

RE-EXAMINATION OF THE LATE NINETEENTH-CENTURY PALAEOLITHIC FINDS IN THE UPPER CRAY AREA, BROMLEY

FRANK R. BERESFORD

Palaeolithic material was found in the late nineteenth century on the north-east boundary of the parish of Cudham, now part of the London Borough of Bromley. Apart from one brief mention this assemblage is essentially unpublished. The artefacts passed from the original collector to the Welcome Collection and are now in the British Museum. As part of a wider study of late nineteenth-century Palaeolithic finds in the Upper Cray and Ravensbourne Valleys this material has been re-examined, documentation (both published and unpublished) has been located and consulted and the find sites have been visited.

Similarities of technology point to a single period assemblage. No secure dating is available but a tentative date of early MIS 11 is suggested for these artefacts.

The Palaeolithic material was found by de Barri Crawshay in the Upper Cray Valley in the 1890s. The find area is in the north-east of the parish of Cudham where it adjoins the parish of Chelsham (Surrey) (**Fig. 1**). It was not the first to be found in the area. Palaeolithic flint material was first located here in 1862 by Mr H.G. Norman, a local landowner and antiquarian. It comprised two ovate handaxes



Fig. 1 Regional map showing the location of Cudham finds.

and Prestwich (1891, 145) noted that they were found ‘near the spot’ of the later finds. Evans said they were found on the surface of what is now a dry part of the valley of the river Cray about two miles *above* its present source at Green Street Green about 250ft AOD (Evans 1897, 604.) These finds were noted in a letter from John Lubbock to Charles Darwin and in Lubbock’s book *Prehistoric Times* (Burkhardt *et al.*, 1997, 484; Lubbock, 1865, 274.) Lubbock and Darwin were both local residents at High Elms and Downe respectively (Beresford 2017).

De Barri Crawshay (1857-1924) was a wealthy man of independent means whose income was derived from his family’s highly successful steel works in South Wales. His father moved from Wales to Kent in 1867, buying Bradbourne Hall near Sevenoaks in 1867. By 1881, the census shows that de Barri Crawshay, at the age of 23, was married and living in his own home, Rosefield, in Kippington Road, Sevenoaks. In addition to his prehistoric and archaeological studies, he was well known in the field of horticulture. He was also an early photographer, cyclist and motorist and was awarded the OBE for his contribution to the organisation of motor transport in Kent during the First World War. Today he is best remembered for his role from 1890 onwards as the third man of the Kentish Eoliths in partnership with Joseph Prestwich and Benjamin Harrison. Today, eoliths are regarded as the natural products of geological forces (O’Connor 2007, 131).

However, during this period and earlier he also found Palaeolithic material in his search area above Sevenoaks, on the North Downs to the west of the Medway Gap. He also bought Palaeolithic material from other collectors and workmen that had been found in other areas in Kent and in areas further afield such as Southampton (Lascaille, 1960) eventually building up an extensive collection. Five years after his death, his complete collection including Palaeolithic and Eolithic material was sold at Stevens Auction House to the Welcome Collection. Most is now in the British Museum.

He found Palaeolithic flint artefacts in this area as surface finds in a spread of gravel either side of the north-east boundary of the Parish of Cudham and to the east of Snag Lane where it meets the Surrey parish of Chelsham. The find areas (**Fig. 2**) are just south-east of Green Street Green in the network of now dry or almost dry upper valleys of the River Cray which contained large water courses during the middle Pleistocene period when these artefacts were made. In the 1920s, Henry Dewey, the geologist, dug a handaxe out of the Clay-with-Flints in Little Molloms Wood at a depth of 4ft from the surface and noted that the other finds in the area had been surface finds (Dewey 1924, 147)

De Barri Crawshay did not provide a written account of his finds. The only time the Cudham finds have previously been presented was in a brief entry included by Joseph Prestwich in a paper he published in 1891 (Prestwich 1891, 144.) They were also noted by John Evans (1897, 605) and George Clinch (1908, 307.) **Table 1** outlines the subsequent history of the finds as far as can now be established.

The British Museum also curates a card index prepared for the Welcome Collection’s Palaeolithic material by their curator A.D. Lascaille. For this study, the find sites and the surviving material in the British Museum including the card index have been re-examined. This study is part of a wider research project into nineteenth century finds in the Upper Cray and Ravensbourne valleys (Beresford 2014; 2018.)

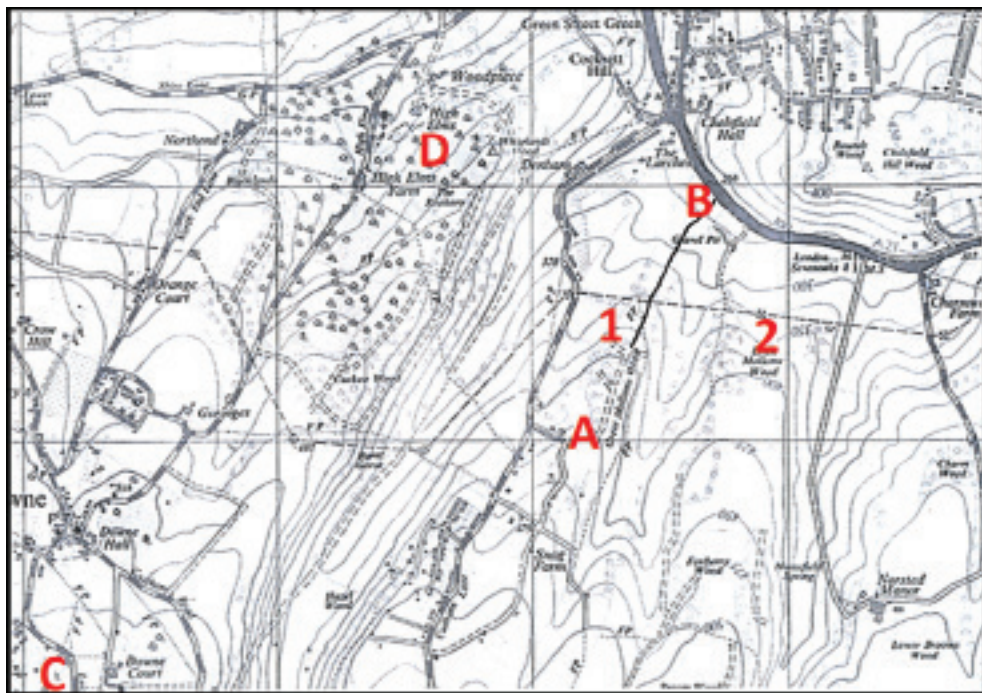


Fig. 2 Map showing the finds area at Cudham (marked 1 and 2) to the east of Snag Lane which is a footpath from A to B. The home of Charles Darwin is shown at C (bottom left) and D is that of John Lubbock. (Based on Ordnance Survey 2.5in. map 1957.)

TABLE 1: THE SUBSEQUENT HISTORY OF THE COLLECTION

Original Finder	No of Pieces	Intermediate Collections	Current Collection
de Barri Crawshay	108	Welcome Collection (bought at Stevens Auction House 17th April 1929) – A.D. Lascaille.	British Museum (P1982 10-4)
de Barri Crawshay	?	Sold/swapped/presented? – possibly some given to Joseph Prestwich.	?
Lewis Abbott	2	Welcome Collection – A.D. Lascaille.	British Museum (P1982 10-4)

The Lithic material

The British Museum curates 110 flint artefacts found in the Cudham area. For this study they were numbered 302-411 following the order in which they are placed in nine British Museum trays. The first two trays contain the Little Molloms material (302-317) and the subsequent seven contain the Snag material (318-411). Each artefact is individually described and numbered in Appendix 1 (*available on the KAS web site*). The range of artefacts types is shown in **Table 2** below.

TABLE 2. SITES AND ARTEFACT TYPES

Cudham Finds by Site and Type	Axes/ Bifaces/ Cores	Scrapers/ Retouched	Points	Flakes/ other	Totals
1. Snag	16	46	0	15	77
2. Snag Lane	0	1	1	0	2
3. Little Molloms	5	13	2	13	33
<i>Totals</i>	21	60	3	28	112

This indicates that collecting was selectively focused on implements with little manufacturing debris included.

Snag

There are 77 artefacts that are marked 'Snag'. All are rolled and worn and some are clearly scratched. In 1891 Prestwich (Prestwich 1891, 144) reported that:

Mr. Crawshay has collected from this locality 40 pointed and ovoid Palaeolithic implements, and 18 flakes and scrapers ... [they were] spread over the surface of a gravelly field on the side of the lane leading from the high road up to Snag Farm, and at about $\frac{1}{4}$ of a mile from the high road ... The field up the lane where the implements occur is on the level of 320 to 340 feet.

This is the only report of the find area and places it around TQ 4550 6262, just north of Great Molloms Wood (**Fig. 3**).

If Prestwich was correct, then 27 of the 40 pointed and ovoid Palaeolithic implements he noted are not in the current British Museum collection. The 77 artefacts in the British Museum include only 12 handaxes as well as 4 other cores or bifaces. However 18 of the 46 scrapers are convergent and could be interpreted as pointed implements.

One scraper [366] is marked with the date 18.4.91 which could indicate it is part of the original finds. Another [404] is marked with the date 22.11.96 which is five years after Prestwich's paper was published so Crawshay clearly continued to collect in this area after 1891. However, he subsequently concentrated on searching for eoliths in context, publishing a paper on this subject in the year he died (Crawshay, 1924) The Cudham artefacts appear to have entered his collections and subsequently attracted little further study apart from the brief notes on cards subsequently made by Lascaille at the Welcome collection. It is possible that he exchanged some of the assemblage with other collectors and gave some to Prestwich but, if so, these have not yet been traced.

There are nine pointed handaxes and three ovate handaxes. All except one [341] of the handaxes are small ranging in length from 67-97 mm. This is possibly the

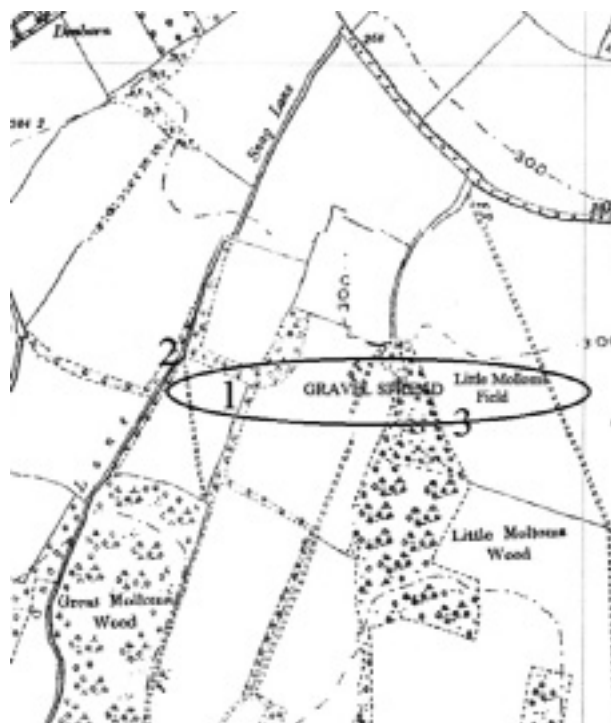


Fig. 3 Location of Prestwich's 'gravel spread': finds marked 'Snag' were found in Area 1; 'east of Snag Lane' in Area 2; 'Little Molloms' in Area 3. (Based on Ordnance Survey 2.5 in. map 1900.)

result of continual resharpening and eventual discard. However their small size could be the result of being made on a small cobble with size conditioned by the original blank as some [339, 340, 342] have cortex remaining on each face. 334 is a small handaxe also possibly made on a flake with an S profile on one edge. 342 (Fig. 4) and 346 are triangular-shaped pointed bifaces.

Handaxe [347] has a worn point associated with a notch to one side. [369] is a very small crude handaxe of length 69mm. All have yellow brown staining over creamy white patination. [336] was possibly made on a flake but with bifacial working. It has two notches around the point using a similar technique to that seen around points on some scrapers and this could be the result of re-sharpening after a break. [339] is a small pointed handaxe that is worked on the edges of both faces around a point and over much of one face and also worked at the butt end on the same face to give a convex scraper edge. This gives a functional point and scraper edge which is also similar to the characteristics of many of the scrapers in the assemblage. [341], of length 110mm, is a thin pointed handaxe with a broken point with cortex remaining on only one face and could have been made on a flake.

All three ovate handaxes [335, 337 and 338] are small being less than 84mm in length with twisted profiles and all have little remaining cortex so could have been



Fig. 4 A small pointed handaxe [342] from Snag (both faces).

continually reworked possibly being derived originally from a pointed form (**Figs 5a and 5b**). [335] is a thin (22mm) ovate handaxe and its original blank type was probably a flake.

Four cores [343, 344, 345 and 346] have some characteristics of atypical implements. [344] was described as of ‘tea cosy type’ on the Welcome cards and has utilised the most functional edge on the blank nodule to form a chopper, the opposite edge comprising a large natural cavity lined with cortex.

Crawshay also found 61 flakes in the gravels at Snag. Their colour ranges from dark yellow brown staining to a creamy white patina. 46 of the flakes show evidence of retouch. The retouch is frequently difficult to see. It is obscured by possible use wear or extensive later edge damage and the general worn nature of the artefacts [384, 380]. On some artefacts [379, 381], a creamy white grey patina is associated with retouch on a tool which is otherwise stained yellow brown although others have a similar patina over the entire tool (**Fig. 6**). This could indicate retouch at a much later date to that of the original production of the flake.

They all exhibit a similar technology whatever the staining or patina. This is generally characterised by expedient retouch using the best available edges, often including the platform area to quickly produce a useable implement with scraper edges and rounded tips. Some have exploratory retouch around all edges to find the best options for points and a scraper edges. Many have the platform partially or completely removed by retouch. Sometimes the retouch continues around the platform despite the flakes thickness.

There is no single preferred or standardized form repeated throughout the assemblage. Instead the objective seems to have been to include at least one cutting



Fig. 5 (above) The three small ovate handaxes in order 338, 335, 337.
(below) The reverse faces of [338, 335, 337].

or scraping edge and at least one rounded point. The final form would appear to be linked partially to raw material quality and the shape and form of the rough flake but mainly functional requirement. Many are asymmetrical with the rounded tip to the left or right of the main axis of the flake. Notches are frequently used on one or both sides of the point and associated with further retouch. Eighteen have



Fig. 6 [381] from Snag with cream white retouch on a thin primary flake.

two retouched convex edges that converge to a point although some have only one worked edge. Sometimes a thinning tranchet type flake has been removed on one side of a rounded point to reduce thickness. Sometimes more than one is successful e.g. [400] with a useful rounded point at both ends and [405] with useful rounded points at both distal corners. There are several convex scrapers and points with the scraping edge distinct from a point.

Snag Lane

Two artefacts marked 'Snag Lane' were bought separately by the Welcome collection as part of the Lewis Abbott collection (Welcome cards 81868 and 258713). Both are listed as palaeolithic flakes on the Welcome cards. In his report, Prestwich noted:

Nevertheless they are rare, for four of us, after a full hours search, only succeeded in finding five indifferent specimens.

[368] is marked with the date '20.2.90?' and so it is likely that these two flakes were two of the five 'indifferent specimens' and that the search by four people took place a month after de Barri Crawshay's first search in the area. One of Crawshay's finds from Snag [345] is also marked with a find date of 20 February 1890 and so could be another of the five indifferent specimens. The four people presumably included Prestwich, Lewis Abbott and de Barri Crawshay.

It is likely that Abbott's Snag Lane artefacts were found in Crawshay's original search area as described by Prestwich rather than in Snag Lane itself. [365], described on the Welcome cards as a 'top piece struck from a core' has a notch and inverse retouch on the left proximal edge forming a small point. [368] is a small convergent scraper with convex and concave scraper edges. Both have light yellow brown staining with some creamy white patina.

Little Molloms

There are 31 artefacts that are marked Little Molloms or 'L.M.' including 5 bifaces and 25 flakes. 13 have evidence of retouch. Most artefacts are much rolled and consequently any retouch is worn which makes some interpretation tentative.

The Little Molloms gravel spread is to the east of the main Snag gravel spread and north of Little Molloms Wood at TQ 4577 6243. Recent field work verified that the gravel spread noted by Prestwich is continuous from Snag Lane across to Little Molloms Wood and a short distance beyond into Little Molloms field (Fig. 3). No written report of these finds has been found and there are no find dates marked on any of the Little Molloms artefacts.

Five of the artefacts [312, 317, 322, 328, 330] can be linked with the earliest finds from Snag as they have low Crawshay catalogue numbers. Two have Crawshay catalogue numbers close to the latest on the Snag finds while 18 have Crawshay catalogue numbers higher than any of the Snag finds which indicates that they were found on later visits that took place sometime after the original Snag finds and subsequent to Prestwich's 1991 paper.

The largest biface 302, of length 151mm, is an ovate handaxe with a creamy grey white patina and gloss sheen (Fig. 7). Its exclusively creamy white patina is distinctive in this assemblage although other artefacts have a similar patina on part of their surface. A core with similar characteristics was found in the adjoining Ravensbourne valley at West Wickham (Beresford 2018).

The other four bifaces are small and vary in length from 74-108mm, each having a distinct form. [305] is a crude pointed handaxe that is roughly triangular in cross-section at the centre while [306] is a crude small pointed handaxe. The smallest [303] is a small awl or point. [304] is a semi-circular biface/chopper with a flat base and convex working edge of 'Tea cosy shape' similar to [344] from Snag (Fig. 8). It was described on the Welcome cards as a fragment of a handaxe (Welcome Card 82172).

The practical fashioning of the 13 scrapers depended on using as many edges as possible as scraper edges and adding a point or points where feasible, removing the platform if necessary. Some knapping is exploratory and has been abandoned when it is found to be not productive. The maker of these implements aimed to make as many points and scraper edges as possible with each flake. Points are frequently rounded rather than [having] a sharp point possibly to facilitate more precise cutting.

The Geology of the Sites and their Context

The artefact find sites are located on the interfluves of a series of small dry chalk valleys on the dip slope of the North Downs close to where the Weald Anticline in the south meets the edge of the London Basin in the north. A Palaeocene series occupies much of the north-west part of the area forming a plateau with marked escarpments down to the valleys. In the south and east the bedrock of Upper Chalk is mainly Seaford Chalk with large patches of the Thanet Sand Formation and some Lambeth Group layers on top of this. Lewes Chalk is mapped in the dry chalk valleys of the Green Street Green to Pratts Bottom section of the Cray Valley (Dewey *et al.* 1924, 74, Ellison *et al.* 2004.)

The River Cray originated in the Late Pliocene and earlier Pleistocene as one of a group of western tributaries of the proto-Medway, draining the dip slope of the

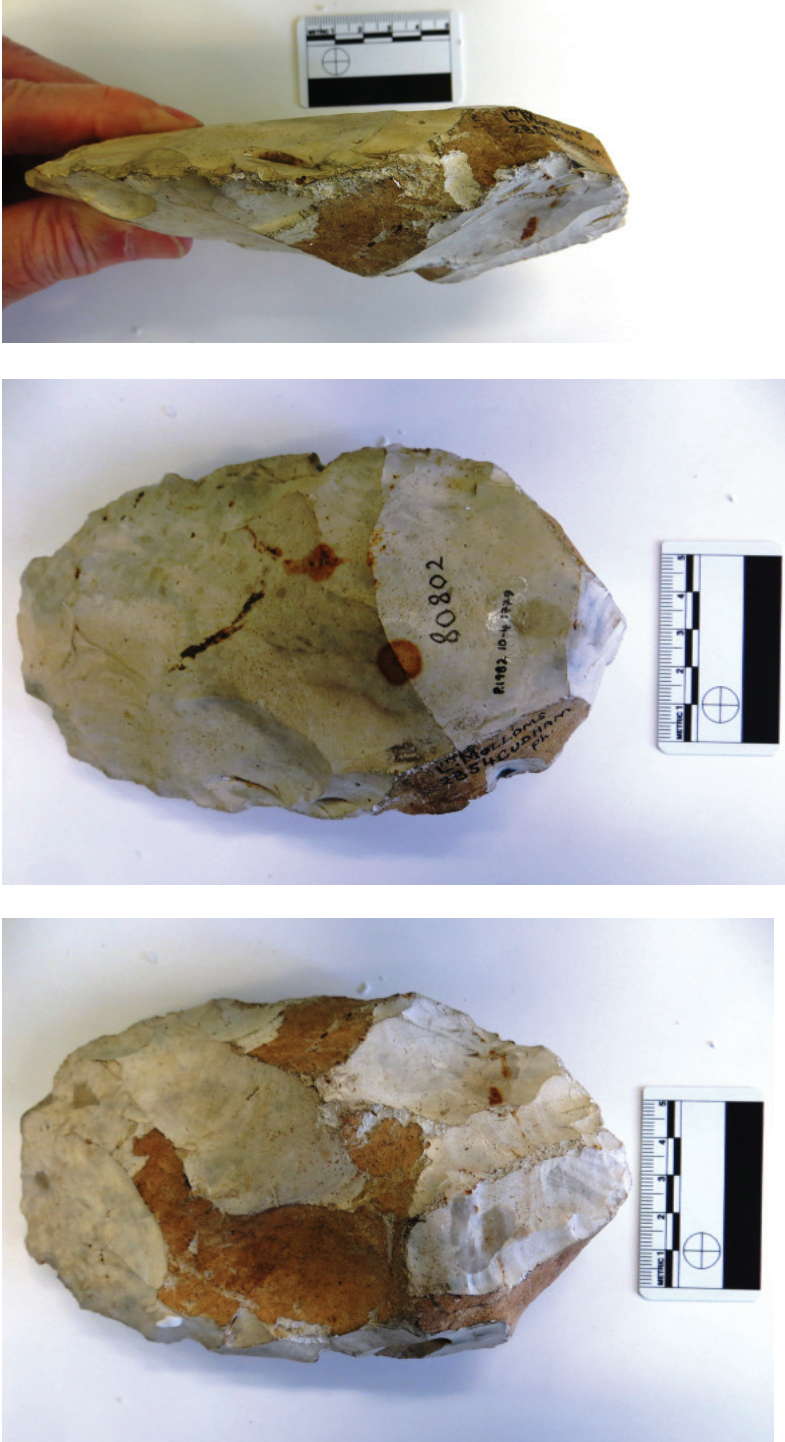


Fig. 7 Biface [302] from Little Molloms, both faces and side view.

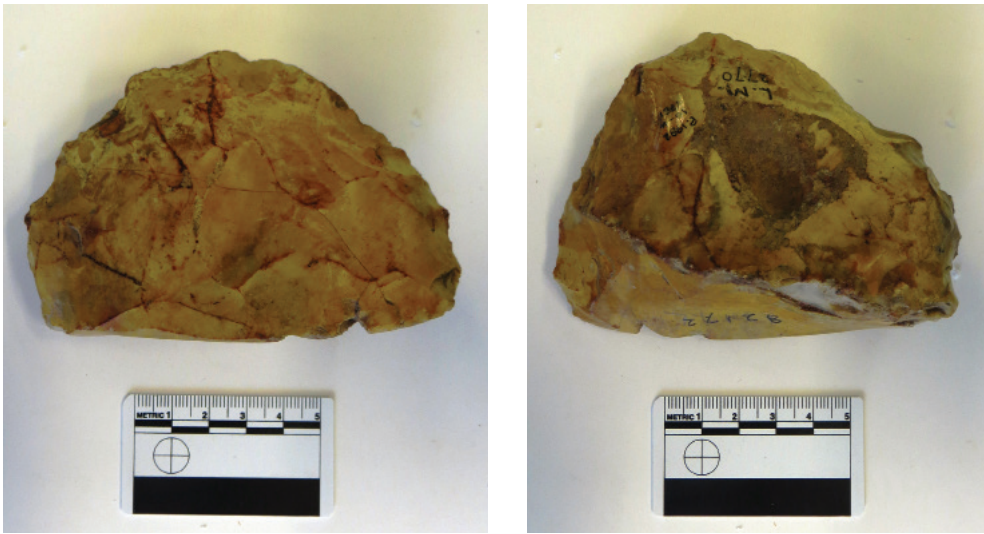


Fig. 8 Biface/chopper [344] from Little Molloms; both faces.

North Downs during periods of periglaciation. The small dry valleys were originally made by tributaries of the proto-Cray flowing north into an east-west arm flowing from above Pratts Bottom in the east to Green Street Green in the west where it originally formed a confluence with two other arms. From Green Street Green, the proto-Cray ran north to meet the proto-Darent which then flowed east to meet the proto Medway. Before the Anglian Glaciation in the early Pleistocene the proto-Thames flowed north-eastwards from the Beaconsfield area across what is now East Anglia, entering the North Sea basin via the present north coastal area of Norfolk (Hey 1980) while the proto-Medway followed a north-eastern flow across what is now the Hoo Peninsular and Essex before also entering the North Sea (**Fig 9**).

The Anglian Glaciation, about 450,000 years ago, known as Marine Isotope Stage 12 was a critical factor in the development of the current landscape. The glaciers reached their most southerly point on a line just north of London. After the southern diversion of the Thames and the Medway that followed the Anglian glaciation, the Darent was diverted north and became a southern tributary of the Thames which now followed a new more southerly path to the sea. Today the River Cray starts its northward flow at Priory Park in Orpington flowing to its confluence with the Darent at Crayford which then reaches the Thames at Crayford Ness (Bridgland and Gibbard 1997, 338).

The former Pleistocene path of the River Cray is mapped in each of the dry chalk valleys by the British Geological Survey as a deposit of Head, formerly known as Coombe Deposits and comprised of a silty chalk mud containing chalk and flint clasts. This indicates that this landscape is a product of periglacial solifluction during the Pleistocene period. Beyond the former confluence at Green Street Green the former path of the River Cray is mapped as Taplow Gravel. To the south the higher parts of the interfluves are capped by Clay-with-Flints lying on the chalk.

The type site for a Pre-Anglian deposit known as Chelsfield Gravel is mapped on

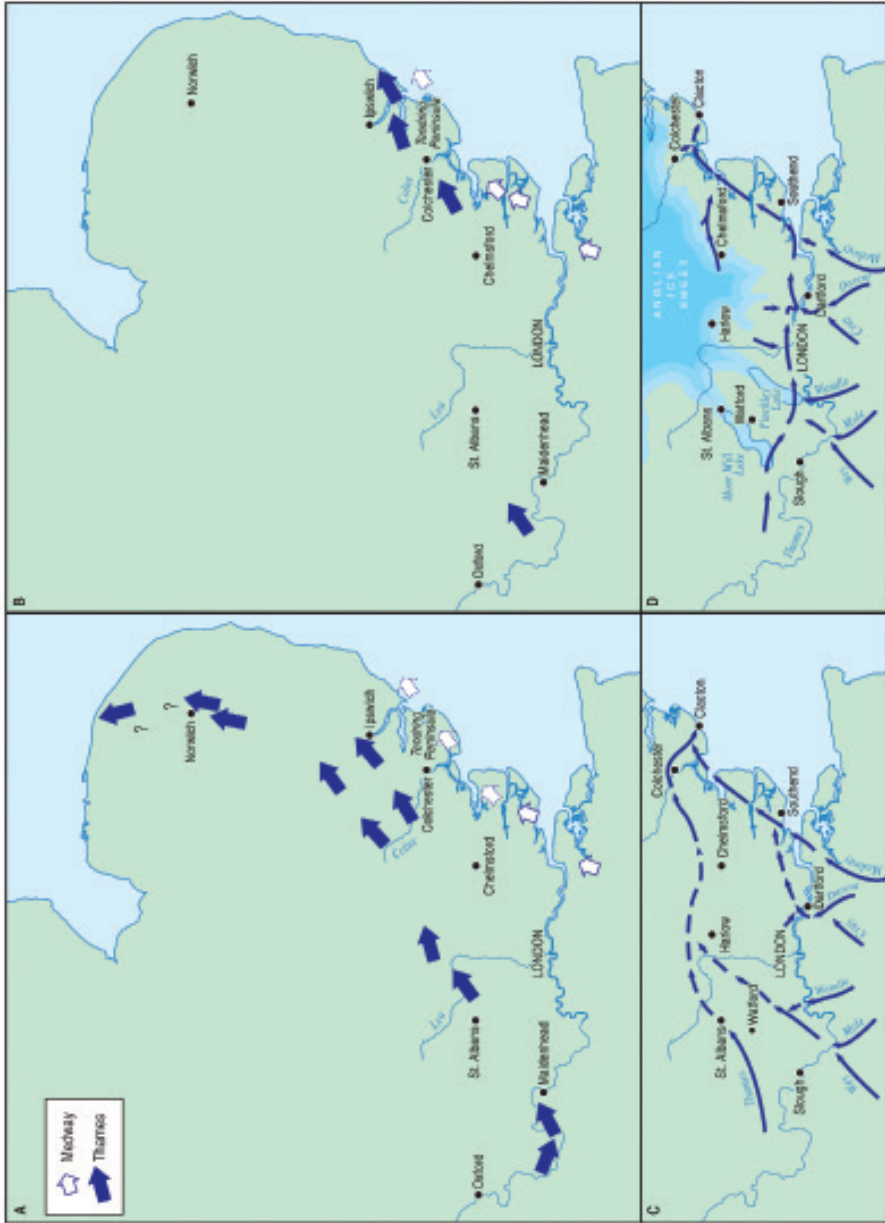


Fig. 9 The Pleistocene evolution of the Lower Thames drainage basin (from Bridgland and Allen 2014, reproduced with permission.) The River Cray is marked in C and D. A: Early Pleistocene; B: Early Middle Pleistocene (Cromerian Complex); C: Early Anglian - immediately prior to the arrival of the Anglian ice; D: The Anglian Glacial Maximum and the initial diverted course of the Thames.



Fig. 10 Thistles growing on the gravel spread at Snag. (Photo by Jo Bourne.)

top of the Thanet Sand Formation on the north slope of the Pratts Bottom to Green Street Green valley not far from another Pre-Anglian deposit at Well Hill mapped as Well Hill Gravel which is located on an interfluvium with the Darent.

The sites are located on the south slope between the head deposits and the Clay-with-Flints that top the interfluviums. At the site known as Snag, Prestwich (1891, 145) wrote that the artefacts were ‘spread over the surface of a gravelly field’ (**Fig. 10**). There is no published account of when, where or how the finds labelled ‘Little Molloms’ were found but they have been associated in this study with the continued gravel spread to the north of Little Molloms Wood and into Little Mollom’s Field.

Prestwich (1891, 144) noted that:

The stream of gravel at Pratt’s Bottom and the upper Cray descends the Cray Valley, and passes by the end of Snag Lane to Green Street Green, where it is very largely developed. The level of this drift at the end of Snag Lane is 276 feet above O.D. The field up the lane where the implements occur is on the level of 320 to 340 feet, or 48 feet higher, whilst farther on the Red Clay-with-flints caps the hill at the height of 450 feet. We there have therefore the three levels of drift perfectly well marked.

A summary of the known river terraces in the former Pratts Bottom to Green Street Green section of the Upper Cray Valley is given in **Table 3**.

TABLE 3: GRAVEL SPREADS / RIVER TERRACES IN THE UPPER CRAY VALLEY

<i>Terrace</i>	<i>Name</i>	<i>Date</i>	<i>Source</i>
C 1 (OD 72m)	Taplow Gravel formation	MIS 6	BGS Current
C2 (OD 94m)	‘Middle level of drift’	Not dated	Prestwich 1891
C3 (OD 128m)	Chelsfield Gravel Formation	pre-Anglian	BGS current
C4 (OD 156m)	Well Hill Gravel	pre-Anglian	BGS current

Note. MIS = marine isotope stage.

The raw material used is exclusively chalk flint. This is available in the area as flint nodules from the Seaford and Lewes Chalk Formations and in the form of the glauconite-coated nodular flint of the Bullhead Bed that forms the lower boundary of the Thanet Sands which rests unconformably on the Chalk. However the thin worn cortex on the artefacts indicates an opportunist exploitation of available deposits – and that the flint used was derived from secondary sources such as fluvial gravels or coombe deposits. The flint used has frequent natural flaws and cavities which are evident in some of the artefacts such as [303].

Discussion

The surviving evidence for hominin activity in the Lower Palaeolithic period in this area consists of 110 rolled and abraded artefacts – handaxes, other implements and flakes – that were thinly spread in the gravel and were found as the result of repeated careful searching over a period of about seven years in the 1890s. No further implements or flakes were found during recent visits to the site. The stratigraphy in which they were found is best described as a disturbed secondary context. The condition of the artefacts indicates that during their post-depositional history they were affected by colluvial and solifluction processes and exposure.

However, the similarities in technology of all the artefacts points to a single period Acheulean assemblage although the cream patination of the retouch on some of the flakes that contrasts with the patination and staining on the rest of the implement indicates a later return and reuse of some flakes after a considerable period.

The area in which the finds was made and the spread of gravel which Prestwich identified as a level of drift, now known as a river terrace, can still be located. The rolled and abraded condition of the artefacts matches that which can still be observed on the naturally broken flint in the gravel spread in which they were found.

This gravel spread has not been dated. However, although it has been established that the Chelsfield Gravels on the north side of the valley to the finds sites is pre-Anglian, the British Geological Survey points out that the date range for these gravels is still wide, from the Pliocene to the Pleistocene. Consequently the age of the gravel spread at Snag, which is at a lower level than the Chelsfield Gravels could be pre- or post-Anglian.

The three small ovate handaxes with twisted profiles from Snag, despite their worn condition, can be compared typologically with the series of small ovate frequently twisted handaxes from the Dartford Heath deposits that include some of the smallest handaxes found in Britain (Beresford 2018b). The chopping tool [304] from Little Molloms described by Lascaille as of ‘tea cosy shape’ can also be compared typologically with a chopping tool from the Dartford Heath deposits at Bowman’s Lodge. Although the Dartford Heath Deposits are located above the confluence of the Cray and the Darent, they represent the earliest terrace of the post-Anglian Thames and are dated to late MIS 12/early MIS 11.

These typological comparisons cannot provide secure dating. Consequently, it can only be tentatively suggested but not proved that an early MIS 11 date is the most likely period for the Snag and Little Molloms Palaeolithic material and so they possibly represent an early return to the area by hominins just after the Anglian Glaciation.

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