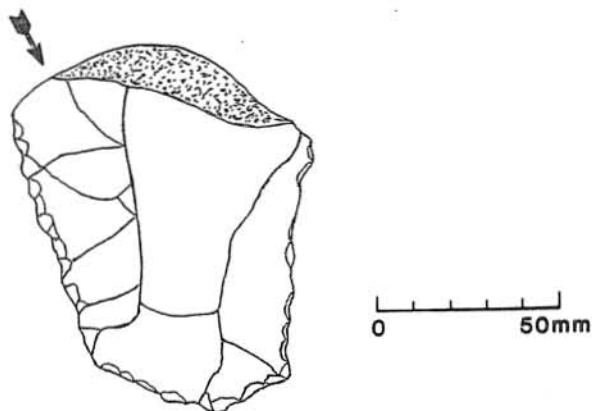


NOTES

A CHERT FLAKE IMPLEMENT FROM BROOM, DORSET

by Ted Masson Phillips



The various Broom ballast pits are well known sources of Acheulian hand-axes made from yellow-orange Greensand chert. However, I am not aware of many references to the occurrence also of flake implements. The illustration shows such an implement, formed from a massive chert flake, with some cortex, and with extensive secondary working on the face depicted. The other side is the smooth, unretouched bulbar face, the position of the bulb of percussion being indicated by the arrow. The flaking angle is slightly less than 90 degrees. This implement (in my possession) was found in 1950 in the old quarry-pit on the south side of the road close to Broom Crossing, at N.G.R. SY 3285 0230, and was lying among talus from the former working face. Any comments would be welcome.

DIRECT RADIOCARBON DATING OF STONE TOOL USE?

by Alan Saville

A recent article in the journal *Radiocarbon* (Nelson et al. 1986) draws attention to an intriguing new technique for applying radiocarbon dating directly to stone tools, by using the carbon content of organic residues adhering to the surface of a tool. Two examples are cited, both from British Columbia, Canada.

In the first example, a limestone flake has an attached organic residue identified as the blood of a snowshoe hare and interpreted as a glue for fletching arrows, etc.. A date of 1010 $\pm$ 90 BP (RIDDLE-120) was obtained on 3mg of carbon removed from this residue.

In the second example, a chert knife had organic traces

identified as human and caribou blood. From only 0.5mg of carbon from this residue a date of 2180 $\pm$ 160 BP (RIDDLE-121) was obtained.

The implications for the direct dating of the use (not the manufacture) of stone tools by this method are enormous, especially since it largely avoids the problem of context versus residuality so important to the phasing of lithic implements, even on well-stratified sites. Equally important is the associated work on the detection and identification of such organic residues as blood traces (Loy 1983), since this adds a whole new dimension to the study of prehistoric stone tool use.

As exciting as these developments are, they carry with them rather demanding implications for the treatment of stone tools during recovery and post-excavation analysis, i.e., do not handle or clean the piece in any way and avoid all possible contamination, even if there is only the merest hint of any adherent residue! Obviously only a very tiny proportion of stone tools are likely to have such adherents, but it is clearly necessary to know how these traces do survive, how they can be detected, and in what archaeological circumstances they should be expected. After the problems of the initial isolation and conservation of an appropriate sample, finding the laboratories to identify the residue (by isoelectric focusing) and to undertake the small-sample dating might be the easy part!

REFERENCES

- Loy, T.H., 1983, 'Prehistoric blood residues: detection on tool surfaces and identification of species of origin', *Science* 220, 1269-1271
- Nelson, D.E., Loy, T.H., Vogel, J.S., and Southon, J.R., 1986, 'Radiocarbon dating blood residues on prehistoric stone tools', *Radiocarbon* 28(1), 170-174

FLINT - A COLOUR PROBLEM

by Ted Masson Phillips

On Chobham Common, Surrey, I have collected fractured flint pebbles which are externally black and internally reddish-orange. They resemble the Eocene black flint pebbles from the Blackheath Beds and presumably have this origin but now form part of the Plateau Gravels of the Common. If one splits a Blackheath pebble the interior is yellowish-buff flint whilst the exterior is black. What is the explanation? Fresh chalk flint is blue-black (Ferrous Iron) so is it possible that the Blackheath pebbles are derived from flint already oxidised to the yellow-buff colour (Ferric Iron) and subsequently subjected to reducing conditions which produced the black exterior? At Chobham Common the pebbles have been split (by frost action?) and one specimen shows a pot-lid fracture. Then further oxidation has changed the buff interior to a reddish shade. I would be grateful for comments on all this. In the literature pebbles from the Blackheath Beds are described as 'jet-black', with no mention of the colour of the interior.