

ANCIENT MONUMENTS LABORATORY

REPORT

3553

SERIES/No

CONTRACTOR

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Nov 1981**TITLE**Current environmental archaeology in
the Midlands

CURRENT ENVIRONMENTAL ARCHAEOLOGY IN THE MIDLANDS

James Greig and Sue Colledge

Recent pollen analysis work here at Birmingham and at Southampton University has greatly increased the amount of background information available on the Midland landscape at various times in the past. Hitherto very little was known other than the fairly obvious statement that there was originally thick forest which was cleared by stages until the present slightly forested countryside came into being. It might have been thought appropriate for Mesolithic man, living in a very forested environment, to have sung "Hearts of Oak", but new results show that "Unter den Linden" would have been more suitable, for lime forest seems to have been the predominant vegetational cover. The evidence comes from pollen diagrams from unusual sites like river meanders which provide evidence from places which hitherto had none, like the valley of the Severn (Tony Brown's work) and from the Stour, as at Cookley. Further evidence comes from the correction of the pollen results, because lime does not show up very well in pollen diagrams and its pollen records have to be multiplied several times before they give an accurate picture of its importance in forest cover. Further evidence still of this past forest comes from the present-day woods with limes like Shrawley Wood, near Worcester. Place-name evidence may also provide evidence of lime woods present when Germanic-speaking people arrived, with names like Lineholt giving possible evidence of past lime woods.

Prehistoric forest clearance badly affected the limes, and also the deep soils which they grew best in. Large-scale soil change and movement is being studied by Dr Susan Limbrey in relation to sites like Beckford, which have affected and been affected by soils. The changes after initial forest clearance must have often led to the stripping of much of the rich soil, and the leaching of what remained to give heath in some places, like Hartlebury Common, and regenerated secondary oak woodland where the soil was too poor for successful farming, in others.

Prehistoric landscape change may also be shown by the organic material preserved at the Bronze Age Bournville site. This has proved rich in insect remains which are being studied by Peter Osborne, who has a particular interest in this period because of finds from sites like the Wilsford Shaft (Wilts.) of some insects which nowadays live in more southerly parts of Europe. Climatic change is extremely difficult to prove against the background of colossal landscape change caused by settlement, but this is a very promising study. At Bidford-upon-Avon some organic material dated to the Bronze Age has shown signs of a landscape almost deforested to present-day levels, although without associated signs of settlement.

The environmental results from more recent sites, such as Iron Age and Roman ones, ^{are} providing evidence of the crops grown, as shown by the charred remains. Sue Colledge is trying to find out what was being done in different parts of an Iron Age building at Beckford, by an exceptionally detailed

study of the charred remains from the whole area excavated, grid point by grid point. Several tons of soil were sieved because there were only a few grains per bucketfull, and hundreds of charred grain samples identified and plotted on the ground plan, hopefully to find out more about the Iron Age.

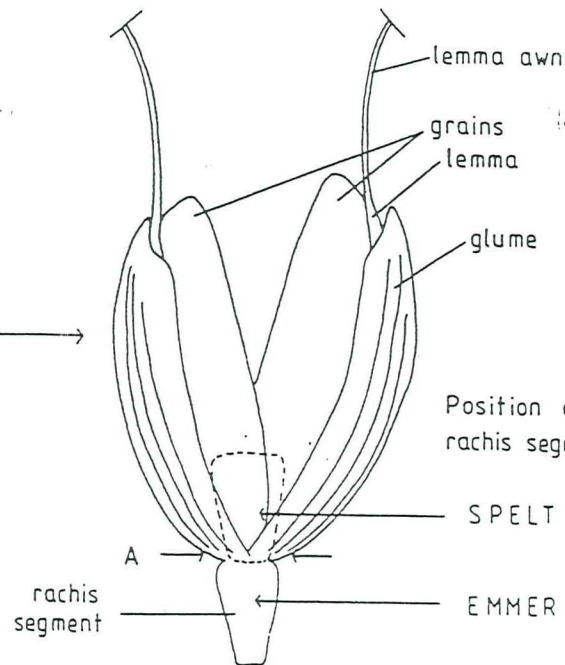
At Droitwich and Alcester, deposits with charred grain will prove valuable; these have large amounts of chaff, and it should be possible to tell at which stage in processing this grain / chaff mixture was burnt, and consequently why and where. It might have been chaff used to fire a bread oven, or the residue from grain drying prior to threshing --- it will certainly provide more information about activities in these Roman settlements. (Figs 1 & 2).

Food for thought, and even more direct evidence of human activities is provided by the study of the contents of a medieval latrine at Worcester (Greig 1981). Pollen analysis showed that the material was excrement with the eggs of intestinal worms (all long dead), and signs of bread or porridge remain as cereal pollen grains. Borage flowers (or honey) may have been present, too. Some of the seeds are from fruit which would have been eaten whole, like figs, grapes (were they locally grown, perhaps?) and strawberries. Other seeds must have come from household rubbish, as they would not have been swallowed, such as cherry, damson and food remains like chicken, herring, and eel. Another site of this kind about to be pollen analysed (in association with Dr Mark Robinson at Oxford) has even more personal interest --- the latrine is that formerly used by the sixteenth century Provost of Oriel College, Oxford.

WHEAT CHAFF

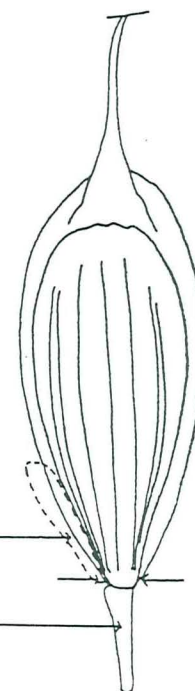


A Wheat spike.



A Spikelet.

(side)



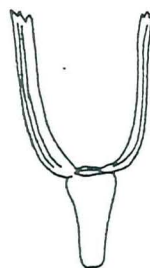
When the wheat spike breaks:

SPELT - the adherent rachis segment remains uppermost on the spikelet.

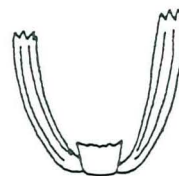
EMMER - the rachis segment is below the spikelet.

(N.B. There are always exceptions)

Emmer



Spelt



Spikelet forks

Dimensions A and B are larger in Spelt.

AN OUTLINE OF CROP PROCESSING (after G. Hillman)



1 THRESHING



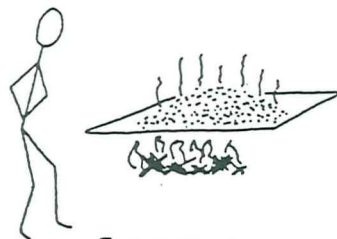
2 RAKING to remove straw



3 WINNOWING



4 COARSE SIEVING



5 ROASTING to render chaff brittle



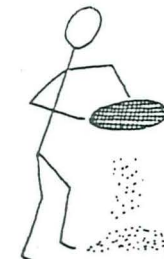
6 POUNDING to release grain from hulls



7 WINNOWING



8 SIEVING



9 FINE SIEVING to remove chaff and weed seeds



10 SUN DRYING to prevent sprouting



11 STORING



12 HAND SORTING to remove dangerous seeds eg corn cockle



13 MILLING