Lower Palaeolithic Culture (Clactonian and Levalloisian)

Introduction

The European Lower Palaeolithic is traditionally divided into two lithic assemblage types: (i) assemblages with handaxes, generally assigned to the Acheulian techno-complex; and (ii) non-handaxe, core and flake assemblages, variously interpreted as being either flake or core tool based and known by a number of local or regional names. Lower Palaeolithic research in Europe is dominated by the enquiry of the meaning of these variants, examining their relationship and determining the significance of the presence/absence of handaxe.

The British Lower Palaeolithic is divided into two major cultural/industrial traditions, a simplistic non-biface assemblage type known as the Clactonian, and a technologically more sophisticated biface assemblage type known as the Acheulian. Technological analysis clearly demonstrates similarity between the core reduction strategies present in biface and non-biface assemblages. There is a long history of the research on the definition and interpretation of the Clactonian throughout the twentieth century.

Clactonian tradition

This Clactonian industry was termed after the type-site of Clacton-on-Sea which is located 80 km away from London. This industry was first defined on the basis of the artefacts collected from Clacton-on-Sea by Hazzledine Warren in 1911. The artifacts include chopping tools and flakes of flint and the tip of a worked wooden shaft along with the remains of a giant elephant and hippopotamus. Later on, similar artifacts have been found at sites like Barnfield Pit.
near Swanscombe in Kent and Barnham in Suffolk. The Clactonian industry involves strikingly thick, irregular flakes from a core of flint, which was then employed as a chopper. The flakes would have been used as crude knives or scrapers. Retouching is uncommon and there is prominent bulb of percussion on the flakes indicating use of a hammer stone. The typical artifacts are flakes, single-edged choppers and chopping tools. The flakes have large, high-angle, plain striking platforms, and prominent bulbs of percussion. These flakes were removed from roughly prepared, discoidal cores by the stone hammer or stone anvil technique. Clactonian artefacts are also differentiated from other Acheulian tools by the presence of notches and grooves, indicating that they were once attached to wooden or bone shafts. A well-preserved shaped wooden shaft has also been recovered from a Clactonian site. The tools are cruder than other Acheulian tools of the same period.

The Clactonian is arguably the archetypal core-and-flake assemblage for the European Lower Palaeolithic. The Clactonian industry is dated to the early part of the interglacial period known as the Hoxnian, the Mindel-Riss or the Holstein stages, at around 400,000 years ago.

Mark J. White of the University of Durham summarized the classic definition of the Clactonian as:
1. The Clactonian is a technologically distinct, primitive core-and-flake assemblage which contains chopper-cores and unstandardized flake tools but definitively lacks handaxes. The use of anvil technique is common.

2. The Clactonian represents the earliest occupation of Britain.

3. The Clactonian represents the products of a habitually non-handaxe making culture/group, which has no close affinities with the Acheulian but is related to the chopper/chopping-tool industries of Asia.

4. The Clactonian entered Britain from the east, via central Europe and Asia, and was replaced by different culture-groups from southern Europe who habitually produced handaxes.

However, these interpretations have been questioned and revised on the basis of theoretical paradigms, new discoveries, and new empirical analyses of old collections.

**Clactonian Technology**

The Clactonian is regarded as a typologically and technologically primitive industry compared to the Acheulian. It displays inferior technique and skill. Clactonian flakes are characterized as being heavy and thick, with exaggerated percussion features, large unfaceted butts, and obtuse flaking angles. Clactonian cores are commonly perceived as technologically crude, especially when compared to handaxes, apparently reflecting the use of the simplistic, somewhat haphazard anvil technique.
According to John McNabb, there are no tangible technological differences between the cores and the flakes found in Clactonian and Acheulian assemblages, and no single or group of technological features, which could be used to characterize Clactonian artifacts. The only supportable differences are typological, namely, the presence of handaxes and, more tentatively, standardized scrapers in Acheulian assemblages. The frequency in Acheulian assemblages of both these elements was found to be highly variable. Handaxes are usually accompanied by handaxe thinning flakes, produced by a totally different technological process to hard-hammer core working.

Clactonian is a core and flake industry which lacks formal tools such as handaxes and standardized scrapers but that contain choppers. These choppers were most probably just waste products of flake production and not deliberately fashioned tools. They are also found in British Acheulian assemblages. So, the Clactonian can be defined solely on the absence of handaxes, and perhaps also the morphology of the scrapers.

**Typology of Clactonian Artifacts**

According to Hazzledine Warren, the Clactonian artifacts can be classified as pointed nodule tools, choppers, axe-edged tool, discoidal forms and flake disks, side-scrapers, bill-hook forms, end-scrapers, bulb scrapers, sub-crescent forms, proto Mousterian flake points, pierces, flakes, cores, anvil stones, notches, etc.

**Clactonian Sites**

Clactonian sites are distributed in different areas of Britain. Some of the important sites and localities are:
1 Clacton in Essex including localities of Lion Point, Jaywick Sands, West Cliff, Golf Course, and Holiday Camp, which represent a series of Middle Pleistocene channels of the Thames River, incised into London Clay and Lower Holland Gravel.

2 Swanscombe in Kent including Barnfield Pit, Lower Gravel and Lower Loam; Rickson’s Pit located in the terrace of the Thames River.

3 Globe Pit, Little Thurrock in Essex situated at a lower terrace level than Swanscombe and on the north side of the Thames.

4 Purfleet in Essex in the Thames.

5 Barnham St. Gregory in Suffolk.

6 Cuxton in Kent etc.

The Newly Discovered Sites of Happisburgh and Pakefield

The site of Happisburgh is located in the Norfolk from which flint tools over 800,000 years old were unearthed very recently. In 2010, Simon Parfitt and his colleagues from University College London discovered flint tools near Happisburg, which were dated to around 100,000 years earlier than the finds at Pakefield. The flints were probably left by hunter-gatherers of the human species *Homo antecessor* who inhabited the flood plains and marshlands that bordered an
ancient course of the river Thames. The flints were then washed downriver and came to rest at the Happisburgh site.

Recent work at Pakefield and Happisburgh by Simon Parfitt and his team have not only pushed back the timing of the earliest human colonisation of northern Europe, but also shown that early humans were capable of living in a range of different environments. The sites of Happisburgh and Pakefield have demonstrated that human occupation of northwest Europe may date to c. 700,000 BP rather than c. 500,000 BP as previously thought.

**The Clactonian site at Southfleet Road, Ebbsfleet**

Archaeological excavations at Southfleet Road, Ebbsfleet in Kent have yielded a complex sequence of Middle Pleistocene sediments containing stone artefacts and fossil remains. An incomplete skeleton of straight-tusked elephant *Palaeoloxodon antiquus* was found in lacustrine sediments in close association with cores, flakes and notched flake tools. These finds suggest in situ tool production and butchery of the elephant carcass.

This significant Lower Palaeolithic discovery was made during construction of the Channel Tunnel Rail Link running between London and Folkestone, Kent, crossing the Thames east of Dartford. The *Palaeoloxodon* bones consist of parts of the upper torso, forelimbs and cranium. Two tusks and two upper molars were present, but the jaw and lower molars were not recovered.
The artefacts are mostly medium/large flakes, some with macroscopic use damage and some with single or multiple notches. There are also at least six cores. The assemblage does not include any handaxes, or any debitage from handaxe manufacture. Thus the typological and technological characteristics of the assemblage are indistinguishable from the Clactonian horizons at Clacton, Barnfield Pit and Barnham Area I.

The Lower Palaeolithic site at East Farm, Barnham, Suffolk

Excavations at the Lower Palaeolithic site at East Farm, Barnham, Suffolk is important for understanding the British Lower Palaeolithic sequence. Since the 1930s Barnham alongside Swanscombe of Kent have been very important for the British Palaeolithic studies which yield a series of Clactonian flint industries overlain by a single Acheulian industry. The two industry types were regarded as chronologically and culturally distinct, the simple core-and-flake Clactonian being replaced by a ‘more advanced’ industry containing bifaces.

Recent work at Boxgrove, Sussex by M.B. Roberts and High Lodge, Suffolk by N.M. Ashton and his team has shown, however, that Acheulian industries also pre-date the Clactonian industries. Excavations at Barnham during 1993 have demonstrated that the core-and-flake industry, which was previously described as Clactonian, is in fact in the same stratigraphic position as, and contemporary with, biface manufacture.

The site of East Farm, Barnham is rich in paleontological material. It has yielded fossils of pike (Esox lucius), perch (Perca fluviatilis), frogs, toads, newts, European pond terrapin (Emys obicularis), Aesculapian snake (Elaphe longissima), fallow deer (Dama dama), lion (Panthera leo), bear (Ursus sp.), elephant,
European pine vole (*Microtus (Terricola) cf. subterraneus*) and water vole (*Arvicola cantiana*) etc.

On the basis of the excavations at the site of Barnham, Nick Ashton and his team have suggested that the Clactonian is contemporary with biface manufacture and the notion of Clactonian and Acheulian industries being culturally distinct is incorrect. A more complex interaction of landscape and human dynamics appears to have influenced the industry types, involving the quantity and quality of raw material, the position of that raw material in the landscape, and above all the desired uses and movement of that raw material by humans.

**Relations between Clactonian and Acheulian**

The exact relationship between the two components of the British Lower Palaeolithic Clactonian and Acheulian is the subject of much debate. Assemblages without handaxes are also found in different parts of Europe although less commonly. Depending upon other characteristics, including the technology of manufacturing flakes and the types of flake tools, these have been considered to be Acheulian without handaxes. Sometimes as a different industry entirely, such as the Clactonian in England, characterized by large flakes made with the anvil technique. According to Clive Gamble, the Clactonian can no longer be regarded as a typological, technological, and hence cultural entity distinct from the wider Acheulian.

For a long time, the lower Palaeolithic period of British prehistory has been classified to two distinct divisions, i.e. Clactonian and Acheulian, and the relationship between the two cultures in this region has dominated the prehistoric research for decades. However, recent researches have suggested that the Clactonian and Acheulian artefacts were contemporary in Britain and do not represent two different groups of people with different cultures. However, the uncertainty over the relationship between the Clactonian and Acheulian industries is still unresolved.

**Recent Views on the Clactonian**

The Clactonian is commonly envisaged as a distinct, autonomous technology separate from the Acheulian, especially represented by several occurrences in southeastern Britain from the earlier zones of the Hoxnian interglacial. This technology was described as having had characteristically produced heavy, large, thick flakes with plain, deep, wide, inclined striking
platforms, protruding cones, swollen bulbs, conspicuous bulb scars, ripples and fissures, and wide flaking angles. Later, a reappraisal led Hazzledine Warren to shift the former emphasis from the Clactonian as a flake industry to a core industry, the most typical core forms being the biconical and conical ones, along with the proportional abundance of chopper-cores.

In a recent paper, J.J. Wymer discusses about the chronology and significance of the Clactonian and Acheulian Industries in Britain on the basis of three sites on which both Clactonian and Acheulian flint industries in primary contexts are found during excavation. These sites are Clacton-on-Sea in Essex, Hoxne in Suffolk and Swanscombe in Kent. Wymer concludes that the Clactonian has a long history, dating back in time to the latter part of the Anglian, and continued to at least the Early-temperate zone of the Hoxnian. Both the Acheulian and Clactonian industries were produced by people with preference for occupying river, marsh or lake environments. The Acheulian first appears at Hoxne, close in time to the Clactonian.

New evidence from Hoxne also demonstrates that different traditions of hand-axe manufacture existed side by side in Britain during the Hoxnian and Wolstonian stages.

Recent work on the British Quaternary sequence and Palaeolithic archaeology defines the Clactonian assemblages as:
(a) It is a generalized Lower Palaeolithic industry in which unprepared core and flake reduction dominates the assemblage.

(b) There are very rare occurrences of bifacially worked tools which are termed non-classic bifaces.

(c) The core and flake reduction is inseparable from the assemblages with handaxes. Choppers may be present but are not unique identifiers.

(d) The presence/absence and technological or conceptual approach to bifacial tools such as handaxes clearly divide the Clactonian from the Acheulian.

(e) The Clactonian does not represent the earliest occupation of the British Isles but has a recurrent occurrence.

(f) It first appears at the end of the Anglian, persists through the earlier Hoxnian, and is then replaced by assemblages with handaxes.

(g) Handaxe assemblages do not seem to have been contemporaneous with nonhandaxe ones.

(h) Clactonian and Acheulian belong to the different sub-stages of interglacials.

**Levalloisian**

Levalloisian technology is a method of making flake tool named after a site of Levallois-Perret in the Paris suburb, where flint artefacts show their distinctive traits. These artifacts were first recognised by Marcel Rebourg in the 1870s in deposits from one of the lower terraces of the Seine river. Subsequently it has been recognised at many European Early Palaeolithic sites. Henry Breuil and Janusz K. Kozlowski were the first to formally name this distinctive lithic technology as Levalloisian. Hitherto it had been labelled Mousterian, due to the work of Commont who had examined Mousterian sites in the Somme Valley.
The Levallois technique denotes to a distinctive type of stone knapping. Instead of breaking off a flake and working on it to produce the desired shape, the core was carefully prepared. Its sides were trimmed and flakes were then systematically removed from its surface, from the centre outwards in all directions. Then, a striking platform was created by flattening the top of the prepared core, and perpendicular blows were struck at that point, either directly or through an intermediary tool.

The flake detached in this way was thin, roughly triangular or oval in shape, with a clean undersurface, and shallow, centrally directed flake scars on the upper side. It would need very little further working, because its edges were already sharp. Because the core of a Levallois flake is like the shell of a tortoise, it is also called as tortoise core. This technique can be used to produce only one flake at one time.

**Levalloisian Technology**

The Levallois technique involves striking of flakes from a prepared core. A striking platform is formed at one end and then the core’s edges are trimmed by flaking off pieces around the outline of the intended flake. This creates a domed shape on the side of the core, known as a tortoise core as the various scars and
rounded form are reminiscent of a tortoise shell. When the striking platform is finally hit, a flake separates from the core with a distinctive plano-convex profile and with all of its edges sharpened by the earlier trimming work.

The Levalloisian is primarily a flake tradition. It is characterized by a new and improved method of producing flakes, which previously had been obtained in a more or less haphazard manner. This involves the careful shaping of the core by the removal of centrally directed flakes, and the preparation of an extremity for the detachment of a symmetrical oval flake.

On the striking platforms of typical Levallois flakes, small vertical flake scars, called facets, may be observed, and the scars of the converging core-preparation flakes are present on the upper surface. The use of this technique resulted in the production not only of symmetrical flakes but also of larger ones in proportion to the size of the core.

Breuil and Koslowski defined the Levalloisian industry as consisting of large flakes and blades produced from prepared cores and generally left unretouched. Francois Bordes defined a Levalloisian flake as being a flake whose form had been predetermined by special preparation of the core prior to its removal, and which had a privileged striking platform. Subsequently Bordes did not modify this definition except to recognize a distinction between a general concept of a Levalloisian strategy of predetermined form for privileged flakes and particular variants of Levalloisian strategy with different goals such as classic Levalloisian flakes, pointed Levalloisian flakes, Levalloisian points, and Levalloisian blades.

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Classic Levalloisian, as identified at the site of Levallois-Perret, involves the radial trimming of one surface of a large core, often known as a tortoise core, prior to the removal from this surface of a large, privileged flake whose form has been predetermined by the radial trimming. Pointed Levalloisian flakes are classic Levalloisian flakes, which happen to end in a point, possibly intentionally. In contrast, Levalloisian points are triangular flakes ending in a sharp point formed by the intersection of the scars of two carefully judged sub-parallel previous removals. Levallois blades, according to Bordes, include both classic Levalloisian flakes whose length is over twice their breadth, and also elongated flakes whose dorsal
scars are mainly uni-or bi-polar but often with slight evidence of radial trimming to suggest they come from a tortoise-type core.

**Conclusion**

Acheulian and Clactonian industries were replaced at the end of the lower Palaeolithic by the emergence of Neanderthals in Europe, who created a more advanced technology, known as the Mousterian. The earlier belief of the Levallois as a distinct culture has been redefined and now it is considered as a technique of stone tool making rather than a distinct culture.