

of our current understanding to be instigated. Future publications by the Trust will include the considerable fruits of this work, which are moving towards more synthetic appraisals of their subjects. Lithic studies are now an established

element of the Trust's work and an integral part of the Annual Report. Studies of ceramic building materials, particularly of the Roman period, are also progressing and here too, the results can be quite spectacular, and are always interesting.

Future sites will provide new directions of study but all of them will also serve to reinforce these broader views of the material culture of different periods.

1 Identification of dye on Middle Saxon pottery from Christ Church College

Penelope Walton Rogers

A purplish red staining was noted on the inner face of a vessel recovered from a Middle Saxon rubbish pit, at Christ Church College, Canterbury. The vessel is of a local Kent fabric (MLS2) dated c. A.D. 750–85/75. Two sherds of the vessel were provided for analysis, of which one was tested.

To remove the colorant, the inner face of the sherd was swabbed with cotton wool soaked in an acid/alcohol mix (10 per cent aqueous sulfuric acid + Industrial Methylated Spirits, 1:2, v/v). The cotton wool swabs were then analysed for dye using techniques developed for the analysis of dyed textiles (Walton & Taylor 1991). After swabbing, the sherd was soaked in water for three hours, to remove any traces of acid.

The dye extracts were analysed by absorption spectrophotometry and then thin-layer chromatography. These procedures showed the presence of alizarin, with a trace of purpurin. Alizarin and purpurin are the principal colouring constituents of madder, the red dye derived from the roots of Dyers Madder, *Rubia tinctorum* L.

Rubia tinctorum is not a native English plant,

but there is evidence that it was being cultivated here as a dye source by the tenth century (Walton 1989, 400–401). It has been speculated that before that date the dye was imported: certainly, the merchants of St Denis, Paris, had established a trade in the dye by the ninth century (*ibid.*).

Madder staining has been identified on a number of other pottery wares. The earliest appears to be on seventh-century E-ware from sites in Northern Ireland and western Scotland (Walton unpublished a). The source of E-ware is likely to be outside the British Isles and the association of E-ware with madder could perhaps indicate that the one was used to transport the other.

The Christ Church potsherd is the earliest example of an Anglo-Saxon ware stained with the dye, although there are a number of later examples. Madder has been found on sherds from late Anglo-Saxon Thetford (Cole in Rogerson & Dallas 1984, 167), late Anglo-Saxon London (Taylor 1991, 169–170), late Anglo-Saxon and Anglo-Norman Winchester (Walton Rogers

unpublished b) and medieval Norwich (Walton unpublished c). Most of these are also locally made pottery.

The sooting often seen on the outside of these vessels and on the Christ Church sherd (and also on some of the E-ware sherds) suggests that the pots have been used for heating the dye. Most madder-stained sherds come from modestly sized cooking vessels, which would indicate small-scale domestic dyeing, where only a little bit of fleece, or a hank of yarn was dyed at a time. Madder-stained sherds seem to have disappeared from the archaeological record as dyeing developed into a specialist craft and the dyeing of whole cloths became more usual. On the other hand, there are other recorded medieval uses of madder, as a medicament, a colorant for ivory and antler and as a paint (when deposited as a 'lake' on a mineral substrate), and any of these would have required a pot and a fire to heat it on.

2 Scattered flints: lithic analysis during 1996–97

Tania Wilson

Over the past year there has been an increase in lithic studies at Canterbury Archaeological Trust, including both the detailed analysis of assemblages recovered from recent excavations and the examination of lithic material from sites excavated this year. The results of the analysis of flint artefacts recovered from the Monkton–Mount Pleasant excavations and those from the Medway Tunnel site are to be published in the near future. Rather than reiterate these findings, it is intended here to highlight some of the significant discoveries of the past year.

Lyminge

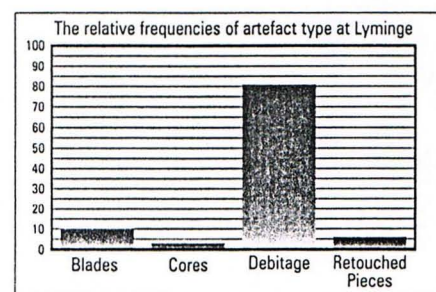
One of the best assemblages in terms of quantity and content was collected during the fieldwalking programme at Lyminge (see p.22). In all 873 purposely-struck flint artefacts were recovered.

Examination of the condition of the assemblage shows that the artefacts are quite 'fresh' and only a small number have slight patination as the result

of exposure to the elements. This indicates that the assemblage is almost certainly derived from the vicinity and has moved little from its original place of deposition. As part of the fieldwalking programme all the finds were plotted on a plan of the field in order to determine whether there were any noticeable densities. This exercise demonstrated that there were no apparent 'clusters' of flint artefacts and that generally they were fairly well distributed throughout the field. On close inspection, it was evident that over two-thirds of the assemblage had experienced post-depositional damage almost certainly caused by farming practices, such as ploughing. This implies that the artefacts had been redistributed throughout the topsoil, probably over a number of years, hence explaining the general distribution observed.

Overall the assemblage can be divided into the following categories; blades, cores, debitage (flakes and other knapping debris) and retouched pieces (implements). The relative frequencies of

these components within the assemblage are shown below.



It is clear that the majority of the assemblage consists of knapping waste and, additionally, a significant number of cores are present. This demonstrates that flintworking was almost certainly taking place within the locality. In addition a small number of chips (flakes less than 15 mm. in length) were recovered. It is unlikely that such pieces would be present had the material been knapped elsewhere and