

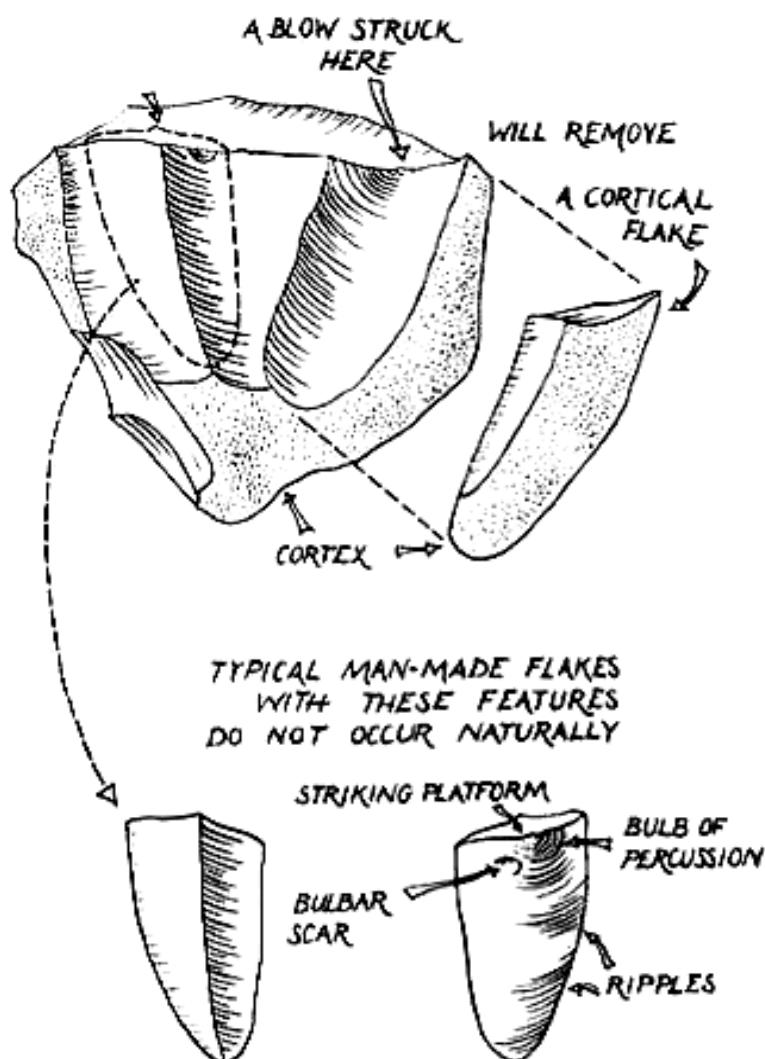
A guide to the identification of man made flint & tool types

Flint has been used for the raw material for tools longer than any other material and fortunately it does not decay. It is very hard but is easily flaked & produces razor sharp flakes, unfortunately it is slightly porous so that it can be flaked by thermal action (the action of frost & heat), fortunately for archaeologists when it has been struck by man there are distinctive features that help with identification.

Flint was formed in the chalk deposits in S England, 70 to 100 million years ago water percolated through the chalk & dissolved the silicon molecules within the chalk. Over the years the silica built up to form layers or nodules of flint. The silica frequently grew around a fossil & this produced the curious shaped nodules. As there is little natural chalk in Leicestershire there are very few large flint nodules & most of the flint is in the form of pebbles which have been moved from other areas by glaciation.

Flint comes in various colours – light or dark brown, grey or black; generally black flint knaps better than other colours & is easily seen when field walking, particularly after rain. However flint that has been in the ground for a long time can often be stained or re-patinated by chemical action and given a white, pale blue or pale brown coating. The main features to look for on man made flakes are shown below:-

Note the cortex is the original outer skin on a nodule or pebble



The bulb of percussion – a swelling created immediately below the point of impact (the striking platform)

The striking platform – a flat surface where the blow is placed

The bulbar scar – where a small chip has been removed just below the bulb of percussion

Ripples – concentric waves radiating across part of the face of the flake.

These features will show on the inner face of flake (the ventral), these will be reflected on the original piece of core in negative.

The outer face will have the outer skin of the pebble or nodule (the cortex), or it will show previous working but in negative



Blade Core



Blade struck from that core



Flakes showing some of the above identification features



On the left is a man made flake showing all the features, on the right is natural flake or pot lid without them.

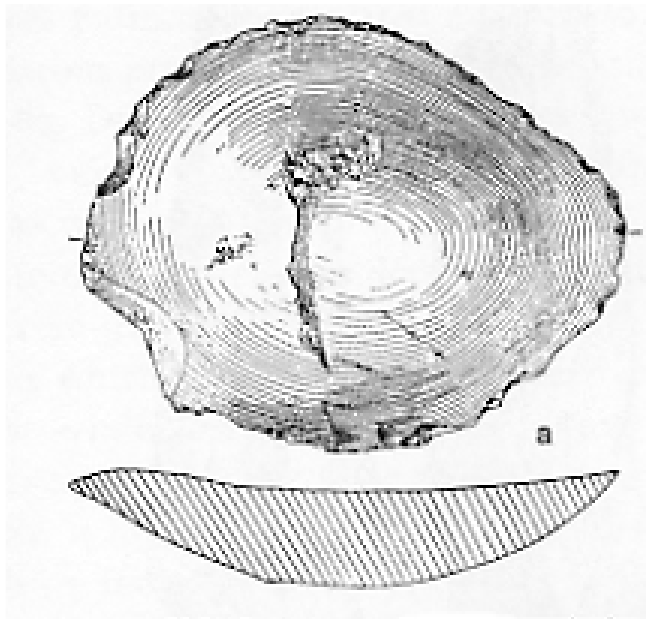
Natural fractures do not normally show the identification features, however flakes produced by modern farm machinery can reproduce some of them, normally these flakes will have a dull finish and will not have a striking platform, but identification can

be difficult. Where there is a shortage of flint occasionally a natural flake is retouched to produce a tool.

Below, the left hand photo is a natural flake, but turning over the flake the right hand photo shows that the natural flake has been retouched to make a scraper.



The top row are man made flakes, the lower row are natural flakes



(a) 'Pot-lid' fracture.

A)



B)

(A) Is a thermal flake (pot lid), B) Looks like a stone axe but is actually produced by numerous thermal flake removals or potlids and is not man made.

Flakes & blades

Knapping will produce many flakes before one is suitable for reworking into a tool, the amount of waste flakes depends on the skill of the knapper & the quality of the flint. Because the flakes are very sharp they can be used as a cutting tool without further retouch or modification. Blades have the same identification features but are narrow.

Tools

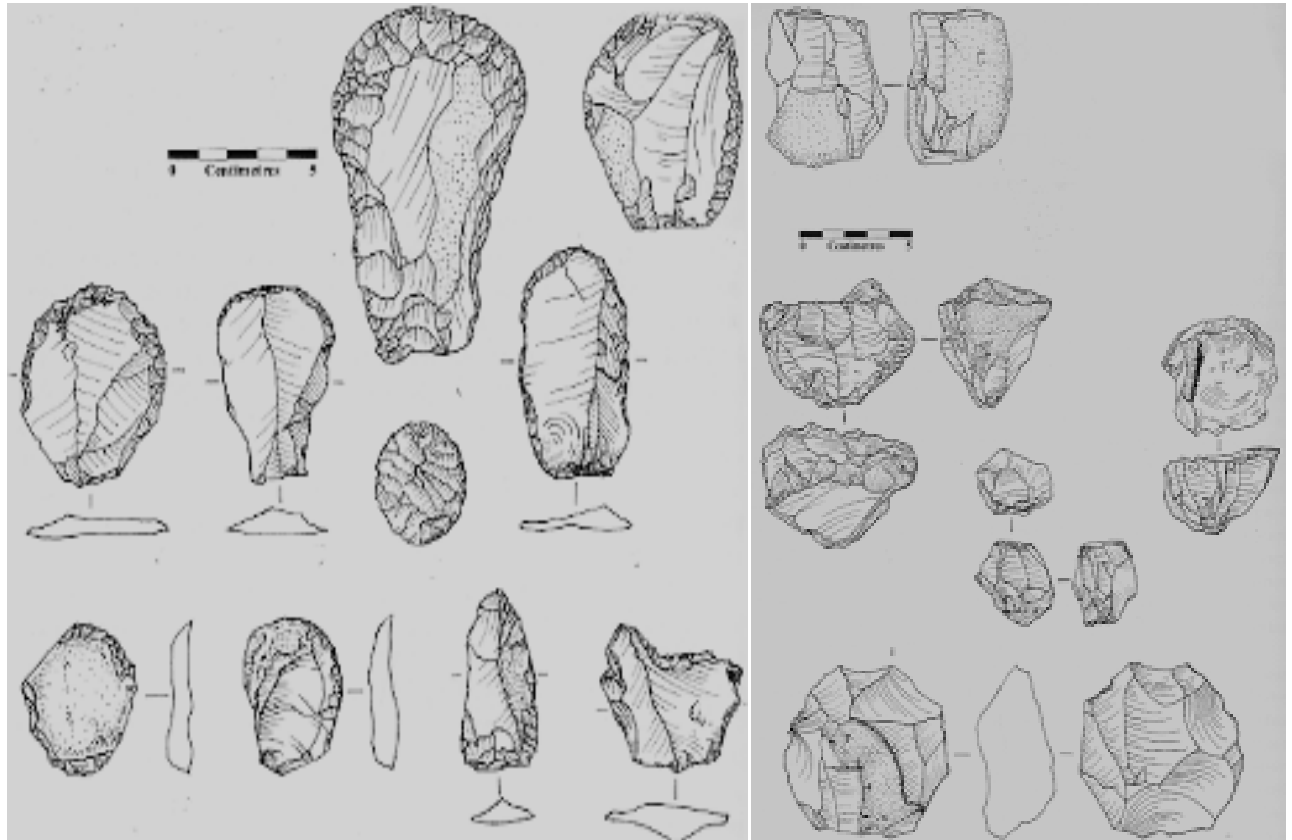
Tools (scrapers, knives, arrowheads, borers, awls, arrowheads, microliths, burins etc) will have been made from flakes or blades by retouching, normally with a deer antler, also called secondary working, or pressure flaking. This will often have removed some of the above identification features, but the retouch indicates clearly that it is a tool made by man. Some retouch can be difficult to identify as damage by modern farm machinery and flint knocking against other stones can remove small flakes that resemble retouch, but man-produced retouch is much more regular & the small flake scars will be continuous without gaps. Only the more common tool types are covered in this guide.

Cores

When the knapping has removed most of the flint from a nodule or pebble the remaining piece or core is normally discarded. If a fault has developed in the flint, the core will also be rejected. A scatter of waste flakes and cores suggests that man has been knapping in that area and is a good indicator of settlement. See examples below:-

Scrapers

Scrapers are the most common domestic tool found during fieldwalking, and are from most periods of prehistory and their distribution is a good indicator of settlement. They vary in size from 1cm to 7cm, but due to the limited supply of flint in Leicestershire these are normally the smaller. The amount and type of retouch varies according to the intended use of the scraper. The very small scrapers must have been hafted onto a wooden handle as they are too small to be held. See examples below:-



Scrapers

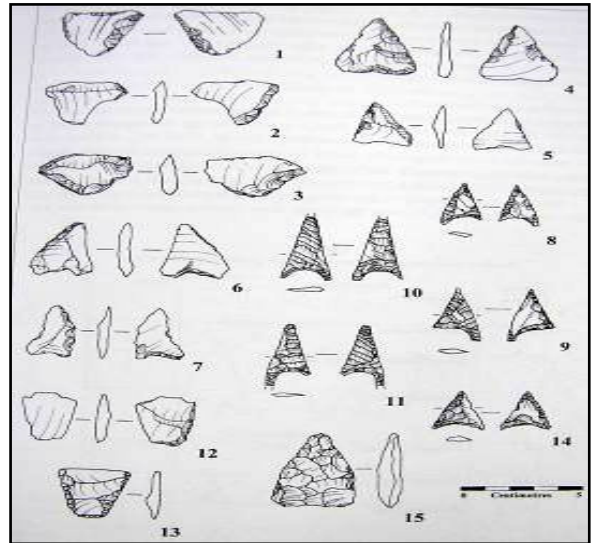
Cores



Various sized scrapers

Arrowheads

Arrowheads are frequently found during field walking and although they do not necessarily indicate areas of settlement they can be beautiful artefacts. Barbed & tanged arrowheads are easy to identify but other types can be more difficult as their shapes are unfamiliar.



Barbed & Tanged Arrowheads

Various Arrowhead types



Transverse & Chisel Arrowheads



Leaf shaped arrowheads

Knives

As mentioned, flint flakes are extremely sharp & can be used in untouched state for cutting, but for various reasons they were regularly reworked. Some retouch was to make them easier to hold by removing a sharp edge, others were worked to make a toothed edge so that it could be used as a saw, or finely worked over one face - the reason for this additional working is puzzling as this extra working does not appear to improve its suitability as a tool & suggests that they were used as grave goods.



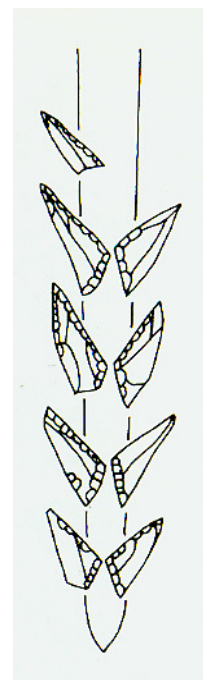
Knives

Microliths

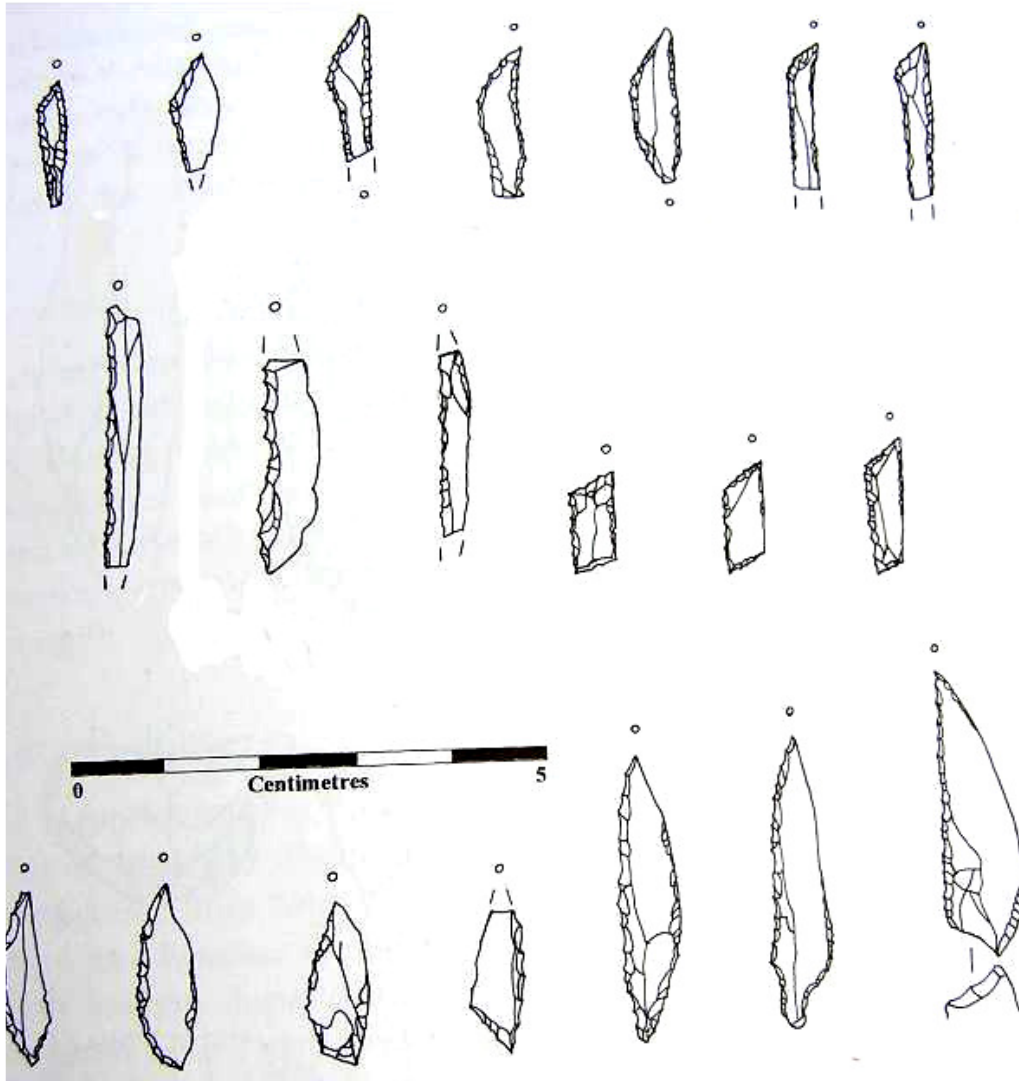
One of the major implement types used in the Mesolithic Period was microliths. These are made from small narrow blades & can be very small & difficult to spot when field walking, but not impossible. They are frequently used for composite tools where they are attached to wooden shaft to make arrows, reaping tools, harpoons, drill bits, etc. There are a lot of different types & the retouch can be very fine & not always immediately visible until washed.



Microliths



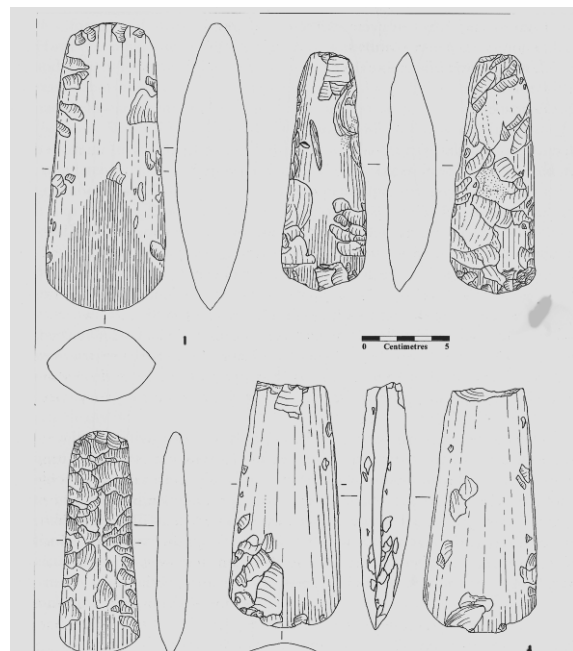
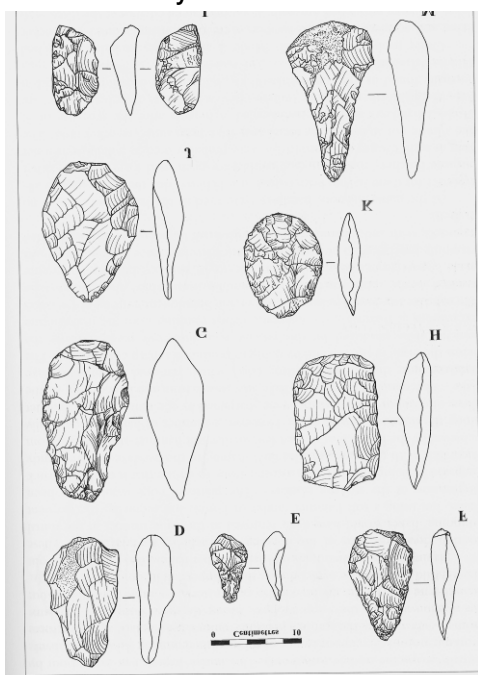
Composite tool



Various Microlith Types

Axes

Axes vary considerably from one period to another, from simple Palaeolithic hand axes to the finely ground Neolithic axes. The more primitive axes are quite difficult to identify in the field.





Small polished stone Axe



Flaked Axe

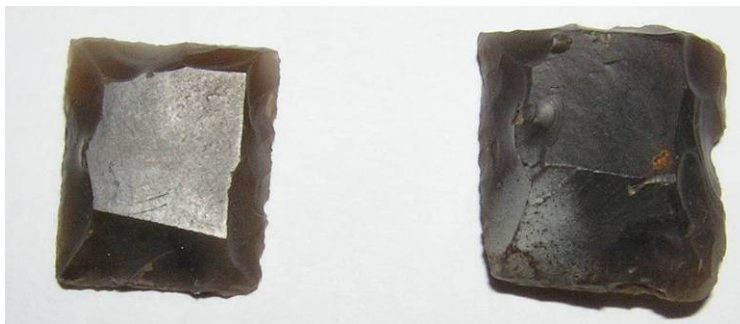
Burnt Flint

Burnt flint is often overlooked in the field & some say that it does not indicate prehistoric occupation, however it could have been used for heating water for cooking (a pot boiler), or can be crushed for use as temper in pottery. When flint is heated in a fire it turns to a light grey or white colour and is crazed all over and is fairly easy to identify.

Gunflints

All the previous discussion is about prehistoric flint, however flint was used for flintlock guns during the 17th, 18th, & 19th centuries. They are square or rectangular & will be unpatinated.

Warning – gunflints are still being made for the hobbyist flintlock gun market.



Gun Flints Approximately 1cm x1cm

Conclusion

Although guides such as this can help to identify flint, there is no substitute for regular handling of all types of flint artefacts. A useful procedure for field walking groups is that after a walk, individuals take home & wash their finds, and a meeting is then held when all the members are involved in the identification and there is the opportunity to handle all the group's finds.

Bibliography

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Web Sites

There are numerous web sites, probably the best route is to put the name of the enquiry into the search engine, e.g. flint scrapers.

Acknowledgments

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