian collection at Milton Street before the 1912 excavations established its importance as a stratified Lower Palaeolithic site. A small collection of 24 handaxes and flakes collected by James Cross F.G.S. from the 100 ft O.D. terraces at Milton Street in 1907–1908 (1918.57.1–24) was purchased from Professor Sollas at the same time as the material from Northfleet mentioned above. Three handaxes from Milton Street were included in the bequest of Eustace Fulcrand Bosanquet (1941.4.50–52). They were collected by Robert Elliott and are marked 'Milton St., Kent, 12 ft, 1886, 100 O.D.'. Elliott was an active collector of handaxes from the Swanscombe area in the 1880s and 1890s (Newton 1895). Professor C.G. Seligman also donated a handaxe collected by Elliott (1940.12.637). This object is labelled 'Milton St, Kent, 12 ft, date 1902. Elliot Collection 128'. Finally, the A.M. Bell collection contains three flakes from Milton Street that were given to him by the Oxfordshire antiquary Percy Manning (1911.30.3–5). The Bell collection also contains 27 handaxes and flakes from Milton Street, but with no indication as to depth or original collector (1921.91.456). Three additional implements from Bell are provenanced just to 'Swanscombe' but are likely also to be from Milton Street (1921.91.457). These 58 objects are probably of interest only for the collections history of this classic site.

Swanscombe Area

The PRM collections also contain a small number of objects from other locations in the Swanscombe area. The collections include 3 artefacts recorded as coming from the Galley Hill Pit, which was one of the first cement works at Swanscombe. One from the 'Gallery Hill gravels' was purchased from Mrs S. Warrington of Chiswick (1913.70.13). Two handaxes were purchased from S.G. Hewlett of Reigate, one originally collected by Robert Elliott (1927.73.15), and the other recorded as being from the same stratum as the 'Galley Hill skull' (1934.63.22). Robert Elliott of Camberwell was the finder of the Galley Hill skull in 1888 (Newton 1895), which was originally believed to be of Palaeolithic age, but is now known to be of Bronze

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Age date: BM-86: 3310±150 BP (about 1625±174 cal. BCE), on a humerus from GH1/1888 (Barker and MacKey 1961; Danzeglocke *et al.* 2012). A single large flake (1927.87.22) is recorded as coming from 'Orchard Pit', Milton Street, Kent (100 ft OD). It was included in a purchase from the Stevens Auction Rooms and the collector is unknown. These 4 objects are of some interest in understanding the distribution of Palaeolithic artefacts in the Swanscombe area.

Of little research interest are 51 artefacts that can only be provenanced generally to the general Swanscombe area. These consist of the following: 2 stone artefacts from Swanscombe donated by the historian of science, Robert William Theodore Gunther (1899.8.1–2); 3 handaxes from the 'Swanscombe gravels' purchased from Mrs S. Warrington of Chiswick (1913.70.9–12); 5 handaxes 'found in terrace gravels at Swanscombe' in 1889 and donated by Henry Balfour (1915.37.1–5); 6 handaxes which Frederick Fawcett found 'from the ancient gravels at Swanscombe' (1920.55.1–6); a handaxe from 'Swanscombe terrace gravels' purchased from Sidney Hewlett (1926.91.36); 13 'Chellean' implements from Swanscombe purchased from the Stevens Auction Rooms (1927.87.9–21); and 3 handaxes from Swanscombe donated by J.P.T. Burchell in the collections transferred from the Ipswich Museum (1966.2.482–484). The Ipswich transfer also included 16 cores and flakes that are provenanced only to Greenhithe and Swanscombe (1966.2.485–500), and the purchase from the Stevens Auction Rooms also contained 2 'Chellean failures' that might have come from Swanscombe (1927.87.35–36).

Ingress Vale

A collection of 71 artefacts from Ingress Vale was part of the material purchased and transferred from Ipswich Museum in 1966 (1966.2.411–481). This material comes from the site excavated by J.P.T. Burchell near Knockhall House in Ingress Vale, not from the classic Lower Palaeolithic site at Dierden's Pit, Ingress Vale. Burchell's Ingress Vale site was a flint 'floor' with flint implements and sherds of pottery that he discovered in the 1930s. He and Reid Moir claimed that the site, and thus the pottery, was of Upper Palaeolithic age on geological grounds (Burchell and Moir 1934). However, this determination has always been contested. At the time, Stuart Piggott considered most of the small pottery sherds to be undiagnostic, but identified one decorated object as being from an Early Bronze Age beaker. John Wymer looked at the three flint artefacts from the site in the British Museum and saw that they were consistent with a Neolithic age (Wymer 1968: 334). The larger collection of lithic material at the PRM does not seem to have been assessed as yet, but is probably of late Neolithic or Early Bronze Age date. The material could have importance as a stratified later prehistoric site, but this remains to be confirmed.

Cliffs between Herne Bay and Reculver

The PRM collections include four handaxes from 'Reculver Cliffs' from the PRM founding collection (1884.122.143, 1884.122.146, 1884.122.151–2). Two are dated as having been found in 1867, but all must have been in Pitt Rivers' possession by the time that he displayed them at the Bethnal Green Museum in 1868. John Evans stated that Palaeolithic implements were first discovered along the Kent coast between Herne Bay and Reculver in 1860 by Thomas Leech while searching for fossils on the shore (Evans 1872: 533–538). The area is still known for fossil collecting as the soft clay and sand cliffs there are easily eroded by the sea. The flint artefacts seem to derive from gravels capping the clays, and are perhaps related to former channels of the Stour river system. Evans records that he and Joseph Prestwich visited the locality shortly after Leech's discovery and collected numbers of handaxes, as did several

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other people including James Wyatt and Mr Whitaker. Some of these discoveries were mentioned in the second of Evans' classic papers on ancient stone artefacts to the Society of Antiquaries (read in May 1861 but not published in *Archaeologica* until 1863). Pitt-Rivers was a friend and colleague of Evans and it is entirely possible that he visited the site and collected the handaxes himself. Another early find from Reculver Cliff was included in the transfer of archaeological material to the PRM from the OUMNH in 1887 (1877.1.698). This object was donated by the ecclesiastical historian Joseph Brigstocke Sheppard (1828–1895), who worked at the Canterbury Cathedral archives from the 1870s. A flake found by Bruce M. Goldie 'from the shore below East Cliff, Herne Bay' is likely to have been derived from similar gravels (1918.17.8). However, another flake found on a 'new gravel path near West Cliff, Herne Bay', may have been introduced from another source during the making of the path. There has been little recent work on the finds from the Reculver Cliff gravels, perhaps because of the difficulty of assessing the original find locations, as most were recovered on the shore below and can only be provenanced to the cliffs in general. However, as with the gravel deposits exposed at Priory Bay, Isle of Wight, future work might prove worthwhile.

Other Locations in Kent

The PRM collections also contain a small amount of material from other localities in Kent. Of most potential significance are 5 flakes described as being from the 'Mousterian industry of Frindsbury, Kent' which are part of the Ipswich Museum transfer (1966.2.598–602). Frindsbury is a Lower Palaeolithic site dug in the early 1920s (Cook and Killick 1924) that has recently been reassessed by the Ancient Human Occupation of Britain project (White and Ashton 2003). The site is of considerable interest as it contains groups of refitting flakes in fresh condition and has a 'proto-Levallois' (simple prepared-core) technology similar to that found at the Purfleet site which can be dated to MIS 9/8 (White and Ashton 2003). Most of the material from Frindsbury is housed at the British Museum, with smaller collections at the Maidstone and Rochester museums (Roe 1968). It is unknown how these flakes came to be at Ipswich, but it might be useful to for them to be assessed within the scope of the recent work.

The rest of the material consists of single finds or small groups of material most of which cannot be assigned to specific sites. A handaxe and two flakes found in 'brickearth' at Meopham, Gravesend, by J.P.T. Burchell were included in the Ipswich Museum transfer (1966.2.604–606). Four flakes described as of 'Clactonian type' from Twydall were donated by Alfred Schwartz Barnes to illustrate the technique (1933.60.1–4). A handaxe from the same locale was included in the Ipswich Museum transfer (1966.2.607). A single handaxe from the Isle of Thanet was donated by Henry Balfour (1915.37.8). Four Lower Palaeolithic artefacts from Seal (Sevenoaks), found by Worthington Smith are included in the A.M. Bell collection (1921.91.462). Also from the Sevenoaks area is a single flake from Swanley that was part of the purchase from the Stevens Auction Rooms in 1927 (1927.87.30). The collection donated by the Hampshire antiquary, A.T. Morley Hewitt, in 1969 contained a handaxe from Fawkham (Sevenoaks) and a handaxe fragment from Aylesford (1969.36). Three handaxes from Aylesford were bought from the Stevens Auction Rooms and there is no information as to the original collector (1927.87.5–7). Eleven stone tools described as being 'Lower Palaeolithic' and from various sites in Kent are included in the A.M. Bell collection (1921.91.470). One is labelled as coming from 'Woodlands', but there is no indication of provenance for the other objects. These are all of low research interest except in relation to collections history or artefact distributions.

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"Kentish Plateau"

A small collection of eoliths from the 'Kentish Plateau' (1895.54.1–23) was purchased from Benjamin Harrison, a key 19th-century proponent of eoliths in England (McNabb 2009). All are marked in ink with the findspot, and the group includes material from Ash, Branshatch, Peters Farm, South Ash, Sparksfield, Turners Oak, and West Yoke. Some are marked in white along edges, probably to illustrate the features that were thought to be of human manufacture. The collection was purchased the same year that Harrison published the results of his excavations financed by a grant from the British Association, and may derive from that work. Another 44 eoliths collected by Harrison were donated in 1917 by Lady Taylor from the collection her late husband, Edward Burnett Tylor (1917.53.1–44). These are also individually labelled with the findspot and locations include: Addington Ridge, Ash, pit at Ash, N Ash, S Ash, Ash Place, Barns Hatch, Birches, Peckham Wood, Plaxdale, Ridley, Trottescliffe, Swanfield, and W Yoke as well as the general 'Kentish Plateau'. Other material from Harrison's plateau gravel sites in Kent were donated by Henry Stopes (1894.29.7–10) and Henry Balfour (1916.33.1), and are contained in the A.M. Bell collection (1921.91.461 .1–52). There is also a small collection of material sent by Harrison to the great 19th-century naturalist Alfred Russel Wallace, donated by Wallace's son (1946.12.50–59). An object found by Robert Ranulph Marett at Ash-cum-Ridley when looking for eoliths with Harrison has however been identified as a genuine artefact by Angela Muthana (1942.2.5).

9.3.6 South East Region: Oxfordshire

The collections from Oxfordshire form the largest county group of Palaeolithic material held by the PRM, representing about 35% of the material from the South East and 17% of the total from England. The Oxfordshire collections are the subject of Chapter 13 (below), but a few comments on the Palaeolithic assemblages from the county are included here.

The Oxfordshire material consists mainly of Lower Palaeolithic finds from two Oxford sites investigated by the local antiquary Alexander James Montgomerie Bell (1845–1920), commonly known as Montgomerie Bell to his contemporaries. Perhaps the best-known site is Wolvercote Brick Pit (*Figure 9.1*), first reported by Bell in 1894 (Bell 1894a, 1894b, 1904). The site is of recognised national importance and the artefacts have been analysed several times in recent years, most notably by Joyce Tyldesley, a research student at the Donald Baden-Powell Quaternary Research Centre in the early 1980s (1986), and most recently by Nick Ashton in the festschrift for Derek Roe (2001). There have also been several unsuccessful attempts to relocate the site. The dating and original context of the material however, remains uncertain. The collection will remain of high research interest, especially if the deposits can be relocated.

The other major site, Cornish's Pit, Iffley, has only recently been shown to have significant potential due to the work of Matt Nicholas at the PRM. By careful study of the artefacts and associated archive, he has been able to identify the original site location and show that the assemblage consists of at least 149 objects rather than the 28 reported by Wymer (1968), and also that it was associated with faunal remains. Full details are presented in 12.3.8 below. This site should now be considered of high research interest.

The PRM collections contain very little material from the rest of Oxfordshire, and larger collections are held by the Ashmolean Museum, OUMNH and Reading Museum, especially from sites in the Wallingford Fan gravels of South Oxfordshire, The PRM collections would be of interest in any revaluation of Oxfordshire Palaeolithic material, but would need to be studied in combination with the collections held in these other institutions.

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Figure 9.1 Photograph of an excavated section at Wolvercote Brick Pit, Oxfordshire (Reproduced from Bell 1904: 128, figure 2). The original caption reads 'The above section shows one of the troughs of sand and gravel driven into weathered Oxford Clay. Implements were found at the base of these troughs'.

9.3.7 South East Region: Surrey

The majority of the Palaeolithic material from Surrey held by the PRM comes from the Limpsfield area on the Greensand ridge on the Surrey/Kent border. The material was collected by A.M. Bell in the late 19th century. It still forms one of the largest Palaeolithic collections from the county, and is of considerable research interest. The Palaeolithic material is part of a larger group of 961 objects from the Limpsfield area collected by Bell between 1883–1906, and acquired by the PRM either directly, or purchased from his son in 1921 (Nicholas 2009). The PRM database lists 195 objects as being of Palaeolithic age (1901.21.6, 1921.91.451), although 1901.21.6 is more likely to be later prehistoric in date. However the quantity of Palaeolithic material in the collection is certainly much higher. The most recent evaluation of the material states: 'On inspection some of it appears to be of post-glacial character, but most, some 558 objects, is Palaeolithic' (Field and Nicolaysen 1993; Field *et al.* 1999).

Bell was an Oxford-educated classicist and amateur archaeologist who was employed as a teacher at Limpsfield School from 1877–1890, when most of the material was collected. The school (now Limpsfield Church of England Infant School) was located on Limpsfield Common, and the finds were made on the Common or in the near vicinity. About his collection, Bell wrote:

> 'During the years 1883–1889 a collection of this kind was obtained by the writer from the surface soil near Limpsfield in Surry. The collection was seen by various competent persons, none of whom doubted that it came from Palaeolithic times. All the examples, hundreds in number came from the surface, with one exception which might have been explained away as the accidental drop-down through a sun-crack in the soil. Yet various reasons led me to associate the finds as a whole with the time when the Limpsfield gravel-bed was deposited, and also with some neighbouring deposits of brick-earth… In the years 1890 and subsequently numerous in situ finds in the gravel and one in the brick-earth proved that my inferences were true; but they were just as true before the finds were made' (Bell 1894c: 270–271).

This material was of considerable interest at the time because of the abundance of finds and the high-level location, and it is mentioned by John Evans, Joseph Prestwich

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and others in various publications (e.g. Prestwich 1891, 1892). A short account is provided in the second edition of John Evans's *Ancient Stone Implements*:

> 'Palaeolithic implements have been found by him [Bell] and others in the parish of Limpsfield, Surrey, from the year 1883 up to the present time... Many of them have been found on the surface of the ground; but in a gravel-pit on the water-shed between the Darent and the Medway, at an elevation of 500 feet above the sea, Mr. Bell has succeeded in obtaining several implements out of the solid bed of gravel, at depths of from 3 to 7 feet from the surface. The gravel is about 8 feet in thickness and covers a considerable area… Besides the gravel there is a second implementiferous deposit at Limpsfield, on the slope of the Lower Greensand escarpment. Here more than three hundred implements have been found, at elevations of from 450 to 570 feet above the sea, principally on the surface, but also in the brick-earth at a depth of from 3½ to 5 feet. They have been most frequent on Ridland's Farm, and comprise all the forms that are usually obtained' (Evans 1897: 609–610).

Despite this early attention, the site is not well known. No report was published by Bell, and systematic research on the material was not undertaken until the 1990s. In large part this situation can be attributed to the material being stored off-site by the PRM for many years, probably originally for safety during the war. It came to light in about 1980 during a visit to the store in the basement of the University of Oxford Examination Schools by Ray Inskeep, a PRM curator, and R.J. MacRae, an honorary curator and researcher. The discovery is mentioned shortly thereafter by Derek Roe, who also mentions that 'the very first box opened was seen to contain two *bout coupe* handaxes from Limpsfield, in the same condition as the rest of the material' (1981: 266).

An assessment of the material was carried out in the early 1990s (Field and Nicolaysen 1993; Field *et al.* 1999). This work involved cataloguing the artefacts and an attempt to relocate the find locations based on the information written on the artefacts, and with reference to the underlying geology of the area. A programme of fieldwalking to find additional Palaeolithic material was also undertaken, but without success. The authors note that many artefacts are marked with site name and sometimes other descriptions of the locality, including the height OD and the date found, and state that nearly 400 artefacts are marked with the find date, and that the majority were collected between 1885 and 1891. They also suggest that the information written on the artefacts suggests 'a first-hand knowledge of provenance', but add that it is unclear whether Bell collected all of the material himself, or whether he obtained some from local workmen.

Although the material was assessed just over a decade ago, it should still be considered of high research potential – especially in light of advances in the understanding of the British Palaeolithic and Pleistocene succession resulting from the Southern Rivers Project and the Ancient Human Occupation of Britain project, and associated quaternary science research.

Apart from Limpsfield, the PRM collection contains only a handful of material from Surrey, and all this is of low research potential. From the Farnham area there are 7 handaxes collected and donated by Rev. Charles Henry Keable who lived at Wrecklesham Vicarage, Farnham. Three are recorded as being from 'Drift gravels near Farnham' (1908.39.1–3), and 4 from 'the gravel pit on Weydon Hill, near Farnham' (1909.18.1–4). There is also a single ovate from Farnham from Rev. Raymond Wilson's collection, but no further details are known about the object. (1910.72.65). In 1944 Kenneth Oakley, then at the Geological Survey, arranged the donation of a rolled handaxe from Terrace D at Snailslynch from the geologist Henry George Dines (1944.1.88). The object had considerable subsequent natural damage of

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'Eolithic' type and was sent for the 'Natural fractures exhibition'. Finally, 2 handaxes from Redhill or Reigate are included in the PRM founding collection (1884.122.147, 1884.122.157), and are known to have been in Pitt-Rivers' collection since 1874.

9.3.8 South East Region: East Sussex

All of the material recorded as being Palaeolithic from East Sussex comes originally from the collection of Sydney Gerald Hewlett. Most were purchased by the PRM, but 2 objects from the South Downs, between Alfriston and Seaford (1918.7.2–3), were donated. Two of the objects purchased from Hewlett are recorded as simply from the 'South Downs', and are likely to come from this area as well (1927.73.18, 1934.63.24). The rest of the collection consists of 4 objects from Beachy Head, Eastbourne (1926.91.27, 1927.78.170–171, 1934.63.21), and one each from East Dean, Wealden (1926.91.1), Alfriston, Wealden (1927.87.23) and Pig Dean, Lewes (1934.63.23). Seven further objects from Beachy Head and Exceat are recorded on the database, but were returned to Hewlett in 1897. Several boxes of stone tools from East Sussex were checked during the review for this chapter and were found to contain mainly later prehistoric material, a few eoliths, and 3 microliths from Beachy Head. No Palaeolithic artefacts were found in any of the boxes. Although the objects listed above were not specifically re-identified during the work, it is unlikely that they are of Palaeolithic age.

9.3.9 South East Region: West Sussex

The West Sussex material consists mainly of a small collection of material from various locations in the Littlehampton area collected by Francis Howe Seymour Knowles in the 1930s. It consists of 27 objects from Rustington (1932.24.42–55, 1936.33.2–14), 15 objects from Wick (1936.33.15–16), 2 objects from Yapton (1932.24.56, 1932.25.1) and a single object from Barham (1933.72.24). The material is not published and was not specifically checked during this evaluation although the boxes of Sussex material examined during the review for this chapter did contain later prehistoric material from Wick and Yapton.

The PRM collection also contains a single ovate handaxe from Slindon, Arun (1966.2.630) acquired from the Ipswich Museum purchase. The object probably comes from the high-level Lower Palaeolithic site recorded by J.B. Calkin (1934) that may be of similar MIS 13 age to the nearby site of Boxgrove (Wymer 1999). It is possible that the small group of unprovenanced material from Calkin included in the Ipswich Museum purchase (1966.2.631–645) may also prove to be from this site, and this possibility should be investigated in any future work on the transfer of these collections.

9.3.10 East of England Region: Bedfordshire

The PRM Palaeolithic collections from Bedfordshire are dominated by the fieldwork of Francis Howe Seymour Knowles (*Figure 9.2*), a longstanding associate of the PRM and specialist in stone tool technology. Further information about Knowles and his work on stone tools at the PRM can be found on the 'England: The Other Within' project website (Petch 2009b).

Biddenham

Knowles collected mainly from the Biddenham Gravel Pit (*Figure 9.3*), which is probably the same location as the Deep Spinney Pit where James Wyatt recovered handaxes in the 1860s (Wyatt 1861, 1862, 1864; Evans 1872, 1897; Wymer 1999: 123).

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The present Biddenham Pit SSSI is at the western end of the pit known by Knowles. The pit is in the highest gravel terrace of the Great Ouse River and the archaeological material is potentially of considerable age. Work to evaluate the geological context of the Biddenham material in the late 1980s established that the archaeology was found at the base of the gravels, but the dating is still uncertain (Harding *et al.* 1991).

Knowles' material from Biddenham comprises mainly handaxes, but he also records a significant flake component and some cores that he compares to specimens from Clacton presented to the PRM by Hazzledine Warren (Knowles 1953: 46–7, 75–9). Roe also notes the presence of 'proto-Levallois' material in the PRM collections from Biddenham (1981: 191). The Knowles material from Biddenham does not seem to have been the subject of modern analysis to confirm or characterize the assemblage. Such work would be worthwhile, especially if associated archives could be located.

Knowles records that he collected from the gravels at Biddenham for the PRM between 1900 and 1911 (Knowles 1953: 75), which agrees with the dates of acquisition of the material. The PRM's acquisition of over 500 artefacts from Biddenham from Knowles is summarised in *Table 9.1*. In addition, in February 1904 Knowles sold 37 artefacts to the PRM described as coming 'from a gravel quarry, or gravel pits, about 1½ miles west of Bedford' (1904.49.1–32, 1904.49.42–46). Alison Petch suggests that this material is likely to be from the Biddenham Pit, which is a mile and a half from the centre of Bedford (PRM database).

The only artefact in the PRM collection from Biddenham that did not come directly from Knowles is a single object collected in 1909 from 'Biddenham Quarry' and donated by Henry Balfour (1915.7.113). Knowles states that Balfour advised him to collect 'not merely the "battle axes" but also every flake and flaked object found by the workmen in the Biddenham gravels' (1953: 15). The object may have been given to Balfour by Knowles, although it could equally have been collected by Balfour himself, perhaps when visiting the pit with Knowles.

Caddington

The other key component of the PRM Bedfordshire Palaeolithic collection is a number of groups of refitting flakes from the well-known Lower Palaeolithic site at Caddington investigated by Worthington George Smith (Smith 1894). Smith donated a series of artefacts from the site to the PRM (1902.19.7–15, 1902.19.39–44, 1908.43.1–2) and the Museum catalogue shows this to have consisted of three groups of refitting flakes (two groups of 6, and one of 2 flakes) and 3 handaxes from the high terrace. Smith gave other material from Caddington to A.M. Bell and this came to the PRM with the purchase of Bell's collection from his son (1921.91.466). PRM accession records list this material only as '20 Lower Palaeolithic implements'. However, Smith apparently recorded that he gave refitting material from Caddington to Bell (Sampson 1978).

When the Caddington material was examined during the course of this evaluation, 19 refit groups or single objects were found to be marked that they were from the Bell collection; most also had Worthington Smith markings. Five were only marked with Smith's markings, and were presumably donated by Smith. The material marked as being from the Bell collection, and given to him by Smith, includes a single group of 7 refitting flakes and four groups of 2 refitting flakes. The Bell material also includes a few rolled flakes and natural objects which do not have Smith markings, but instead are all marked with a find date of 1902 and were probably found by Bell himself. The material not marked as being from the Bell collection consisted of 4 flakes from the 'Palaeolithic floor', 3 with sediment still adhering to them, and 2 refitting fragments of a handaxe from the 'high level

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Figure 9.2 Photographic portrait of long-time PRM volunteer Francis H.S. Knowles (1886–1953), taken in 1915 (PRM Photograph Collections 1998.271.12*).*

Figure 9.3 Photograph of sifting for archaeological finds at Biddenham gravel quarry, Bedfordshire taken between 1906 and 1911 (PRM Photograph Collections 2008.22.8). *More than 1,500 Palaeolithic artefacts in the PRM were collected from this site by Francis Knowles.*

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Accession number	Year Donated	Number of artefacts
1904.41.1–4	Donated 1904	4 artefacts
1905.54.1–6	Donated 1905	6 artefacts
1906.6.1–10	Donated May 1906	6 artefacts; 3 naturally perforated fossils; 1 naturally perforated pebble
1906.53.1–6	Donated October 1906	6 artefacts
1906.53.1–7	Donated October 1906	7 artefacts
1906.63.1–2	Exchanged Nov 1906	2 artefacts
1907.22.1–8	Donated June 1907	8 artefacts
1908.14.1–18	Donated 1908	18 artefacts
1908.55.1	Exchanged June 1908	1 artefact
1908.60.1–28, 31	Purchased Jan 1908	29 artefacts
1909.66.1–231	Collected 1908, Purchased Jan 1909	232 artefacts
1910.75.1–216	Purchased 1910	156 artefacts; 59 naturally perforated Coscinopora globularis fossils (157-215); an ox tooth (216)
1911.81	Purchased 1911	'A large collection of stone (flint) implements and flakes'

Table 9.1 List of Palaeolithic artefacts from Biddenham Gravel Pit, Bedfordshire held in the archaeological collections of the Pitt Rivers Museum.

ochreous drift'. The refitting groups of flakes donated by Smith were not seen, and it is likely that at some point they were separated from the rest of the collection for the purposes of display or research and should be easy to relocate.

The Caddington refit groups were studied as part of a major re-evaluation of the site by Garth Sampson, a research student at the Donald Baden-Powell Quaternary Research Centre in the 1970s (Sampson 1978). However, he assumed that all the material at the PRM was donated by Smith, and that the material recorded by Smith as being given to Bell was therefore missing. Unfortunately not all of the Caddington material could be located during this assessment, and it was not possible to determine exactly what was originally included in the accessioned groups of material, or how they related to Sampson's work.

The PRM Caddington material has research potential and should be included in any future reassessment of the site along with other parts of the original assemblage that are now held by the British Museum, Luton Museum and the Ashmolean Museum.

Other Sites in Bedfordshire

The remainder of the Bedfordshire material consists mainly of Lower Palaeolithic handaxes from a variety of locations, presumably from gravel terraces of the Ouse. The largest group is from Kempston and consists of 3 handaxes found in about 1880 and donated by Worthington Smith (1902.19.45–47); 5 objects from the A.M. Bell collection, including a later prehistoric core (1921.91.464); single examples from F.H.S. Knowles (1904.49.26) and E.E. Whitehead (1908.62.4); and one further object that Henry Balfour acquired from S.G. Hewlett (1915.37.12). The A.M. Bell collection also contains an object from Markgate Street, Dunstable (1921.91.467), and another from Luton (1921.91.465). The acquisition of material from Bedfordshire by Bell may have been related to his friendship with Worthington Smith, but this cannot be confirmed without further research. A single artefact from Bedford in the PRM founding collection was discovered in 1867 by Frederick K. Porter (1884.122.156). All of this poorly provenanced material is of limited research value.

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9.3.11 East of England Region: Cambridgeshire

There are only 6 objects in the PRM Palaeolithic collections from Cambridgeshire, and 5 of these, from the A.M. Bell collection, are provenanced only to the county, and are of little research interest unless a provenance can be established for each of them (1921.91.469). The sixth object is from Bottisham Lode, and was donated by Oscar Charles Raphael (1919.33.38). It is a leaf-shaped bifacially worked object, and during the time when researchers were trying to apply the French Palaeolithic sequence to England it was identified as being Solutrean. It is, however, of late Neolithic or Early Bronze Age date.

9.3.12 East of England Region: Essex

The PRM collections from Essex are dominated by material from Clacton-on-Sea, the type-site of the 'Clactonian'. The Clactonian is a non-handaxe Lower Palaeolithic industry, defined on the basis of finds from the foreshore at Clacton (Warren 1926), and once thought to represent the earliest phase of human activity in Britain. A considerable amount of research on Clactonian industries has taken place over the past couple of decades and they are now seen as a facies of the European Lower Palaeolithic (McNabb 2007).

Forty-eight artefacts from the Clactonian type-site at Clacton-on-Sea were donated to the PRM by Samuel Hazzledine Warren, the discoverer and excavator of the site (1940.3.18–33, 1941.9.93, 1949.2.1). He also donated a cast of the 'Clacton spear' (1921.30.1): the tip of a worked yew wood point that he found in an exposure of the '*Elephas antiquus* bed' (a Pleistocene fresh-water channel deposit with rich paleontological remains including that of a straight-tusked elephant) at Clacton and which was associated with Clactonian artefacts (Oakley *et al.* 1977). The spear tip is dated to the early part of MIS11 (Hoxnian), about 410,000 years ago (Wymer 1999). It is the only Lower Palaeolithic wooden artefact found in Britain, although complete wooden spears of similar age are known from Schöningen, Germany. From a later phase of work at Clacton is a single Clactonian flake from Jaywick Sands that was donated by Kenneth Oakley (1988.47.10). Oakley excavated Jaywick with Mary Leakey (Oakley and Leakey 1937), and the object was presumably donated as a type specimen from the site. The Clactonian material is of considerable interest for teaching, but probably has little further research potential.

The only other Palaeolithic artefacts from Essex in the PRM collections are 2 handaxes from Gant's Pit, Dovercourt, found by James Reid Moir in May 1920 and donated to the PRM in April 1930 (1930.18.1–2). Gant's Pit (also known as Pound Farm Pit) has produced large numbers of handaxes and is regarded as being one of the largest Palaeolithic sites in Essex (Wymer 1999). Most of the early finds from this pit are held by the British Museum, but these two could be included if the site was reassessed.

9.3.12 East of England Region: Hertfordshire

There are only a few Palaeolithic objects from Hertfordshire in the PRM collections, but they are not without interest. Two large flakes from Croxley Green, Rickmansworth were donated by Alfred Schwartz Barnes (1940.4.21–2) for the 'Human Flaking' series, a display that he created for the Pitt Rivers following publication of his important paper on the difference between natural and human flaking (Barnes 1939; Petch 2009a). One of these (1940.4.22) is marked 'Crx 4` above chalk 27.6.08', which is identical to markings on objects in the Hugh Beevor collection of material from the Long Valley Wood Pit at Croxley Green, which was donated to the Geological Museum in 1935 and transferred to the British Museum in 1989 (Roberts 1999).

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Beevor had collected extensively from this pit and from nearby pits at Mill End, Rickmansworth in the late 1910s with S. Ingleby Oddie, and some of their finds were displayed to members of the Geological Association in 1909 (Kidner and Young 1909). The site was investigated by the British Museum and the Geological Survey in 1914 and artefacts were recovered from the gravels (Smith and Dewey 1915). Letters from Barnes to Francis Knowles held at the PRM confirm that these flakes are from Beevor's site, and were collected by Barnes and Beevor (Knowles Papers, Box 2, Bundle IIIG, 5/4/1942 and 12/1/1948). The Beevor collection was assessed by John Wymer when it was held at the Geological Museum, but has not been the subject of any recent work. These 2 flakes could be included if the Croxley Green site or the Beevor collection material were to be researched.

Also from Rickmansworth is a single handaxe from the Mill End Gravel Pit (1988.47.2) donated by the anthropologist and geologist Kenneth Page Oakley (1911–1981). Many Palaeolithic handaxes and flakes were recovered from this pit in the late 19th and early 20th centuries, but the only major investigation of the site failed to find any artefacts (Smith and Dewey 1915). The PRM handaxe is notable for being reported by the donor as being the first Palaeolithic artefact found by him, at the age of 18. Written on the object is the find location, stratigraphic location and find date: 'Mill End Gravel Pit 10ft below surface 6.xi.29'. Oakley went on to undertake important work on the Palaeolithic and Pleistocene succession in the Thames Valley in the 1930s and he was instrumental in exposing the Piltdown finds as a fraud in 1953. He spent much of the 1970s living in Oxford after retiring from the British Museum (Natural History) in 1969.

Two other handaxes from Hertfordshire are included in the collections. One, from the 'Gravel-pit, Hatfield Park', was donated by the Wiltshire antiquary Rev. Henry George Ommaney Kendall (1916.20.16). The other is provenanced to 'Bushey, Mills Hill' (1913.58.2) and may be from the gravel pits in Bushey, Hertfordshire, or from the nearby well-known Palaeolithic find location at Mills Hill in Acton. It was purchased from S.G. Fenton and Company, and is of little research interest unless a provenance can be established. A truncation burin from King's Langley was identified when a small sample of additional material from the county was examined during the review (1928.68.457). It was part of the John Evans collection (donated by Arthur Evans in 1928), and provides evidence for the potential of locating additional Upper Palaeolithic material in the stone tool collections from England.

In addition, a specimen of clay with plant impressions from Broxbourne, donated by the geologist Samuel Hazzledine Warren (1941.9.96), is listed with the Palaeolithic material – although it is environmental rather than archaeological. Warren published reports on the late glacial deposits of the River Lea valley area from the 1910s, culminating in a major multi-disciplinary publication on the late glacial deposits at Nazeing in 1952 (Allison *et al.* 1952). He identified a widespread late glacial plant bed within the earliest gravels of the Lea flood plain, which he referred to as the 'Arctic bed' in which the leaves of dwarf willow (cf. *Salix phylicifolia*) were abundant. This sample of clay with impressions of dwarf willow is most likely to have been from one of the 'Arctic Bed' localities, some of which are in the Broxbourne area, rather than from the early Mesolithic site at Broxbourne which post-dates these deposits (Warren *et al.* 1934). The deposits are well documented, but the sample could be useful reference material for any future re-evaluation.

9.3.13 East of England Region: Norfolk

Most of the Palaeolithic material from Norfolk in the PRM collections comes from early collecting in the area, mainly during the 1860s. Much of this material is from the

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John Wickham Flower collection, which was donated by his widow to the OUMNH in 1882, and transferred to the PRM in 1892 as being of archaeological rather than geological interest. Flower was a friend of both Joseph Prestwich and John Evans, and was involved in the resolution of the antiquity of humans question and in the recognition of the Palaeolithic in England. In relation to these issues he conducted fieldwork in Norfolk, and seems to have focused on sites in the valley of the Little Ouse River (Flower 1867, 1869). It is likely that much of the Norfolk material in the PRM founding collection is related to Flower's work, with artefacts either being given to the General by Flower or collected by him while visiting Flower's sites. All of this material would be of use in research on Flower and his contribution to the development of the study of the Palaeolithic.

Twenty-seven handaxes are provenanced to the 'Valley of the Little Ouse River'. The Little Ouse is a tributary of the Great Ouse, and for much of its length it marks the boundary between Norfolk and Suffolk. Eight of these finds are from the Flower collection (1892.67.164, 1892.67.176, 1892.67.179–80, 1892.67.191, 1892.67.195–196, 1892.67.199, 1892.67.695) and have small printed labels attached which read 'Valley of the Little Ouse River. Norfolk'. The labels presumably indicate that the objects are from the Flower collection, especially as identical labels are found on artefacts recorded as being given by Flower to John Evans that are now held by the Ashmolean Museum. The other 19 handaxes provenanced to the valley are from the PRM founding collection (1884.122.110, 1884.122.112–114, 1884.122.116, 1884.122.118–119, 1884.122.121–123, 1884.122.127–129, 1884.122.131–132, 1884.122.135, 1884.122.137–138, 1884.122.140). Most of these also have the same small printed labels and can be assumed to have been originally collected by Flower. Also probably collected by Flower are 5 handaxes and flakes that are provenanced to Broom Hill, in the valley of the Little Ouse River near Brandon. Four of these are from the PRM founding collection and were collected in the late 1860s when Flower was investigating the area (1884.122.23, 1884.122.29, 1884.122.38, 1884.122.62), and one handaxe is from the Flower collection (1892.67.228). These finds will have come from the Broomhill (or Bromehill) Pit investigated by Flower, where many handaxes were discovered (Flower 1869; Evans 1872: 505–7; Wymer 1985: 103–4).

The PRM collection contains 73 artefacts from Shrub Hill, Feltwell, in the Valley of the Little Ouse River (and another one was transferred to the Australian Museum in Sydney in 1950). Forty-eight are from the PRM founding collection (1884.122.45–7, 1884.122.49–61, 1884.122.63–66, 1884.122.68–75, 1884.122.77–96). Twenty-four are from the Flower collection, most of which were collected in 1871 (1892.67.153, 1892.67.156, 1892.67.163, 1892.67.167, 1892.67.169, 1892.67.177–178, 1892.67.182–188, 1892.67.217–218, 1892.67.220–227). The final object is a handaxe from the John Evans collection that was transferred from the OUMNH in 1887 (1928.68.491). A handaxe in the Flower collection that is provenanced only to 'Feltwell' (1892.67.255) could also come from Shrub Hill, but is more likely to come from elsewhere in the area as Flower was normally precise in his labelling. Shrub Hill is an unusual low-level location for a Lower Palaeolithic site, being a gravel island rising little more than 1 metre OD (Wymer 1985: 79–81). Palaeolithic implements were reported as being found there from 1865 (Flower 1869; Evans 1897: 568–72), and it has produced a large number of handaxes of varying types and conditions, but mainly rolled. Despite the early interest and unusual location the site has never been properly considered, presumably as the gravel workings have long been closed and water-filled, and the original geological position of the deposits would be difficult to assess. However, should future work take place at the site, which is related to the terraces of the former Bytham River, then the PRM material and any associated archive should be considered as being of high potential.

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Eighteen handaxes and flakes are provenanced to Thetford. Thirteen are from the PRM founding collection and seem to have been given to him by John Evans. Eleven of these are attributed only to Thetford (1884.122.14–16, 1884.122.25–28, 1884.122.30, 1884.122.32–33, 1884.122.37), and 2 have the more precise find location of Red Hill, Thetford (1884.122.13, 1884.122.20). The remaining 5 are from the Flower collection: 4 from Thetford (1892.67.166, 1892.67.174, 1892.67.206, 1892.67.209), while one has the more precise find location of Chasely Vale (1892.67.150).

The PRM collection also contains 11 artefacts provenanced only to Norfolk (2 of which have since been transferred to other museums). Eight are from the PRM founding collection (1884.122.117, 1884.122.125–126, 1884.122.129–130, 1884.122.133–134, 1884.122.139), and three were donated by Oscar Charles Raphael (1919.33.24–26). These are all of little research interest. One object donated by Henry Balfour is reported as being found at a clay-pit near Grimes Graves (1916.33.3). The object was not seen during this assessment, but, given the proximity to the flint mines, it is possible that it could be a Neolithic axe rough-out.

Of potential interest to the development of the eolith debate are 5 objects found on the foreshore at Cromer (1930.23.1–5) that were donated by James Reid Moir. Moir believed them to be very ancient tools (Moir 1921, 1927) although they (and many like them in other museums) are now considered to be natural. Reid Moir also donated a group of 'rough flakes and scrapers' from the Hunstanton area, including some from the Hessel Boulder Clay, some from Heacham, and others from the Hunstanton Cliff Gardens (1930.59.117). These were not seen during the assessment, but it is most likely that they are again of natural origin rather than of Palaeolithic age.

9.3.14 East of England Region: Suffolk

The Suffolk collections form the second largest English county group of Palaeolithic material held by the PRM, representing about 15% of the total from England. Only the collection of Palaeolithic material from Oxfordshire is bigger. Not surprisingly a major part (40%) of the collection consists of material transferred from the Ipswich Museum, an institution that was a centre for local and prehistoric archaeology in the early 20th century. However, most of the transferred material from Suffolk comes from only one area, Barnham in St Edmundsbury (92%), and there are only a few objects from other sites. Most of the rest of the PRM Suffolk Palaeolithic material seems to relate either to the PRM founding collection and the fieldwork of John Wickham Flower, or to the curatorship of Henry Balfour and the work of the Suffolk antiquary J. Reid Moir. There are also four handaxes provenanced only to Suffolk that are of little research interest: two from the PRM founding collection (1884.122.19, 1884.122.136) and two from the Flower collection (1892.67.194, 1892.67.348).

Barnham

The largest group of Lower Palaeolithic material from Suffolk held by the PRM is from Barnham in the St Edmundsbury district, and was acquired by transfer from the Ipswich Museum in 1966. There are two groupings of material in the collection with 120 objects being attributed to Barnham (1966.2.87–136, 1966.2.144–214), and 84 to Barnham Heath (1966.2.10–86, 1966.2.137–143). The first group consists of cores and flakes in a relatively fresh condition, such as have been found at the East Farm Brick Pit (Wymer 1985: 116–23). The Barnham site at East Farm has been excavated several times, most recently by the British Museum from 1989 to 1994 (Ashton *et al.* 1998). The results of previous work by W.J. Clarke and Dixon Hewitt in the 1910s, T.T. Paterson in the 1930s and Wymer in the 1970s are summarised in Wymer (1985) as well as in the British Museum report. The source of the material in the PRM is

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unknown at present, but from the size, content and condition of the material it seems possible that it might derive from one of the phases of excavation at the East Farm pit or from work in a similar deposit elsewhere in the Barnham area. One possibility is that it might be material from Paterson's work, part of which is known to have been deposited at Ipswich (Wymer 1985). If the source of the PRM material could be attributed to one of the excavations at the East Farm site or another detailed findspot then it would be of high research importance.

The material from Barnham Heath consists mainly of handaxes and flakes, many in rolled condition, which are likely to have been collected by workmen when large-scale quarrying started there in 1947 (as described in Wymer 1985: 123–7). Again, the original collector of the material is unknown at present, but it is possible that it is part of the material collected and recorded by Basil Brown between 1947 and 1951 that is reviewed by Wymer (Wymer 1985). This material could be usefully included in any future review of the material from Barnham Heath, especially if proved to be collected by Brown, and any overview of the Palaeolithic of the Barnham area.

Also provenanced to the St Edmundsbury district are: an ovate from Bury St Edmunds purchased from Mrs S. Warrington (1913.70.14); 4 handaxes from the Grindle Pit, Bury St Edmunds purchased from the Stevens Auction Rooms (1912.57.27–30); an ovate and a flake from Westley from the same sale (1912.57.22–23); and a scraper found in 1861 at Stanton that is in the PRM founding collection (1884.122.67). In addition, 14 artefacts from North Stow are recorded as being attributed to various phases of the Upper Palaeolithic but are all later prehistoric in age (1922.61.20, 1922.64.6, 1922.64.8, 1922.64.17–21, 1922.64.23–27, 1922.64.30). They are from the collection of G.F. Lawrence purchased from the Stevens Auction Rooms.

Mildenhall Area: Warren Hill (Three Hills) and High Lodge

The Lower Palaeolithic site at Warren Hill is said to have produced more handaxes than any other site in Britain. The original geological context for the industry, or industries, found there is still not fully understood but they are considered to be of pre-MIS 12 age (Wymer 1985: 90, 1999: 137–40). Handaxes were found in gravel workings at the pit from the mid 1860s (Evans 1872: 489). Evans also mentions that rare examples of quartzite hammerstones were found there. Study of artefacts from the site has been complicated as it is known by several different names. As John Wymer has stated (1985: 90):

> 'The name of the site is correctly 'Three Hills, Warren Hill, Mildenhall' but it is often known as one or the other, or as Icklingham instead of Mildenhall… It also seems to have been known as Little Barton or Lower Barton because of its proximity to Barton Mills.'

The majority of the material provenanced to Warren Hill in the PRM collections is a group of 114 handaxes and flakes from the collection of A.M. Bell (1921.91.452). Another two ovates that were formerly in the collection of A.M. Bell were donated by Henry Balfour (1915.7.115, 1915.7.117). Balfour also donated a handaxe 'from gravels, Warren Hill' (1915.37.11), and another found in 1878 (1919.14.10). There is also an ovate from the Flower collection (1892.67.153), and a quartzite hammerstone with evidence of use on one end that was donated by Worthington Smith (1902.19.37). Five further handaxes from Warren Hill were purchased by the PRM: 3 from Stevens Auction Rooms (1912.57.24–26), one from Mrs S. Warrington (1913.70.16) and another that was found in 1897 and described as being made on a flake, from S.G. Hewlett (1927.73.17). In addition, several objects are provenanced to alternate place names for the site and should be considered as coming from Warren Hill. Chief

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among these are 4 handaxes in the PRM founding collection that are provenanced to 'Three Hills, Suffolk' (1884.122.42–43, 1884.122.48, 1884.122.97). There are also 2 heavily rolled artefacts from 'Little Barton' that were donated by Worthington Smith (1902.19.17–18) and are likely to be from the same site. All of these objects could be included in any future reassessment of the Warren Hill site. If further contextual information could be found about the group of material collected by Bell then that assemblage could be of particular interest.

The other major Lower Palaeolithic site in the Mildenhall area is High Lodge Brickearth Pit (also known as Warren Lodge in the early literature), which is located close to Warren Hill. The geology of the site is complicated and the age of the fresh condition Lower Palaeolithic flake industry found in the brickearths there was a controversial subject from the late 19th century until a programme of multidisciplinary work in 1988 established that it was older than MIS 12 (Ashton *et al.* 1992).

Nine flakes from High Lodge were part of the transferred collections from Ipswich Museum (1966.2.538–546). The original source of the material is unclear, but as they were originally catalogued at the PRM as 'IP32' with material from Bramford Road, it is possible that they might have been deposited at Ipswich by J. Reid Moir. Moir worked at High Lodge in 1920 with John Edward Marr, Woodwardian Professor of Geology at Cambridge University, and Reginald Smith of the British Museum (Marr *et al.* 1921). Moir wrote the report on the flint artefacts found during the work, and future research on the PRM artefacts might be able to establish if the nine flakes could have derived from those excavations or not. The finds from the 1920s work at High Lodge do not appear to have been included in the most recent monograph about the site (Ashton *et al.* 1992). If these artefacts could be shown to derive from the 1920s excavations then they would be of research interest.

Two handaxes recorded as from High Lodge Hill that were also transferred from Ipswich are probably from the same site, but not the same source as they were catalogued separately from the flakes listed above nd have a find date of about 1870 (1966.2.1–9). Also from High Lodge Hill are 2 handaxes purchased from the Stevens Auction Rooms (1912.57.20–21) and 2 flake tools from Canon Greenwell's collection that were purchased from S.G. Hewlett (1927.73.19). One of these flakes is labelled 'from the loam bed'. High Lodge is such a remarkable site that all material found there is of interest, especially if there is any contextual information associated with the objects.

Potentially also from either Warren Hill or High Lodge are objects provenanced only to 'Mildenhall'. These consist of a handaxe fragment from the PRM founding collection (1884.122.106); an ovate donated by Henry Balfour (1915.37.10); another purchased from Rev. Raymond Wilson (1910.72.37, 1910.72.61); a flake purchased from G.F. Lawrence (1922.64.48–63); and a handaxe and flake purchased from the Stevens Auction Rooms (1912.57.19, 1927.83.34). There are also two possible artefacts from this location; one from the A.M. Bell collection (1921.91.471) and the other from Worthington Smith (1902.19.18). John Wymer believed that most Lower Palaeolithic artefacts provenanced to the Mildenhall area can potentially be attributed to Warren Hill or High Lodge on the basis of condition. However, he also states that this cannot be proven (Wymer 1985: 90).

Also from Mildenhall is a fragment of a large leaf point that was described as 'Solutrean' when it was purchased from the G.F. Lawrence collection at the Stevens Auction Rooms in 1922 (1922.64.31). During the 1910s and 1920s many people attempted to find comparable material in Britain for all of the stages then defined for the Palaeolithic in France. This enthusiasm led to misidentifications of later prehistoric artefacts and sites as being of Upper Palaeolithic age, including this object which is of late Neolithic/Early Bronze Age date.

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Santon Downham

Eighteen handaxes in the PRM collections are provenanced to Santon Downham, a well-known find location that is assumed to be the gravel pit at Little Lodge Farm where a handaxe was found by John Evans and Henry Prigg in 1865, and from which many more find were made in the late 19th century (Wymer 1985: 106–7). Thirteen of these handaxes are from the John Wickham Flower collection, but only 2 are labelled specifically as being from Santon Downham (1892.67.152, 1892.67.256). The rest are labelled 'Santon', or 'Valley of the Little Ouse, Santon', but are presumed to refer to Santon Downham as well as there is no other place called Santon in the Valley of the Little Ouse, or elsewhere in Suffolk or Norfolk (1892.67.154, 1892.67.158–159, 1892.67.161, 1892.67.165, 1892.67.190, 1892.67.210–211, 1892.67.213–215). All of these objects were found between November 1867 and October 1869, probably by Flower himself. It was not possible during the review for this chapter to determine if any were objects discussed in Flower's publications on his Palaeolithic finds from the area (Flower 1867, 1869), but this could be a useful for research on Flower and his fieldwork in East Anglia. Four additional objects are included in the PRM founding collection (1884.122.12, 1884.122.21, 1884.122.24, 1884.122.34) Two are attributed to Santon Downham and 2 to Santon and all were found in 1868 or 1869. Another handaxe from Santon Downham was purchased from the Stevens Auction House but nothing is known of its history (1912.57.18).

Brandon Area

The PRM collection contains a few Palaeolithic artefacts from the Brandon area, but it is only possible to provide a general find location for most objects. Ten handaxes from Brandon are included in the PRM founding collection (1884.122.8–11, 1884.122.17–18, 1884.122.22, 1884.122.36, 1884.122.41, 1884.122.76), and one of these is recorded as being 'found 25 ft deep Brandon June '68' (1884.122.22). Eight handaxes or handaxe fragments from Brandon are from the Flower collection (1892.67.157, 1892.67.171, 1892.67.175, 1892.67.189, 1892.67.205, 1892.67.216, 1892.67.385, 1892.67.404). Flower records finding material in the Brandon area and it is possible that some of these objects are recorded in his publications. Also provenanced to Brandon are a handaxe donated by E.B. Tylor (1911.32.27); a large flake 'from the river drift' donated by Henry Balfour (1915.7.67); and a handaxe purchased from the Stevens Auction Rooms (1912.57.16).

A few objects have more detailed find locations in the Brandon area. Broomhill is an early find location discussed by Flower (1869; Wymer 1985: 103–4) and the PRM collection contains four Lower Palaeolithic objects provenanced to this site: three from the PRM founding collection (1884.122.38, 1884.122.62, 1884.132.27), and the fourth purchased from the Stevens Auction Rooms (1927.83.33). A large handaxe from Brandon Fields is included in the Flower collection (1892.67.160), and another was purchased from the Stevens Auction Rooms (1912.57.17). Brandon Fields is a site recognised in the 1860s that is mentioned by Flower (1869). Also probably from Brandon Fields are 5 handaxes provenanced to Wangford; three from the PRM founding collection (1884.122.35, 1884.122.40, 1884.122.44) and 2 from the J.W. Flower collection (1892.67.207, 1892.67.219). Wymer states that Brandon Fields was known by several names including 'Wangford' and he considers all early finds of handaxes attributed to 'Wangford' to be from Brandon Fields (1985: 109).

More likely to have been from the vicinity of Wangford itself (about 3 miles south-west of Brandon) are 2 blades from the 'Magdalenian Floor, Wangford' donated by C.G. and B.Z. Seligman (1940.12.648). This open air flint scatter was discovered about 1910 and was then assumed to be of Magdalenian age (Sturge 1912). Other

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objects from the scatter are held by the British Museum and CUMAA (Wymer 1977), and it appears to be of early Mesolithic rather than late Upper Palaeolithic age.

Also perhaps from Brandon is a flake originally from the Edward Lovett collection that was purchased from the Stevens Auction Rooms (1933.90.66). One object described as an 'axe roughout' from Weeting near Brandon was included in the Ipswich Museum transfer (1966.2.588), but was not seen during the review. Of doubtful Palaeolithic age are eight 'scrapers' from Brandon Park, Brandon, donated by Henry Balfour. Four are described as being of Upper Palaeolithic age (1913.25.60–1, 63) and the others just as Palaeolithic (1915.7.49–53). None of these were checked during the evaluation so the identification cannot be confirmed although it is more likely that they are of later prehistoric age given the find location. Balfour also donated an eolith from Brandon Park, Brandon (1916.33.2).

Hoxne

Five artefacts are from the Lower Palaeolithic site at Hoxne, and 2 casts of stone artefacts from the site from the PRM founding collection (1884.122.2, 1884.125.148). The site has a special place in the history of archaeology as being the first Palaeolithic site recognised in Britain. The site was visited by John Evans and Joseph Prestwich in 1859 after seeing artefacts recovered there by John Frere in 1797 at the Society of Antiquaries. Evans and Prestwich recovered further artefacts from the site and were able to provide a geological context for the material that was comparable to that for Boucher de Perthes' finds in the gravels of the Somme, and Hoxne was included in their landmark papers that established the scientific evidence for the antiquity of humans (Evans 1860; Prestwich 1860). The site has been excavated several times, most recently by John Wymer in 1971–1974 and again in 1978 (Singer *et al.* 1993). The history of work there is summarised in the 1993 report and in two of Wymer's major works (1985: 149–78, 1999, 156–60). Recent work by the Ancient Human Occupation of Britain project has clarified the palaeoenvironmental context for the site and its dating to MIS 11 (Ashton *et al.* 2008).

Four of the artefacts in the PRM collection derive from work at the site by James Reid Moir in 1924–1926, funded by the British Association and the Percy Sladen Fund (Moir 1926, cf. Moir 1935). They were donated by Henry Balfour and he received them from Reid Moir in return for a subscription to the excavations (1930.6.1–4). The 2 handaxes (1930.6.1–2) and 2 flakes (1930.6.3–4) were all found by Moir '8 ft deep in brickearth, which underlies the upper glacial deposits'. These are of historical interest. The fifth object is an eolith found by Balfour 'in the terrace gravels at Hoxne' in 1924, perhaps during a visit to the Moir investigations (1935.4.1).

Bramford Road

The PRM collections contain 67 artefacts from James Reid Moir's work at the gravel works at 'Bramford Road, Ipswich' (Moir 1930; 1930.59.1–54, 1930.59.94–106), which was almost certainly a large Middle Palaeolithic site perhaps including an *in situ* ancient land surface. Sadly the method of extracting the gravel there by means of a large suction pump working underwater resulted in artefacts and fauna being recovered only from the screening plant and the original context being impossible to determine accurately (Wymer 1985: 213–16). The lack of a geological context and the method of recovery of the material from the site has led to the assemblage often being overlooked by researchers except for studies of specific artefact types (e.g. *bout coupe* handaxes: Tyldesley 1987; White and Jacobi 2002). Moir attributed all but 12 of the artefacts that he donated to the 'Combe Capelle' level (Middle Palaeolithic). He described the remaining 12 objects as being 'from Upper-Palaeolithic layer, Flood-

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plain terrace', and these are likely to be of later prehistoric age. Despite the problem of lack of context, the material from Bramford Road does have research potential and the PRM material should be included in any future research on the site, especially that identified as being from the 'Combe Capelle' level.

Also from Bramford Road are 8 handaxes described as 'approaching Mousterian of Acheulian Tradition' (i.e. Middle Palaeolithic) and a Levallois core (1966.2.529–537). These were part of the transfer of collections from Ipswich Museum and were probably also recovered during Moir's work there. Ipswich definitely held artefacts and fauna recovered by Moir from the site, and future documentation work might be able to confirm this possibility.

Bolton and Laughlin's Brickpit, Ipswich (Dales Road)

James Reid Moir donated a large number of flint implements from 'the Middle Glacial strata' at this pit (1920.83.1), which he considered to have evidence for several different Palaeolithic levels. The majority of the material recovered from the site is either Eolithic (natural) or of Holocene age (Wymer 1985: 217–20). Moir also donated 2 fragments of pottery 'found with flint implements of Mousterian facies' from this site (1918.30.1). Similar pottery from the site has been shown to be of Neolithic age (Wymer 1985: 217–20) Two other natural flints 'found on the London Clay below the Red Crag' at the site were donated by Henry Balfour (1912.39.29–30). Five more labelled 'Sub-crag' were donated by C.G. and B.Z. Seligman (1940.12.638–639). Although the site has been discredited as a Palaeolithic site, the later prehistoric material may be of interest.

Other Sites in Suffolk

Almost all of the smaller assemblages of Palaeolithic material from Suffolk in the PRM are from the Forest Heath district in the north-western part of the county. These include 3 flakes from Elvedon, 2 of which are from the John Wickham Flower collection (1892.67.346–7). The well-known Palaeolithic site at Elvedon was not discovered until the brick pit there was opened in the 1890s (Wymer 1985: 110–13), well after Flower's death in 1873. This suggests that there might have been smaller gravel workings in the area in the 1860s or 1870s, from which these flakes and the third, from the PRM founding collection (1884.122.31), were obtained. The classic Elvedon site has recently been the subject of a programme of multi-disciplinary research (Ashton *et al.* 2005).

There are 3 ovates from Lakenheath in the PRM founding collection (1884.122.108–109, 111) and another 5 handaxes from the same find location in the Flower collection (1892.67.151, 1892.67.155, 1892.67.162, 1892.67.193, 1892.67.197). Lakenheath is mentioned as a find location by Flower in his paper on the Palaeolithic of the area (1869). The PRM holds 5 other handaxes from Lakenheath: one 'from gravels' that was donated by Henry Balfour (1915.37.9), another donated by O.C. Raphael (1919.33.28) and two that were purchased (1927.73.16, 1927.83.32).

Also from Lakenheath is a small assemblage of lithic 'long blade' débitage of probable Final Palaeolithic age (1897.11.43–85). This material includes a crested blade with bruised edges (*lame machuré*), several other crested pieces and a fragment of a large opposed-platform blade core. The assemblage is of research significance, especially as quick inspection during the assessment revealed a technological refit between two pieces (1897.11.76 and 1897.11.79) that indicates the material probably came from the same original knapping scatter (however, 1897.11.54 was made with a metal hammer, probably by a 19th-century gun flint knapper). The material was donated by George Fabian Lawrence and previously had been recorded as being

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Neolithic or Mesolithic in date. Further review of the PRM's later prehistoric collections from Lakenheath also revealed two unregistered Upper Palaeolithic points that had been purchased from Lawrence in 1905–1906. Neither of these groups of material had been recorded previously as being of Palaeolithic age and their identification clearly demonstrates the potential for finding Upper Palaeolithic material stored with the later period collections at the PRM.

Other Forest Heath district material consists of an ovate from Eriswell purchased from Mrs S. Warrington (1913.70.15), and 3 Palaeolithic artefacts from Icklingham from the PRM founding collection (1884.122.99, 1884.122.107, 1884.122.115) along with a plaster cast from the Flower collection (1892.67.198). Twenty-six scrapers from Icklingham that were purchased from the Stevens Auction Rooms from the G.F. Lawrence collection are all of later prehistoric age (1922.61.38–60).

From the Mid-Suffolk district is an ovate from Stonham, which is in the PRM founding collection (1884.122.39). From the coastal area is a collection of 39 cores and flakes from the Orwell River estuary that was donated by J. Reid Moir (1930.59.55–93). Moir recorded that the material was found 'beneath alluvium' and he believed that it was of Magdalenian age (Moir 1930). Material held by other museums from the same or related sites has been identified as being Mesolithic (Wymer 1977: 258). The PRM material was not seen during the review for this chapter, but whether it proves to be Upper Palaeolithic or Mesolithic it is likely to be of research interest.

9.3.15 London Region

A majority (over 60%) of the PRM Palaeolithic collection from London consists of artefacts found in the Acton and Ealing area by Pitt-Rivers himself (then Lane Fox) in the 1860s and 1870s (within 1884.122.1–437, and 1884.132.29–32, 1884.132.329). Further information about Pitt-Rivers' collecting and recording of Palaeolithic material during the residential development of Acton and Ealing is discussed by Alison Petch elsewhere and need not be discussed further here (Petch 2009c; Petch *et al.* 2009). The material is important both for research on the distribution of Palaeolithic material in West London and on Pitt-Rivers' work on the Palaeolithic during the early years of the recognition of the antiquity of humans.

The PRM's Palaeolithic collections from London also include objects recovered by Worthington George Smith (1835–1917) in north-east London (Smith 1894), and material transferred from the Ipswich Museum, as well as a few objects from other sources.

West London

Apart the PRM founding collection, the Palaeolithic material from West London held by the PRM consists mainly of material transferred from the Ipswich Museum. All of the Ipswich material came from J.P.T. Burchell, but it is not recorded how he acquired it. Given the range of sites, it is possible that at least some of the artefacts might have been originally collected by the London geologist and antiquarian John Allen Brown (1831–1903) or were from sites published by him (Brown 1887). Another possibility is that the artefacts were collected by the geologist J.G. Marsden, or by Burchell himself, as both mention the sites in their publications (Marsden 1928; Burchell 1934a). Hopefully documentary research at Ipswich Museum might be able to clarify the circumstances of discovery for this material.

The Ipswich material includes 17 artefacts from Creffield Road, Acton (1966.2.558–575). These presumably relate to Burchell's publication on the 'Middle Mousterian' in Britain (Burchell 1934a) as at least one flake is marked as being figured in this publication. The well-known Middle Palaeolithic Levallois 'floor'

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at Creffield Road, Acton, was discovered by John Allen Brown in 1885, and was described as being located at the base of a brickearth on top of the Lynch Hill gravel terrace (Brown 1887; Wymer 1968). However, despite several attempts (Bazely *et al.* 1991; Burleigh 1976; Marsden 1928) these deposits have never been relocated for scientific analysis.

The Ipswich-Burchell collection also includes eleven flakes from the Middle Palaeolithic find location at Yiewsley, Hillingdon (1966.2.576–586), and are labelled 'Brickearth 100 ft Terrace'. The site is mentioned by both Marsden (1928) and Burchell (1934a), as well as by Allen Brown (1887) and others (Wymer 1968). There are also 8 handaxes and 3 flakes from the '50ft Terrace' at Hanwell, Ealing (1966.2.547–557). Apart from the Ipswich Museum material the PRM Palaeolithic collection from west London only contains a side scraper from Hanwell that was donated by Worthington Smith (1902.19.36), and a handaxe from Houndslow Heath that was transferred from the OUMNH (1892.66.2). In addition, 38 objects recorded as being Lower Palaeolithic implements from various sites in Middlesex (1921.91.460) were donated by A.M. Bell. These were not seen during the review for this chapter, but it would be useful to check them in case they have markings which could identify them to a particular site or original collector.

East London

Almost all of the material from East London in the PRM Palaeolithic collections relates to the work of Worthington George Smith (1835–1917; *Figure 9.4*) and is from sites published in his classic book, *Man the Primeval Savage* (Smith 1894). This material includes 5 Lower Palaeolithic artefacts from the Stoke Newington area: one from Abney Park Cemetery, Stoke Newington (1902.19.31); and five from Stoke Newington Common (1902.19.29, 1902.19.32–34, 1902.19.38). Smith records collecting from several Palaeolithic 'floors' exposed during residential building work near to the Common from about 1878. These were probably sites in primary context, but subsequent attempts to relocate such potentially important deposits have not been successful (Harding and Gibbard 1984; Roe 1981: 173; Wymer 1999: 63–64).

Other material donated by Worthington Smith consists of: 3 handaxes and a scraper from Lower Clapton, Hackney, collected in 1892–1894 (1902.19.1–3, 1902.19.35); 2 handaxes and another artefact from Upper Clapton, Hackney (1902.19.4–5, 1902.19.30); one very rolled handaxe from Wanstead, Redbridge, found in 1880 (1902.19.16); and an ovate from Waltham Forest, Walthamstow, found in 1899 (1902.19.6). The only other Palaeolithic artefact from east London is from Waltham Forest, Leytonstone, and was purchased from the Stevens Auction Rooms (1927.87.3).

Central London

There are only 2 objects from central London in the collection. One is a single flake found in Wimpole Street that was purchased from the Stevens Auction Rooms (1927.87.1). The other is a flint flake found in the Charing Cross Road from the Bruce M. Goldie collection (1927.9.1). There is also a plaster cast of the famous 'Greys Inn Lane' handaxe found by the antiquary John Conyers in 1679 (Bagford 1715) (1887.1.697).

South London

There are only a few objects from south-west London in the PRM Palaeolithic collections. One ovate from the PRM founding collection (1884.122.356) is recorded as being from 'Battersea or Clapham Rise 40ft above High Water Mark 25/9/69', so

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Figure 9.4 Photographic portrait of archaeologist Worthington G. Smith (1835–1917) (PRM Photograph Collections 2000.15.11*).*

presumably was found either just to the west (Battersea Rise) or east (Clapham Rise) of Clapham Common. The PRM founding collection also contains a quartzite flake from Battersea Rise, described as being found in 'drift gravel on road … 16.8.69' (1884.122.383), and a flake from Clapham Rise found on 25.9.69 (1884.122.423). A possible Levallois flake from Combe Lane, Wimbledon was donated by the Hampshire collector, A.T. Morley Hewitt (1969.36).

From south-east London, the collection includes 2 artefacts from Crayford, Bexley (formerly in Kent). One was purchased from the Stevens Auction Rooms and is described as a Middle Palaeolithic-type scraper (1927.83.38). The other is a Levallois flake donated by Kenneth Oakley (1988.47.12) who recorded that it came from the 'clinker bed' in the Crayford brickearth but that it was 'not found in situ'. The Crayford brickearths are regarded as a key location for finds of early Levallois industry artefacts, some from primary context (Wymer 1968: 322–326, 1999: 84–85).

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Thirty-nine objects donated by Alfred Barnes are also in the Palaeolithic collection and are provenanced to his home in Farnborough, Bromley (formerly in Kent). They consist mainly of replica stone tools and examples of different flaking techniques made by Barnes plus some drawings illustrating aspects of the same subject. Barnes's experimental work on stone tool technology and the recognition of human manufacture versus natural features of flint and stone is of undoubted importance to the history of the development of the Palaeolithic archaeology and to the teaching and display of the subject at the PRM (Barnes 1939). However, the material itself is either not archaeological or is without provenance. Information about Barnes and his work on stone tools can be found on the 'England: The Other Within' project website (Petch 2009a).

This group also contains 12 flakes 'from the Sub-crag, Suffolk, collected by A.D. Lacaille' (1941.5.8). During the eolith controversy some flints found under the Tertiary marine sands and gravels deposits of the Red Crag in Suffolk were proposed as evidence for very ancient human activity in Britain. These specimens were most probably donated by Barnes to illustrate that their form was natural in origin.

9.3.16 South West Region: Cornwall

Only one object from Cornwall in the PRM collections is recorded as Palaeolithic. It is from Booby's Bay, St Merryn, and was donated by Rev. H.G.O. Kendall (1916.20.19). It is an undiagnostic cortical flake, and cannot be considered Palaeolithic. Mesolithic and later flint artefacts have been found in the Booby's Bay area.

9.3.17 South West Region: Devon

The PRM Palaeolithic collections from Devon consist mainly of Lower Palaeolithic artefacts from the Axe Valley gravels in the area around Broom near the border with Dorset. This distribution is typical of the Palaeolithic material from Devon in most museums. The area has produced the greatest number of Palaeolithic artefacts in Southwest Britain, but was poorly understood until recent investigations of the area and of the research potential of existing collections conducted by the University of Reading (Hosfield and Chamber 2002, 2009).

Within the PRM collection, one handaxe is provenanced to Hawkchurch near Axminster, Broom Ballast Pit. This is presumably the Hawkchurch Railway Ballast pit at Broom which has recently been re-investigated. It was collected by William Stewart Mitchell D'Urban, the curator of the Royal Albert Memorial Museum in Exeter and discoverer of the site (Evans 1878). D'Urban donated it to the OUMNH in 1877, and it was transferred to the PRM in 1887 (1887.1.1). The group of 6 handaxes and flakes from the PRM founding collection provenanced to the Broom Pit are likely to be from this site, especially as one (1884.122.141) was obtained from D'Urban (1884.122.3–6, 1884.122.141, 1884.122.154). A handaxe from the collection of Edward Burnett Tylor, provenanced to Hawkchurch, near Axminster, is also likely to be from the same pit (1917.53.49).

Seven other Axe valley artefacts are just provenanced to Axminster, Broom or Broom gravel pits in general, and are of limited research value. These are: one purchased from G.F. Lawrence (1898.55.1); one donated by Henry Balfour (1915.9.41); 2 donated by Manchester College, Oxford (now Harris Manchester College) from the collection of Surgeon Colonel S. Archer (1915.32.12–13); and one from the F.H.S. Knowles collection (1953.12.1). Ten artefacts from the A.M. Bell collection are recorded in the Accession book as being from Axminster, Devon (1921.91.455). However, one is a small twisted ovate in greensand chert that is labelled '195 B.C. WGS 26.5.80'. This indicates that it was found in the Broom Pit at Chard, Somerset,

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by Worthington George Smith in 1880. The number may relate to an entry in his collection catalogue. It would be profitable to examine the other artefacts to see if they are labelled and can be assigned a provenance to a specific pit.

Of greater potential research value are 6 handaxes provenanced to a ballast pit at Broomhill, Axminster, that were donated by Cuthbert Edgar Peek (1895.1.23–8). The donor also sent photographs of the site, which are now in the PRM photographic collections (1897.26.2–3). The combination of a named site and images of the find location could be of assistance in relocating and assessing the deposits that produced the implements (1895.1.29–34, 1897.26.2–3).

Elsewhere, of considerable historical importance to the study of the Palaeolithic are a small series of stone artefacts from Torbay that were transferred to the PRM from the OUMNH about 1886 (1887.1.171–179, 1887.1.181–187). They are labelled 'Caves, Torbay' and 'McEnery' and were donated by the geologist William Buckland in 1830. This material almost certainly derives from the 1820s work of Father John MacEnery in Devon caves, and in particular from his work at Kent's Cavern from 1825 to 1829 that should have been recognised as proof of the contemporaneity of humans and extinct animals and, thus, an extended antiquity for humans. MacEnery's systematic work at Kent's Cavern was initially well-regarded and encouraged by Buckland. However, in the late 1820s Buckland could not accept MacEnery's reports of finding flint implements beneath a thick unbroken sheet of stalagmite in association with the remains of extinct animals. MacEnery records that it was difficult for him to disagree with Buckland, and he never published his results although many plates were prepared. The report was eventually published after his death in 1841 in abridged form by Edward Vivian (1859), and in full by William Pengelly (1869).

The stone artefacts held by the PRM are probably specimens sent to Buckland by MacEnery to illustrate what was being found at Kent's Cavern and to try and persuade him of the importance of his discoveries. This seems likely because the same MacEnery-Buckland series held by the PRM also contains a small ceramic sherd that is marked as coming from Kent's Cavern (1887.1.180). In addition, the OUMNH holds faunal material from 'Kent's Hole', Torquay which probably came from the MacEnery excavations (E. Howlett and A. Stevenson, pers. comm.). The 1830 date of donation for the stone tools also corresponds with the end of MacEnery's field work at Kent's Cavern, and pre-dates the posthumous sale of his collection in 1842. The PRM collection contains diagnostic late Upper Palaeolithic tools as well as other artefacts and it would be of considerable interest if the finds could be linked to objects described in the MacEnery report.

Of far less importance in the PRM collections is a flake from Kent's Cavern that was formerly in the Henry Wentworth Dyke Acland collection (1937.56.61). It was collected before 1900, and might relate to the Pengelly excavations. There are also two photographs of a hyena jaw and the leaf point found with it in Bench Cavern, Brixham. The photos were donated by Henry Balfour (1894.4.30–31), and show the association between the jaw and the artefact.

9.3.18 South West Region: Dorset

All of the Palaeolithic material from Dorset in the PRM collections, like the material from Hampshire, is from the gravels of the former Solent River. Three handaxes and a flake from Boscombe were donated by A.T. Morley Hewett who acquired them before 1948 (1969.36). The collection history for this material is uncertain, but the handaxes are noted as being from J.P.T. Burchell, and two have blue dots that seem to indicate that they were once from 'the Salisbury Museum'. It could be very useful to try and establish the collection history of the Morley Hewett objects. Morley Hewett also donated a rolled discoidal core from Wareham (1969.36) which has a

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blue dot. Another discoidal core found in gravel beds at Christchurch was donated by O.G.S. Crawford (1912.8.1). These items are significant as Levallois material is not well documented in the Hampshire basin area. A handaxe from Boscombe was bought at the Stevens Auction House (1927.83.31). Six handaxes, a handaxe fragment and a flake from Rev. Duncan Woodroffe collection were donated by O.C. Raphael (1919.33.16–23). These are listed as coming 'from gravels near Bournemouth (Winton, Pokesdown, etc.)', but it is unknown if the objects can be provenanced to any specified site. The objects are all marked with numbers which might relate to a collector's catalogue, as yet unidentified. The PRM collection of Palaeolithic material from Dorset is small, but is of potential interest if archival work could establish better provenances for the material.

9.3.19 South West Region: Somerset

Most of the material from Somerset is from surface collections in the Mendip area, with a small but significant group of material from limestone caves. There are no Lower Palaeolithic finds in the collection, but at least one handaxe recorded as from Devon seems actually to be from Chard, Somerset, near the Devon border.

The classicist Arnold Walter Lawrence collected and donated material from Blagdon and Charterhouse-on-Mendip in the Mendips, including material from three specific sites within the Charterhouse area: Nordrach, Willoughby's House, and Paywell Farm (1921.45.17–45). His material was originally incorrectly attributed to the Middle Palaeolithic period in the PRM records. Most of his material is later prehistoric in date, however there are some Mesolithic artefacts from near Nordrach and Charterhouse and the possibility of late Upper Palaeolithic material from Nordrach and Blagdon. All of the material is marked to findspot, including specific locations not recorded in the Accession Book, but it has become mixed together over time and is difficult to assess at present. The collection could usefully be sorted to site, and the site groups assessed separately.

F.H. Carr also collected from Nordrach and Willoughby's House, Pritchard's Field, in the Charterhouse area (1921.76.1–54). He was collecting in the same area at the same time as Lawrence and it seems likely that they knew each other although this cannot be confirmed. Some of the Carr collection was originally incorrectly attributed to the Upper Palaeolithic, probably Aurignacian, period in the PRM records, although most were recorded as undated. As with the Lawrence collection, much of Carr's material is later prehistoric, especially Bronze Age, in type, but there is a possibility that it also contains earlier material (e.g. at Pritchard's Field). However, this cannot be confirmed until the material is sorted and a proper assessment can take place.

The PRM founding collection also contains 6 artefacts from 'Wookey Hole' (1884.122.527–532). Pitt-Rivers acquired them from James Parker (1833–1912), antiquarian and publisher of Oxford, who excavated the Hyena Den Cave at Wookey Hole with William Boyd Dawkins in the early 1860s (Dawkins 1862, 1863). These are certainly from the excavations at the Hyena Den Cave, and not from the Wookey Hole cave. A note with the artefacts records that the largest object is figured by Balch, who excavated in the Wookey Hole caves in the early 20th century (Balch 1914: p.167, fig 301). As provenanced finds these should be included in any future review of material from the site. The PRM collection also contains a collection of animal bone from the Hyena Den Cave (1909.54.12). These were collected by one A. Harley 'on the spot' in 1909. Alison Petch suggests that Harley may have been James Arthur Harley, one of the three students on the Diploma course at the PRM 1908–1909 (see Wingfield and Petch 2006). If so then he may have been working at Hyena Den Cave in connection with his studies. Herbert Balch was excavating in the Wookey Hole caves between

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1904 and 1914, and it is possible that archival study may be able to show that these faunal remains relate to his work. If the connection can be proved then the material could be of interest. A long bone fragment, possibly of Rhinoceros according to PRM records, was donated by the natural scientist George Bernard Cronshaw who acquired it from Henry George Madan (1928.12.4). The Accession Book records that it is from 'Wookey Hole'. However it could equally come from the Hyena Den Cave, or any of the caves near Wookey Hole village and is of limited research interest.

A group of 10 artefacts from Gough's Cave, Cheddar Gorge are recorded as being donated by Charles Gabriel Seligman and Brenda Zara Seligman in 1940 (1940.12.641). The material is not retouched, and was probably acquired by C.G. Seligman when he was working on the Cheddar Man human remains and associated material found by the owner of the cave during 'improvements' in about 1903 (Seligman and Parsons 1914). The condition of the material is consistent with artefacts of late Upper Palaeolithic period from the cave, but there are no diagnostic artefact types. As there is no certain contextual information for the material it is of limited research value although it can probably be assumed to come from the general area of the find of Cheddar Man or the other material reported in the publication.

A piece of antler from Banwell (presumably from the Banwell Bone Cave) in the PRM founding collection (1884.122.586) is also of little research interest.

9.3.20 South West Region: Wiltshire

There are very few genuine Palaeolithic artefacts in the PRM collections from Wiltshire, and the bulk of the material consists of eoliths. The only significant group of Palaeolithic material consists of 10 handaxes and flakes from the PRM founding collection, which are recorded as from 'high level gravels' at Milford Hill, Salisbury (1884.122.100–5, 1884.122.120, 1884.122.124, 1884.122.150, 1884.122.153). Another handaxe from Milford Hill was included in the A.T. Morley Hewitt collection (1969.36). Milford Hill is the only major site so far reported from the Salisbury area and handaxes were reported as being found there from the mid-1860s (Evans 1872: 552–5). The geological context of the site is still poorly understood despite work on the deposits in the late 1990s (Harding and Bridgland 1998), and further research would be of benefit. The PRM collection contains four further Palaeolithic artefacts from this part of Wiltshire: a flake from Alderbury, in the A.T. Morley Hewitt collection (1969.36); two flakes from 'near the old church, Bemerton and High Field[?]' near Salisbury in the PRM founding collection (1884.122.158, 337); and a possible scraper from Grovely purchased from the Stevens Auction Rooms (1927.83.37). The lack of information about Palaeolithic sites in the Salisbury area has been highlighted by the Southern Rivers Project (Wymer 1999: 112–113), and if a review of the existing material were undertaken then all of these objects could be included.

The Wiltshire Palaeolithic collection contains many eoliths. These are mostly from the Knowle Farm Gravel Pit and other locations in the Savernake Forest and the surrounding area and most of the localities have been published by Rev. H.G.O. Kendall (1909). Some real Palaeolithic artefacts are known to have been recovered from these locations, but three boxes of this material at the PRM were examined during the review and all of the objects were found to be natural.

The eolith material from Knowle Farm Gravel Pit consists of 22 objects donated by Rev. H.G.O. Kendall (1909.51.4–24, 1916.20.18) and 38 from the collection of A.M. Bell (1921.91.454), mostly collected in 1902. Nine objects from Savernake (1902.18.1–9) were donated by Edgar Willett of London, who also published material from the area (Willett 1901). Some were found by H.S. Toms, the Curator of the Brighton Museum, while others were obtained from workmen or found by

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the donor near the Savernake Forest Hotel. Henry Balfour also donated material from Savernake that he found in July 1918: 2 objects from the Knowle Farm Gravel Pit (1918.28.3–4) and 2 from 'gravels in shallow valley close to the London Road' (1918.28.1–2). A single object from the 'Savernake gravels' was purchased from Fenton and Sons (1913.58.1), but the collector is unknown.

Eoliths from Winterbourne Bassett donated by Rev. H.G.O. Kendall consist of 23 provenanced just to the parish (1907.20.1–2, 1908.47.1–5, 1908.47.10–21, 1908.47.22, 1908.47.39, 1909.51.1–2), and an additional 8 from 'field 85' (1908.47.25–32), one from 'field 73', and another from 'field 110' (1908.47.33–34). He also donated two from the top of Hackpen Hill at an elevation of 885 feet (1908.47.23–4) and 6 more recorded as coming 'from gravels on Hackpen Hill' (1918.6.1–6). All of the 'eoliths' are of interest in the study of the eolith controversy in the early 20th century.

9.3.21 East Midlands Region

The PRM collection contains only one Palaeolithic object from the East Midlands region, a 'Chellean' handaxe from Clopton, Northamptonshire (1927.83.30) purchased from Stevens Auction Rooms on 15 Nov 1927 along with other 'Chellean' material from well known Palaeolithic sites. There is no recorded Palaeolithic material from Clopton and the object is not mentioned in the Derek Roe gazetteer (1968). The object could not be located during the present survey, but it would be interesting to verify if it is indeed Palaeolithic and that it came from this locale in Northamptonshire. However, there is always the possibility that it is a post-Palaeolithic artefact or that the provenance is a transcription error in the accession register, perhaps for the well know Palaeolithic findspot in Clapton, Hackney, London.

9.3.22 Wales

There are 8 records of Palaeolithic material from Wales in the PRM collections. However, 3 of these are for artefacts from Pembrokeshire that are of Mesolithic age: a flake from Brownslade Burrows (1934.80.147); and scrapers from Linney Burrows (1934.80.156) and Porth-Y-Rhaw (1934.80.164). All 3 were donated by Eustace Fulcrand Bosanquet, who donated other Mesolithic material from Wales to the PRM. Four records are for casts of 2 diagnostic early Upper Palaeolithic artefacts from Ffynnon Beuno Cave, Denbighshire (1970.4.1–4). The casts are of a leaf point and a busked burin that were excavated in 1885 by H. Hicks and E. B. Luxmoore, and are now held at the Natural History Museum in London. They were donated by John B. Campbell.

The final record is for a collection of faunal material and stone tools from Paviland Cave that was donated by John Henry Hutton via his brother, P. Bertram Hutton (1915.8.1). This material would have been of considerable importance, but it has proved unlocatable for many years and it is suspected that it has been incorporated with material held by the OUMNH or the National Museum of Wales in Cardiff (Coote 2000: 270).

9.3.23 Channel Islands

The PRM collections contain a medium-sized collection of about 200 artefacts from the important Middle Palaeolithic site of La Cotte de St Brelade, Jersey, in the Channel Islands (*Figure 9.5*). The site was found in 1881 and subsequently rose to prominence because of the discovery of Neanderthal remains during excavation work in 1910. The site was also the subject of a major series of excavations conducted by Professor Charles McBurney of Cambridge University in 1961–1962 and 1966–1978 (Callow

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and Cornford 1986). The PRM collections from the site were donated by R. R. Marett (1911.28.1–126, 1912.43.1–11) and the Société Jersiaise (1911.14.1–18, 1916.27.1–56) and relate to the earlier phase of work. Marett, a Jerseyman, who was Reader in Social Anthropology at the University of Oxford and Rector of Exeter College regularly excavated at La Cotte with members of the Société Jersiaise and Oxford students during the academic vacations from 1910–1920 (Marett 1912, 1916, 1918, 1919; Marett *et al.* 1916). From 1913 additional support and funding was provided from the British Association. Most of the material excavated by Marett was deposited with the Société Jersiaise, but small series of artefacts were presented to the PRM, CUMAA, and the British Museum.

The collection is of significance because it derives from the first major period of excavation at the site. There is a useful selection of retouched tools plus a range of Levallois débitage. The material was not studied for the report on the McBurney excavations (Callow and Cornford 1986). However as it can be attributed to specific seasons of work at the site, it might be profitably studied in a future re-evaluation of the site. A small collection of bones donated by Marett and described as 'excavated from the Rodent layer in the cave' (1921.73) might also prove useful for analysis, especially if the original deposit cannot be relocated *in situ*. Some of the artefacts are associated with a note that they were employed in microwear analyses by Hilary Frame, a research student at the Donald Baden-Powell Quaternary Research Centre in the 1980s who worked on the McBurney material, although this is not reported in the publication of her work (Frame 1986).

The material donated in May 1911 by the Société Jersiaise consisted of 6 artefacts and casts of 12 of the 13 human teeth that were found at the site in 1910–1911 (1911.14.7–18). The teeth were analysed by Arthur Keith and Frances Knowles who identified them as being Neanderthal on the basis of comparison with specimens from Mauer and Gibraltar (Keith and Knowles 1912). This identification was confirmed in 1976 when the specimens were re-examined for the report on the McBurney excavations (Stringer and Currant 1986). However, 3 of the fossils were found to be missing when the specimens were re-examined on Jersey for that report. One of the missing fossils (a right M3) was represented by a cast in the Jersey collections, and a cast survives elsewhere of another tooth (lower incisor). There does not seem to be a cast of the claimed upper incisor root. The PRM casts should be looked at to see if they include one of the missing tooth specimens.

The PRM also contains a small quantity of lithic material from 'the Mousterian deposits' in La Cotte à la Chèvre, St Ouen's Bay also on Jersey (1916.18). It was collected and donated by Madeleine Elise Holland and Rosalind Louisa Beaufort Moss, who were both diploma students at the PRM during the academic year 1915–1916 (Wingfield and Petch 2006). It is likely that they were working with Marett at La Cotte de St Brelade on Jersey that summer and that the La Cotte à la Chèvre material was collected during a visit to the other cave, either under his direction or on their own initiative.

9.5 Naturally Perforated Fossil Sponges

The PRM collections contain several small groups of naturally perforated fossil sponges of the Late Cretaceous species *Porosphaera globularis* (formerly identified as *Coscinopora globularis* in the archaeological literature), including material donated by Edward Tylor (1916.34.3). These have been the subject of debate and analysis for many years with some researchers claiming that they are from a Lower Palaeolithic context and have been modified by humans, thus making them the oldest known beads (most recently Bednarik 2005), and others asserting that they are entirely natural (most recently Rigaud *et al.* 2009).

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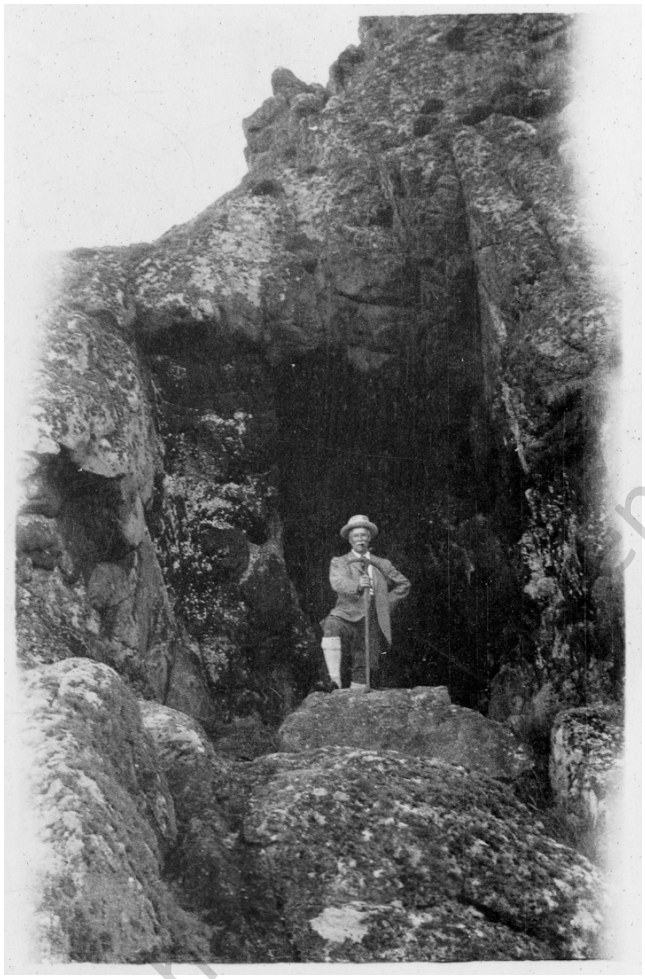

Figure 9.5 Photograph of Robert Ranulph Marett (1866–1943) at the old entrance (north ravine) at the site of La Cotte de St. Brelade, Jersey. The photograph was probably taken by Dorothy Garrod in 1921 (PRM Photograph Collections 1998.294.691*).*

If they were ornaments then the material would be of international importance, however the recent work by Rigaud *et al.* seems to prove that the fossils are entirely of natural origin and that any putative modification was probably caused accidently following collection. One issue remaining in favour of the fossils being collected and modified by humans is the assumption that the PRM collection includes material found in association with Lower Palaeolithic artefacts at Biddenham, as well as some objects reported as being found 'with unabraded implements and flakes and carbonised vegetable remains' by Worthington Smith in Bedford in 1880 (Smith 1894). However, consultation of the PRM records during the course of this evaluation failed to find any reference to the PRM holding possible fossil beads collected by Worthington Smith. Smith did donate '2 naturally perforated pebbles from a field near Dunstable, Herts' (1902.19.19–20), but there is no record of any of his published *Porosphaera* examples from Bedford.

In fact none of the naturally perforated fossils held at the PRM seem to have come from a reliable archaeological context. Even the material from Biddenham was not necessarily found in association with the artefacts collected by Knowles from that pit. The pit was vast and the artefacts were retrieved by sorting the gravels rather

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than by area excavation. Indeed, judging by the entries in the PRM Accession book, most of the Biddenham *Porosphaera* were collected by Knowles as specimens of the naturally perforated fossil. The groups of naturally perforated *Porosphaera* held by the PRM are listed in *Table 9.2* in order of date of donation.

It is not certain how the assumption that the PRM held some of the Smith material started, but it is repeated and illustrated in Derek Roe's *The Lower and Middle Palaeolithic Periods in Britain* (1981: 283; pl. 38), and is widely believed. The material which both Bednarik and Rigaud *et al.* record as being published by Smith (1910.75.157–215) is instead the material collected at the gravel quarry at Biddenham in 1910 by Frances Knowles. It is possible that further archival work into the source and provenance of the *Porosphaera* collections at the PRM might establish a link with the Smith specimens, or with a reliable archaeological context. One possibility is that A.M. Bell acquired his material from Smith. However, there are only 19 'beads' in the Bell collection and many more than that number are shown in Roe's photograph. At present the lack of an archaeological context for any of this material tends to support the work of Rigaud *et al.* in rejecting the perforated *Porosphaera* as very early personal ornaments. The controversy is likely to continue in the future and the PRM material will no doubt be the subject of further discussion and research.

9.6 Conclusions: Assessment and Potential Research

The research potential of individual collections has been referred to within the regional/county sections as appropriate and will not be repeated here. In general, five major threads of potential research can be identified:

1) Collections- and archive-based research into the definition and classification of the Palaeolithic and of Palaeolithic artefacts, and the development of the discipline historically.
2) Research into the recognition of stone tools and the eolith debate, especially in relation to the question of the material from the Kent chalk plateau in

Table 9.2 Groups of naturally perforated Porosphaera fossils from Britain in the archaeological collections of the Pitt Rivers Museum, listed in order of date of donation.

Accession Numbers	Description (from PRM Accession Book, except where noted)
1904.49.41.1.1-17	"Number of specimens of Coscinopora globularis from the Bedford gravels" The PRM also records: Note in box - 'Natural formations of holes' ; Written on object box- 'Coscinopora found in gravel pits near BEDFORD. F.W.S. Knowles coll. Purch. 1904'. Purchased from Francis Howe Seymour Knowles, 1904
1904.49.41 .2.1-49	"Number of specimens of Coscinopora globularis from the Bedford gravels" The PRM also records: Note in box - 'Natural formations of holes' ; Written on object box- 'Coscinopora found in gravel pits near BEDFORD. F.W.S. Knowles coll. Purch. 1904'. Purchased from Francis Howe Seymour Knowles, 1904
1906.6.7-10	"3 specimens of coscinopora globularis [& a naturally holed flint] from the gravel quarry at Biddenham near Bedford" Donated by Francis Howe Seymour Knowles, 1906.
1910.75.157-215	58 "perforated Coscinopora globularis fossils", including one only part perforated (#187) Purchased from Francis Howe Seymour Knowles, 1910 Biddenham, Bedfordshire. "from the gravels at the quarry, Biddenham, near Bedford, collected during 1910
1916.34.3.1-2	"A number of coscinopora globularis fossils from river gravels, England". Presented by Sir E. Tylor, 1916.
1921.91.481	"BRITISH ISLES. [strung] 19 small globular bored stone beads examples of Coscinopora." From the A.M. Bell collection, purchased from A.C. Bell, 1920.

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the 1890s and culminating in the debates on the recognition of human manufacture vs. natural damage in the 1940s.

3) Research support for investigations regarding the complexity of the British Lower and Middle Palaeolithic through the reassessment of material from known sites (e.g. Ebbsfleet, Kent; Bramford Road, Suffolk; La Cotte de St Brelade, Jersey), as well as previously poorly understood findspots (e.g. Limpsfield, Surrey) and artefact types (e.g. flat-butted cordiform handaxes).
4) Research concerning the collecting activities of various individuals and/or institutions (e.g. J.W. Flower; A.M. Bell; Ipswich Museum).
5) Further assessment to identify additional Upper Palaeolithic material in the collections.

The collections also have potential for being used more extensively for teaching, especially in conjunction with the French Palaeolithic collections, which are discussed in Chapter 10.

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