# Field Walking Report 2015: Dartington Hall Estate

## Staverton Ford

Tom Gloyns

This is a report focusing upon the flint tools recovered from the plough surface in the vicinity of Staverton Ford, located on the Dartington Hall Estate.

## Table of Contents

# Introduction

The flint scatter located high above the south bank of the River Dart, near to Still Pool Coppice, is certainly one of the most prolific on the estate (Fig. 2). I have only been walking it for the last four years, over which time it has revealed an interesting array of tools and waste material, suggesting that the location may have been used as a flint knapping, butchering and habitation site.

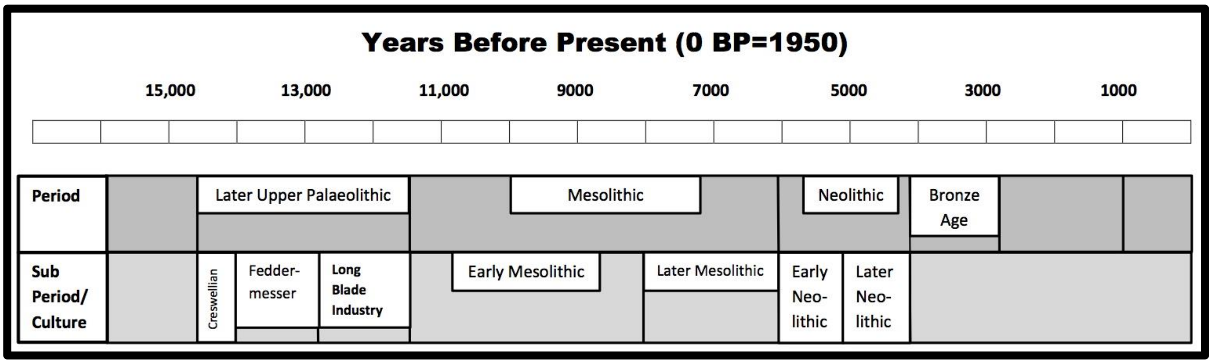


**Figure 1:** **Timeline of prehistoric periods under consideration.**

It is tempting to interpret this flint scatter in relation to the fordable river in the valley below, as today the ford represents the last natural opportunity to cross the Dart before it reaches the sea (Fig. 2, d). This may have relevance to the scatter if it is dated to either the Later Mesolithic, or Neolithic periods (Fig. 1). During the Early Neolithic, sea levels had risen to approximately the height we experience today (Sturt, Garrow et al. 2013). However, if the flint scatter relates to an earlier period, then the lower sea levels present during those times may well have presented a number of additional crossing opportunities further downstream.

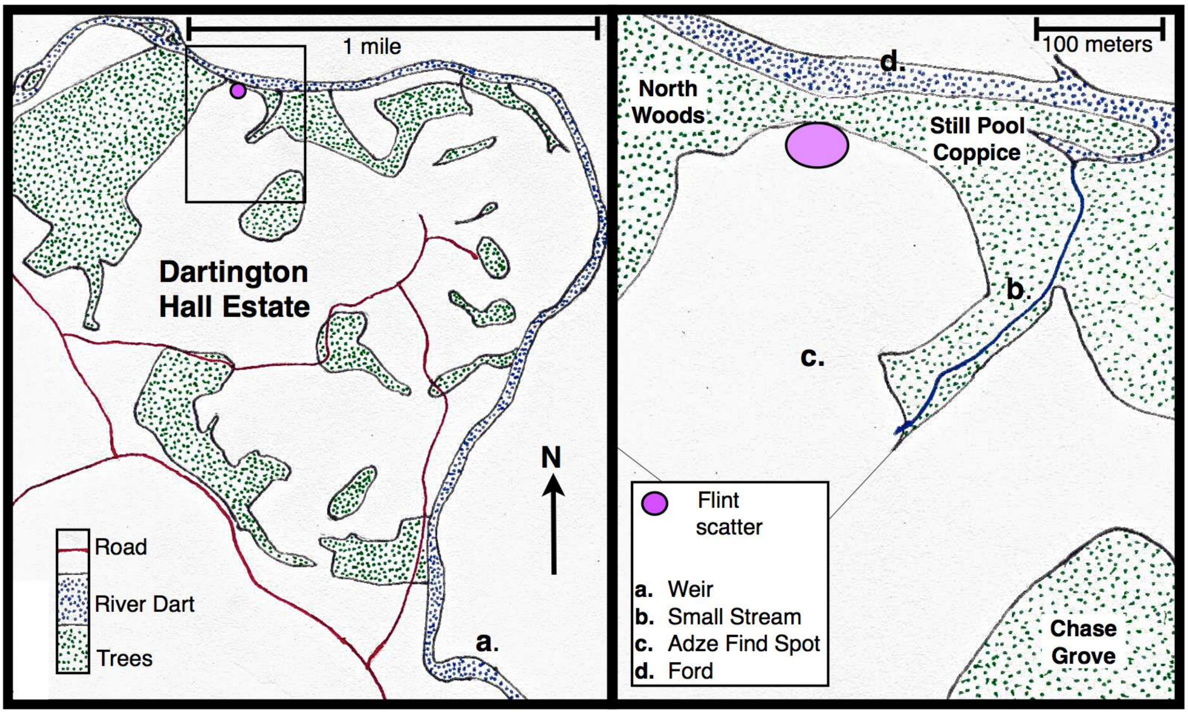


**Figure 2:** **Map of scatter location.** **Grid references: SX 79270 63584 (Scatter), SX 79192 63483 (Adze).**

The issue of historic fording points across the River Dart and their proximity to the location of this scatter, is further complicated by the fact that the existing fording point at Staverton might not even have been present at the time the scatter was created. Many factors affect potential river-crossing points over time. These include changing river character due to the moving of river channels across flood plains, as well as progressive cut back of certain geological features. Additionally, since 1560 there has been a weir in situ further downstream, at Totnes (Fig. 2, a). This has presumably impacted upon the tidal movement of the river and established a freshwater environment immediately upstream. In summary, even if sea levels were approaching current heights at the time of prehistoric activity on this site, then the idea that there was a fording point in the approximate position of the one we see today would still require some careful consideration.

Despite the nuances of the argument concerning the presence of the ford, it is clear that the river itself would have played a significant part within camp life. Besides providing a consistent source of clean water, resources such as fish and water birds are likely to have been readily attainable within the immediate vicinity. Rivers played an important part in creating well-worn routes through the landscape used by both hunter-gatherer tribes, and the animals they depended upon (Barton 2004).

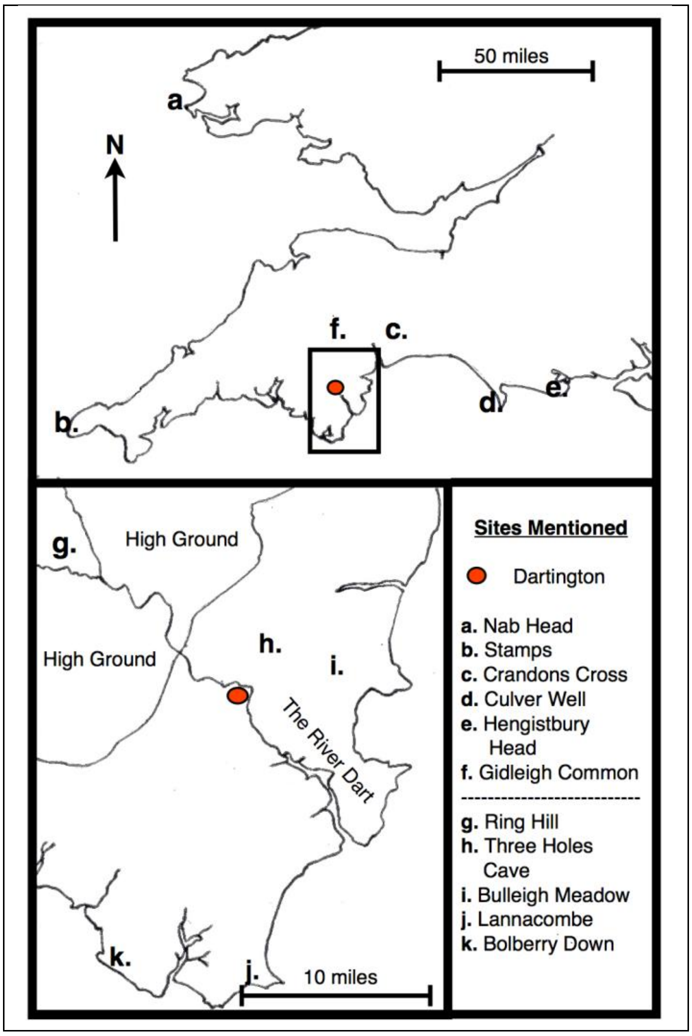



**Figure 3:** **Map of sites in the southwest referred to in this report.**

The general direction of the River Dart flows from North East to South West (Fig. 3). The suggestion has been made that some valleys lying on such approximately North/South orientations were favoured by large herbivores on their migrational journey between high summer pastures and lower winter territories (Campbell 1977: 141-142, Burdukiewicz 1986: 129). It is thought that these mass movements of animals through the landscape provided seasonal opportunities for hunter-gatherers to undertake large 'collective kill' events. There is some evidence to suggest that smaller scale hunting activity may have taken place all year round at a variety of locations, intensifying in autumn along such migrational routes. This exploitation of seasonal animal movement patterns along river valleys, is thought in part to be a strategy that provided opportunities to build up resources for the winter (Baales 1999).

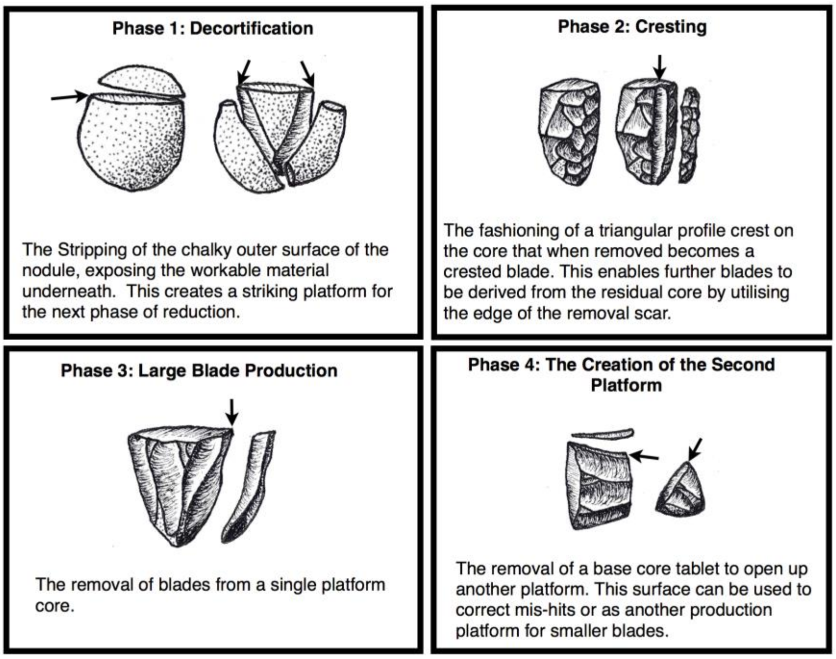
It is possible that the river was used to import flint and other resources not present in the immediate environment. The evidence in Britain for the use of boats by hunter-gatherers is scarce, due to the extremely rare preservation conditions that are required for us to see constructions of wood and skin (Clark 1954, Johnstone and McGrail 1980, Smith 1992, Momber 2000). However, it seems plausible that such craft were an intrinsic part of prehistoric life, providing contact with other tribes. This may have enabled the exchange of resources obtained from a range of different environments. Implicit in these proto-trade routes is the mixing of people and the exchange of ideas along these conduits for both goods and culture (Barton 2004).

The Staverton Ford scatter is located close to a position overlooking the valley. This is strategically wise for observing both animal and human movements along the river. Nearby, the River Dart is joined by a much smaller stream that runs close to the flint scatter (Fig. 2, b). Assuming that this stream was flowing at the time of occupation, it may have provided a more convenient fresh water source than having to negotiate the steep slope of the valley, to the river below.

## The Lithics

In order to understand the lithics that originate from the Staverton Ford flint scatter, it is important to appreciate something of the reduction sequence that was involved in transforming the raw flint nodule into the finished tools. Each phase of the sequence can be recognised by characteristic waste products, the presence of which can give some indication of the knapping activities that were carried out on site (Fig. 4). Additionally, the examination of the percussion bulbs on the flakes and blades may be able, in some instances, to establish whether a hard or soft hammer was used to remove those pieces (Andrefsky 1998).

**Figure 4: The first phases of a reduction sequence illustrating some of the characteristic waste products found in the Staverton Ford assemblage.**




Technologically, it appears that the initial stages of the reduction sequences at Staverton Ford were undertaken with a hard hammer. Pronounced percussion bulbs that can be seen on many of the pieces that are related to decortification and large blade production phases. The decortification phase involves the removal of the chalky outer cortex of the flint nodule (see Fig. 4). This produces characteristic waste materials that exhibit cortex on one side and a pronounced percussion bulb on the other (Phase1). The next step in the sequence involves the creation of a crest below a chosen striking platform (Phase 2). This becomes a crested blade when struck from the core (Inizan 1999). This blade is fairly recognisable due to the triangular profile and characteristic scar pattern of the prepared surface. This removal facilitates the start of the large blade production phase (Phase 3). Some reduction sequences from the scatter are abandoned at the end of this phase, accounting for the single platform cores recovered. There is an optional fourth phase where a second platform is created with a removal that again bears recognisable scar patterns (Phase 4). Smaller blades appear to have been removed from this second platform with the use of a soft hammer stone. This technique required careful preparation of the striking platform. Residual scars from this process are observable towards the proximal end of many of the smaller blades from the assemblage.

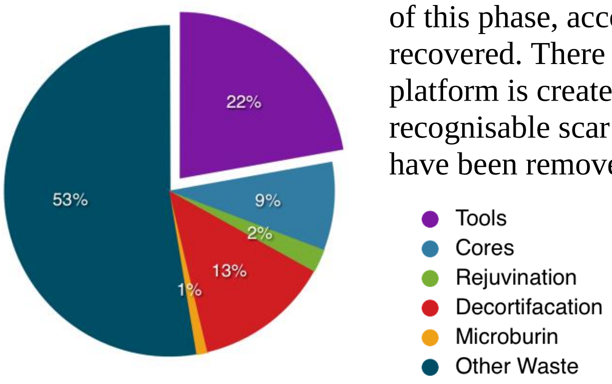



**Figure 5: A breakdown of the assemblage showing percentages of waste material against the tool component.**

The lithics from the Staverton Ford scatter comprise of 657 pieces of flint material collected from the plough surface. Subsequent analysis suggests extensive evidence of tool production activities with finished tools only representing 22% (146 pieces) of the collection to date (Fig. 5). This is significant because knapping sites can be distinguished from other activity sites such as hunting locations, where finished and broken tools may be expected to dominate the assemblage with only a minimal presence of knapping waste.

## The Waste

**Figure 6: A selection of Cores**

a. **Single platform core, b. Double platform core, c. Double platform micro-blade core.**


The waste material from the scatter contains both single and double (or dual) platform cores (Fig. 6). These represent the discarded centres of flint nodules that have been worked for blade production. The core is disposed of when it is deemed either too small, or occasionally too problematic, to continue using for the production of blades. It is thought that the dual platform core residue, although initially appearing in the Early Upper Palaeolithic (Jacobi, Debenham et al. 2007), is increasingly recognised throughout Late Upper Palaeolithic and

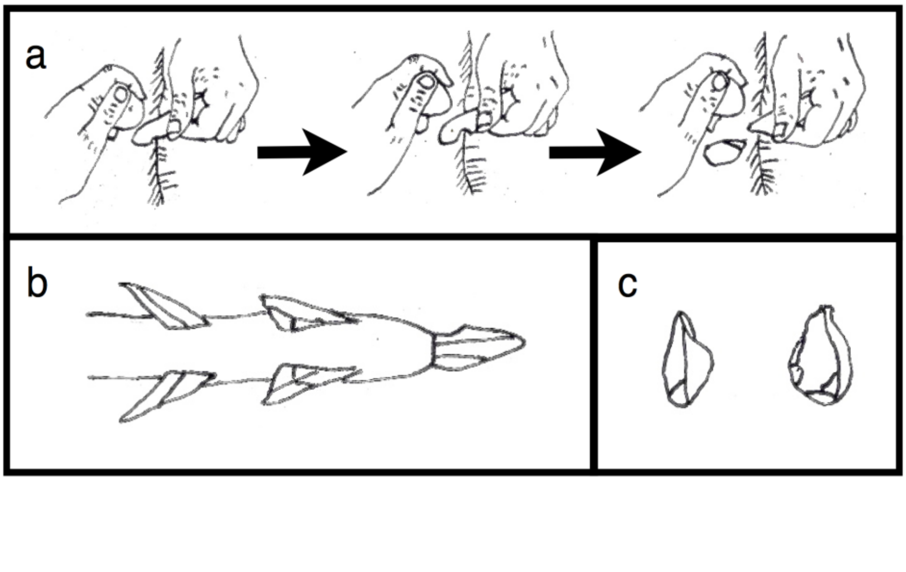
Mesolithic assemblages in Britain (Barton 1987). This may partially be due to the evolution of new ways of optimising the number and quality of smaller blades it is possible to create from a given piece of flint.

Dual platform knapping techniques can be seen as a more efficient and controlled method of small blade production. During the Mesolithic period this may have become increasingly necessary to adopt as an approach, with the utilisation of smaller beach pebbles as source material. The exploitation of this resource may have been necessary in response to rising sea levels covering higher quality, lower lying flint resources (see discussion section of report 1). The scatter contains a fairly equal number of single and double platform cores (22 single and 26 double). There is also the occasional micro-blade core which begins to suggest the idea of a Mesolithic date for this material.

There are a number of other categories of waste flint that can offer up clues to the knapping activities that were carried out on site. The presence of decortification flakes indicates activity relating to the initial stages of reducing an unworked flint nodule to a finished tool (Fig. 4. Phase 1). This suggests that the raw material was brought onto site, as opposed to being decortified elsewhere[1], in preparation for the final stages of knapping. Rejuvenation flakes present in the scatter may have been produced during the process of renewing striking platforms, characterising the blade production phase of a reduction sequence (Fig .4, Phase 3). The presence of these waste products, in conjunction with evidence of the micro-burin technique, indicates that the entire knapping sequence (from raw flint nodule to creation of the finished tool) may be represented on site. Micro-burin technique was used to create segments of blade to be used as components of composite tools (Fig. 7). This technique is further suggestive of a Mesolithic date for the scatter.

**<u>Figure 7:</u>**

a. **Micro-burin technique involves the segmenting of blade blanks with the use of an anvil.**
b. **Composite tool showing the insetting of flint microliths into a wooden shaft.**
c. **Micro-burin waste.**




[1] Increasingly during the Neolithic period, there are examples of flint nodules being decortified prior to transportation to the final knapping site.

## The Tools

The tools identified from the scatter (Fig. 8) include: scrapers, knives, burins and denticulates which one could collectively interpret as related to processing the spoils of hunting and fishing. The scrapers and awls may also represent activity related to the working of animal hide with the production of clothing and leather items. Other tools such as: points, notched pieces, inset blades and microliths, when grouped together, may potentially relate to the assembling of composite tools (Fig. 7, b) for both the hunting of animals and gathering of plant material.

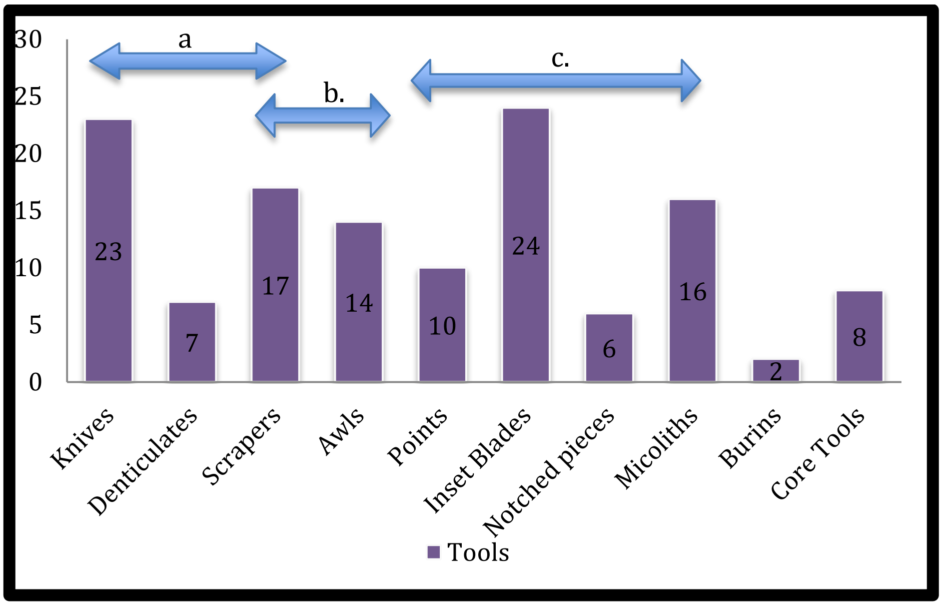



**Figure 8:**

- **a. Tools potentially related to butchering and food processing activities.**
- **b. Tools potentially related to leather working.**
- **c. Tools potentially related to the construction of weapons for hunting.**

The blades at Staverton Ford are noticeably larger than at other find spots on the Dartington Estate. Within the conventional framework of technological assumptions, this could indicate an Early Mesolithic component to the scatter. However, it may be problematic to directly equate blade size with the dating of this particular scatter, owing to the knapping characteristics of the raw flint material (this issue will be revisited in more detail in the 'lithics sources' section below). Most of the large blades in the Staverton Ford scatter have been fabricated into other tools such as knives, awls and burins. A number of these large blades exhibit a particular triangular profile. Some of these triangular profiled blades are crested (Fig. 4, Phase 2) therefore relating directly to the reduction sequence. Other triangular blades however, appear to have been intentionally created as opposed to occurring as a by-product of opening a face for blade manufacture. These triangular blades may represent a technique of using natural, or blunt surfaces of the flint to create handgrips for un-hafted tools. Such blades may also have been created for their robustness and chosen especially for tools such as the large awls that may have needed to withstand significant forces in the course of their functioning (Fig. 9, a & c).


**Figure 9:** **Large Blades**

a. **Awl with triangular profile.**

b. **Knife.**

c. **Awl with triangular profile.**

d. **Knife.**

e. **Knife with triangular profile.**

f. **Notched tool with triangular profile.**

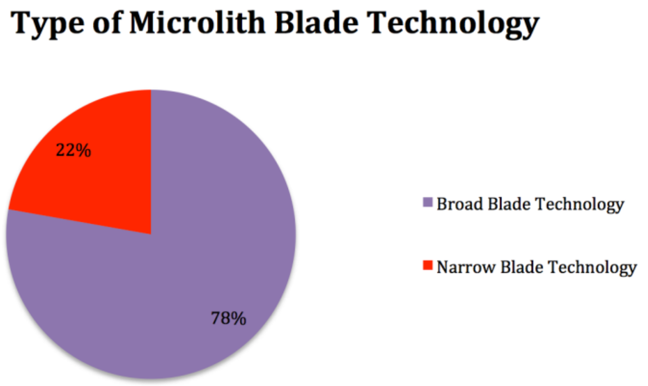
## The Microliths

The microlith component of the Staverton Ford assemblage is interesting as it contains examples of both the earlier Mesolithic broad blade, as well as a minimal presence of the later Mesolithic geometric narrow blade technology (Fig. 11). This may either suggest two separate periods of occupation of the site, or a single phase chronologically situated on the transition between these two technologies. However, Smith (1992) suggests that when attempting to ascribe a range of dates to a scatter, it is the *proportions* of these two types of technology that are significant, as opposed to the mere presence of each. The issue of dating is further complicated by the recognition of certain types of broad blade microliths appearing in some Final Upper Palaeolithic long blade assemblages, which suggests that such microlith technology may not be entirely confined to the Mesolithic period (Barton 1986).

The proportions of these two styles of microlith technologies (broad and narrow blade) are seen to define the boundary between the early and later Mesolithic periods, this shift in the proportions of the bladed technologies occurred somewhere around 7000 BC. At this time, narrow bladed technologies appeared to have become more dominant. It is unclear why this occurred although throughout the Mesolithic sea levels were rising and covering potential flint sources. A warming climate may also have brought about changes in the environment that provided a greater abundance of wood for use in the construction of composite tools (Fig. 7, b). This may have shifted the objectives of the knapper towards the production of smaller blades suitable for insetting into more complex hunting equipment. With these environmental changes, prey species are thought to have altered which may have lead the evolution of flint technology in a direction that would cater to these new requirements. Other researchers prefer to view this technological shift as a result of cultural factors brought about by the final disappearance of the land bridge that connected Britain to the continent. From this perspective, the emergence of geometric narrow blade technologies in Britain may be viewed as a final continental contribution to British Mesolithic flint knapping traditions (Smith 1992).


**<u>Figure 10:</u> a – e: Obliquely blunted microliths (d. with broken tip), f & g: shouldered microliths, h & i: crescent microliths.**

| BROAD BLADE TECHNOLOGY | | NARROW BLADE TECHNOLOGY |
|---|---|---|
| Clark's Classification Group A | Clark's Classification Group B | Clark's Classification Group D |
| Obliquely Blunted Microliths (5) | Shouldered Microliths (2) | Crescent Microliths (2) |
| Fig. 10 Numbers a - e | Fig. 10 Numbers f - g | Fig. 10 Numbers h - i |




**<u>Figure 11:</u> Analysis of the typologically identifiable microliths in the assemblage.**

**<u>With this proportion of broad blade to narrow blade forms in the sample, the tentative suggestion is that an Early Mesolithic date is plausible. The small sample size remains problematic but testing this hypothesis to see if these proportions persist in future years, may well be the way forward.</u>**

Microliths are generally regarded as useful for estimating the date of an assemblage, owing to certain typological styles being recognised as becoming visible at different times during the progression of the Mesolithic period (Reynier 1998, Waddington 2004, Butler 2005). The broad blade obliquely blunted microlith present in the scatter (Fig. 10, a) is reminiscent of forms that occur at the early Mesolithic site of Hengistbury Head in Dorset (Fig. 3, e), a site that was dated to 9,600 BP (Barton 1987).

Two microliths depicted in Fig. 10 (f & g), have an affinity with a piece that has come from Crandon Cross in East Devon (Fig. 3, c), which has been interpreted as an early Mesolithic site dating to the 7th or 8th millennium BC or 9950 -8,950 BP (Berridge 1985). In the Clark Classification system, this shouldered type of microlith is seen as a marker for the early Mesolithic (Butler 2005). Broad blade obliquely blunted microliths have also been identified at Bolberry Down (Fig. 3, k), again indicating the same date range (Masson Phillips 1981, Berridge 1984).

Two other microliths (Fig. 10, h & i) are particularly small and exhibit a similarity to microliths that occur locally in later Mesolithic assemblages. For example: Three Holes Cave, Gidleigh Common, Bulleigh Meadow and Ringhill have all yielded similar pieces (Fig. 3, f,g,h,i) (Rosenfeld 1964, Masson Phillips 1981, Berridge and Simpson 1992). Torbryan is the only site in the local vicinity where carbon dates exist for these narrow blade technologies. Recent excavations have provided dates of 6330 BP and 6120 BP that are in close agreement with other dated sites containing this narrow blade microlith component in the South West (Roberts 1996). However, this style of microlith has been recognised in Britain since prior to the beginning of the later Mesolithic period (Smith 1992).

## Points and Denticulated Tools

Some of the points emerging from the Staverton Ford scatter display ‘shouldering’ (Fig. 12), which is a characteristic more widely recognised in assemblages of Upper Palaeolithic date. It should be noted however, that the shouldering typology found in the Staverton Ford scatter is not created in the same way as in the assemblages recognised as dating from the Creswellian period (Burdukiewicz 1986, Grimm, Jensen et al. 2012). For example, there is an absence of ‘backing’ or ‘steep retouch’ on either the points or elsewhere in the assemblage. These are features more associated with Creswellian and Final Upper Palaeolithic backed blade industries (Fig. 1).


**Figure 12: Five points exhibiting shouldered characteristics.**

In common with the points from the Staverton Ford scatter, the Mesolithic site of Culver Well on Portland Bill (Fig. 3, d) has produced points with shouldered characteristics from its lowest levels. Unfortunately, the carbon dates that exist for this site come from layers higher up in the stratigraphy where the flint typology is much more recognisable as Mesolithic. This lead the excavator Susann Palmer to speculate that the lower levels of the site may belong to the Final Palaeolithic cultures (Palmer and Thomas 1999). In the absence of consistent typological traits emerging from datable layers, the matter may remain unresolved.


**<u>Figure 13:</u> Five microdenticulated blades.**

The microdenticulate tools are fairly common at Staverton Ford, these types of tools have been suggested as being used for cutting soft plant fibre when discovered at the Early Mesolithic site of Hengistbury Head (Barton 1987). It also seems possible to me that such tools would have been useful for gutting and processing fish. This interpretation is more likely within the landscape context of the Staverton site, as in contrast to the situation at Hengistbury Head, Staverton Ford is much more proximal to a river. The microdenticulate type of tool is thought to be well recognised within Early Mesolithic assemblages, receding in frequency in the later Mesolithic but then re-emerging subsequently in some Neolithic contexts (Butler 2005).

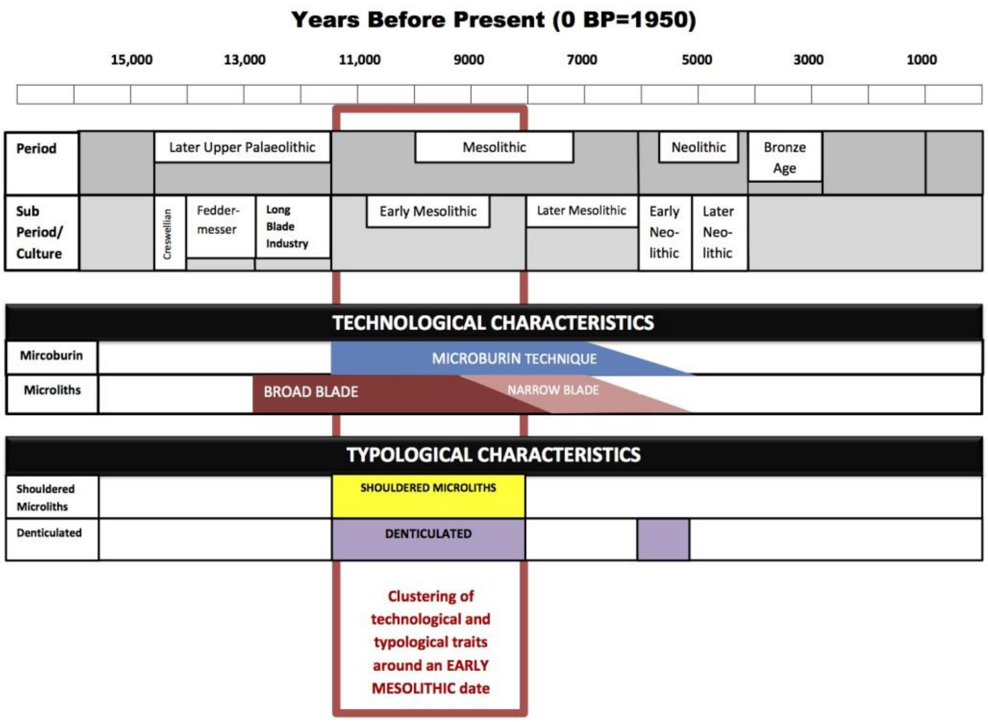
## Chronological Conclusion

I feel that on balance the evidence suggests Staverton Ford to be an Early Mesolithic scatter with the possibility of it remaining in use until the transition to the Later Mesolithic (11,000-8,000 BP).

This conclusion has been reached, bearing in mind:

1. The proportion of broad to narrow blade microlith technologies.
2. The presence of typologically Early Mesolithic microlith forms.
3. The presence of microdenticulated pieces combined with the absence of Neolithic type pressure flaking in the rest of the assemblage.
4. A lesser, but significant presence of microlith forms suggestive of the later geometric industries.
5. The presence of microburin technique and micro-blade cores.

I am willing to revise any or all of these ideas, subject to new material surfacing and adding to this developing picture.




**<u>Figure 14:</u> Chart showing the duration of technological and typological characteristics high-lighting an increase in chronological overlap in the Early Mesolithic.**

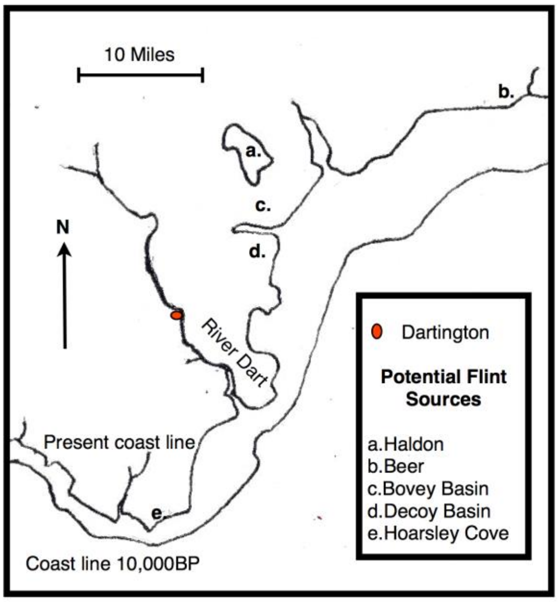
# Lithic Sources

There are a number of different colors of flint seen within the Staverton Ford assemblage. These range from white, dull light brown, dull light to dark mottled grey and shiny black. The formation of flint takes place within chalk. The outside surface of a raw flint nodule emerging from the chalk, is covered in cortex. It is this cortex that is removed in the first stages of the knapping sequence. At Staverton Ford the majority of pieces with remaining cortex, show it to be thin and abraded thus exhibiting evidence of having been subjected to transportation by water. This suggests that the source was a secondary deposit as opposed to the flint being found in its primary chalk context.

In contrast, flint originating from deposits of chalk, on the whole display a thicker cortex which itself has a more crumbly, chalky character. At Staverton Ford, the material with a thicker, unabraded cortex appears to be restricted to a minimal component of shiny black flint. This is significant as it could begin to hint at a number of different flint sources for the assemblage.

There are also some pieces of flint present in the scatter that have a pink or red tinge. This could represent thermal alteration of the flint at some stage of its lifetime (Luedtke 1992). It is probably going too far to suggest that the material has been intentionally heat-treated to improve knapp-ability, as heating of the material could also conceivably come about with unintentional discard of flint around a campfire. There is also the possibility that more recent agricultural practices such as stubble burning could account for the thermal change in certain pieces.

**Figure 15:** **Map of flint resources with sea level 10,000 BP.**




It is important to appreciate that Dartington, and the immediate area, is not rich in flint resources. A number of possible flint sources are shown in Figure 15. All sources other than those occurring at Beer are secondary and residual deposits of different sorts. Out of these locations, it appears that Haldon (Fig.15, a) may provide the most likely source material for a significant amount of the Staverton Ford scatter. This is because there is a presence of white flint that has, within the context of flint resources from Devon, been observed tentatively as a unique characteristic of the Haldon deposit (Newberry 2002). -I must emphasise that care has been taken to differentiate between objects of white flint and those exhibiting patination due to environmental weathering.

There is also a dull misty quality to the flint located at Haldon that is also observable within material from the scatter at Staverton Ford. The thin abraded cortex on some of the flint from Staverton Ford matches well with the condition of nodules present in the Haldon deposit. The Staverton Ford scatter also exhibits a pale orange staining of the cortex, potentially the result of lying in an iron rich environment for some time (Luedtke 1992). The environment the tools have come from at Staverton Ford does not strike me as particularly iron rich, leading me towards the conclusion that this coloring may be residual from a secondary deposit. This matches the cortex color of the Haldon flint and also is less likely to have come from a secondary source redeposited by the sea. This again fits well with the high, in-land resource available at Haldon.

There are a number of pieces from Staverton Ford that do not look like they were sourced as raw material from Haldon. For example, some of the flint pieces from the scatter are black and shiny with a thick, un-abraded cortex. This indicates that they are likely to have been sourced from a primary chalk context.  Black flint is one of the colors absent from the deposits at Haldon. The nearest possibilities for the source of such flint material exist in the cliff at Beer, where the chalk deposits containing black flint can be found exposed (Fig. 15, b).

It appears that flint was not the only material exploited for blade production. There is also a lesser presence of Greensand Chert at Staverton Ford that has been utilised in a similar way to make blades (Fig. 9, a). Greensand Chert can be found as a secondary deposit in the terrace gravels of the River Exe and further east it occurs in its primary context towards Beer and Wilmington. There is also an occurrence of the Greensand geology that is directly overlaid by the flint gravels at Haldon referred to above. This may represent the closest occurrence of the Greensand Chert to Dartington and further substantiate the suspicion that Haldon may have been an important area for the provisioning of lithic raw material.

The use of Haldon flint may have required adaptions to the knapping sequence in order to compensate for the unpredictability of the material. John Lord has conducted knapping experiments on Haldon flint and concluded that the hardness of the material requires "getting in tune with" and that sometimes removals are not as controlled as a knapper would like. He also observed that not all blades produced from the Haldon flint have the classic blade morphology (Newberry 2002). This is particularly interesting in the context of both the larger size of the blades at Staverton Ford and the unusual triangular profile of some of them. To me this suggests alterations in the reduction strategy that enabled the exploitation of this abundant and yet potentially problematic resource. The unpredictable nature of some blade removals could conceivably lead to a situation where an active core may need frequent re-cresting to maximise its productivity. It is my hope that this suggestion does not significantly affect the typological assumptions used within this attempt at dating the scatter.

## Conclusion

The scatter appears to represent a fairly uncontaminated Early Mesolithic occupation site within close proximity to the River Dart. The fifteen mile distance between the encampment and the primary flint source at Haldon potentially encouraged the use of a more diverse array of raw materials namely quartzite. There exists the possibility that the flint was transported to the site by boat. The substantial distance the flint would have had to travel by water from Haldon around the coast may have required it to pass through a number of links in a chain of people. The idiosyncrasies of the fracturing characteristics of Haldon flint potentially promoted the exploration of innovative adaptions in the reduction sequence, particularly in relation to the removal of large blades.

If we apply the date gained from this analysis, to what it is possible to establish about the environment at the time, we can extrapolate that the river was likely to have been a fresh water environment. Sea levels were substantially lower in the Early Mesolithic with a number of miles between the prehistoric shoreline and the coast we see today (Fig. 15). Rising sea levels may have caused increased importance to be placed upon high, inland flint resources such as those found at Haldon.

The climate during the Early Mesolithic was steadily warming, thereby changing both the animal and plant species encountered in the environment. These conditions probably affected hunting opportunities that in turn may have prompted a diverse range of adaptive strategies, potentially leading to an increased emphasis upon fishing and the hunting of smaller prey.

## Recommendations

This report of the Staverton Ford scatter represents one of eighteen other scatters that I have located on the Dartington Hall Estate over the past decade. Although predominantly containing flint tools and related knapping waste material, these scatters also consist of other more diverse prehistoric artefacts including an adze, stone beads and symbolic fertility objects (see Report 1: Hill Park). This demonstrates that the estate is rich in evidence of prehistoric activity and I recommend strategic test pitting be conducted at certain locations on the site. This has the potential to enhance our understanding of the prehistoric occupation of the Dartington Estate.

With the above in mind, it appears that the Staverton Ford scatter may intersect with the Northern edge of the field. This is an area that has potentially avoided significant disruption from ploughing. Therefore if one was seeking datable stratified layers from this site, this may be the first place to begin archaeological excavations.

## References

**Andrefsky, W. (1998). Lithics : macroscopic approaches to analysis. Cambridge, Cambridge University Press.**

**Baales, M. (1999). Economy and seasonality in the Ahrensburgian. Tanged point cultures in Europe. Read at the International Archaeological Symposium, Lublin, 13–16 September 1993.**

**Barton, R. N. E. (1986). A study of selected British and European flint assemblages of Late Devensian and Early Flandrian Age, University of Oxford.**

**Barton, R. N. E. (1987). Hengistbury Head Dorset: The Late Upper Palaeolithic and Early Mesolithic Sites, Oxford University Committee for Archaeology, Institute of Archaeology.**

**Barton, R. N. E. a. R., A.J (2004). The Mesolithic period in England: current perspectives and new research. Mesolithic Scotland and its Neighbours. The Early Holocene Prehistory of Scotland, its British and Irish context, and some Northern European Perspectives. A. Saville. Edinburgh, Society of Antiquaries of Scotland: 339-358.**

**Berridge, P. J. (1984). Archeological Notes: A Mesolithic Site on Bolberry Down. The Devon Archaeological Society Proceedings No. 42. Torquay, The Devonshire Press Limited. No. 42: 101-103.**

**Berridge, P. J. (1985). "Mesolithic sites in the Yarty Valley." Proc Devon Archaeol Soc 43: 1-21.**

**Berridge, P. J. and S. J. Simpson (1992). The Mesolithic, Neolithic and Early Bronze Age Site at Bulleigh Meadow, Marldon. Devon Archaeological Society Proceedings No.50. Stroud, Gloucestershire, Alan Sutton Publishing Ltd.**

**Burdukiewicz, J. M. (1986). The Late Pleistocene Shouldered Point Assemblages in Western Europe. Leiden, E J Brill.**

**Butler, C. (2005). Prehistoric flintwork. Stroud, Tempus.**

**Campbell, J. B. (1977). The Upper Palaeolithic of Britain : a study of man and nature in the Late Ice Age. Oxford, Clarendon Press.**

**Clark, G. (1954). Excavations at Star Carr: an early mesolithic site at Seamer near Scarborough, Yorkshire, CUP Archive.**

**Grimm, S. B., D. S. Jensen and M. J. Weber (2012). A lot of good points - Havelte points in the context of late glacial tanged points in North Western Eurpoe. A mind set on flint : studies in honour of Dick Stapert. M. J. L. T. Niekus and D. Stapert. Eelde, Barkhuis ; Groningen : Groningen University Library.**

**Inizan, M.-L. (1999). Technology and terminology of knapped stone : followed by a multilingual vocabulary, Arabic, English, French, German, Greek, Italian, Portuguese, Spanish. Nanterre, CREP.**

**Jacobi, R., N. Debenham and J. Catt (2007). A collection of Early Upper Palaeolithic artefacts from Beedings, near Pulborough, West Sussex, and the context of similar finds from the British Isles. Proceedings of the Prehistoric Society, Cambridge Univ Press.**

**Johnstone, P. and S. McGrail (1980). The sea-craft of prehistory. London, Routledge and Kegan Paul.**

**Luedtke, B. E. (1992). An archaeologist's guide to chert and flint, Los Angeles : Institute of Archaeology, University of California, 1992 (1994 [printing]).**

**Masson Phillips, E. N. (1981). Archaeological Notes II: Three Mesolithic Sites in Devon. Report and Transactions: The Devonshire Association For The Advancement of Science,Literature and Art. Torquay, The Devonshire Press Limited. 113: 147-164.**

**Momber, G. (2000). "Drowned and deserted: a submerged prehistoric landscape in the Solent, England." International Journal of Nautical Archaeology 29(1): 86-99.**

**Newberry, J. (2002). Inland flint in prehistoric Devon: sources, tool-making quality and use. Devon Archaeological Society Proceedings. J. Allan. Exeter, Devon, Short Run Press. 60: 1-36.**

**Palmer, S. and K. D. Thomas (1999). Culverwell mesolithic habitation site, Isle of Portland, Dorset : excavation report and research studies. Oxford, Archaeopress.**

**Reynier, M. (1998). Early Mesolithic settlement in England and Wales: some preliminary observations. Stone Age Archaeology: Essays in Honour of John**

**Wymer. F. H. a. P. B. P. N.M. Ashton. Oxford, Oxbow Monograph 102: 174-184. Roberts, A. (1996). The Early Holocene Period and Mesolithic Archaeology. Devon and East Cornwall : field guide. D. J. Charman, R. M. Newnham and D. G. Croot. London, Quaternary Research Association: 201-202.**

**Rosenfeld, A. (1964). Excavations in the Torbryan Caves Devonshire II Three Holes Cave, Devon Archaeological Exploration Society. No. 22: 3-26.**

**Smith, C. (1992). Late Stone Age hunters of the British Isles. London, Routledge.**

**Sturt, F., D. Garrow and S. Bradley (2013). "New models of North West European Holocene palaeogeography and inundation." Journal of Archaeological Science 40(11): 3963-3976.**

**Waddington, C. (2004). The Joy of Flint: An introduction to Stone Tools and a Guide to the Museum of Antiquties Collection. University of Newcastle upon Tyne, Museum of Antiquities.**