

Which way is archaeobotanical research going?

A review of the papers and posters at Groningen

The International Work Group for Palaeoethnobotany had its triennial symposium during a busy week for all concerned at the Biologisch-Archaeologisch Instituut at Groningen in the Netherlands in June 1983. The range of topics covered by the various contributions shows how this field of research is developing, and this article is a summary and discussion with some personal comment.

Ethnographic research

The best source of information on how farming was carried out in the past probably comes from people who still farm in a traditional manner, often growing traditional crops. Likewise our knowledge of gathering comes from observations of the use of wild plants. Both of these sources of information are disappearing rapidly, and it is of the utmost urgency that as much as possible is found out before it is too late. Botanists have realised the need to conserve primitive crop varieties in botanic gardens and gene banks, but archaeobotanists need to know how they were grown and processed in order to interpret archaeological remains. It is not just the onset of mechanised farming that is causing traditional ways to die out, for Gordon Hillman remarked that emmer cultivation is becoming very rare in Turkey because the women, who do the laborious processing, get the men to grow wheat which may not taste as good as emmer but is easier to process. New information from the Near East, and parallel work by Glynis Jones on the Greek Islands, is permitting the detailed interpretation of many cereal remains, determining the stage of crop processing at which charring occurred; this represents a very valuable advance on our understanding of what happened. This kind of ethnographic study requires an enormous amount of time and effort to see farming in rather inaccessible places and at various times of the year, and also in learning the necessary languages.

Important work is also being done by Professor Körber-Grohne on the fruit trees in parts of Germany. The primitive and traditional varieties of these are becoming very rare, and need to be recorded; in this case by beautiful water colours as well as in writing. Perhaps the British plum varieties need the same treatment!

Modern parallels and experimental archaeobotany

Ethnographic research has provided data on the exact content of grain, chaff, and weed seeds, at different stages of grain processing, and this now allows precise interpretation of archaeological remains. It seems important to be able to demonstrate scientifically that a particular deposit could have arisen in a given way. Several papers dealt with aspects of experimental archaeobotany, covering such materials as charred seeds, dung, and the detection of hay. The results should improve interpretation of some sites.

Very precise work

If anyone thinks that the identification of plant remains is straightforward, the chances are that they do not work in the field. The papers and discussions showed the value of long experience and great persistence in studying large seed floras and in identifying them as far as possible. The scanning electron microscope is being used for detecting surface characters on cereal grains. We all know the difficulties of assembling a large reference collection of material of proven identity in a form that is easy to use, at the same time as producing results that the archaeologists need, especially in the case of large groups like the grasses. The end result may be the identification to species of plants which have distinct ecological preferences, and hence a more detailed interpretation. Large fossil floras are important in showing the presence of taxa with rather low seed production or survival. In many cases, very abundant weed seeds may provide a large flora, but only sparse records of other plants. Apart from seeds, results of identification of non-reproductive parts of dye plants found at York were shown.

Such precision is assisted when the material studied is well preserved. Swiss work on whole ears of grain from lake villages shows that it is possible to have a very precise knowledge of what the cereals were like, and how they were grown and harvested. It is also possible to compare the characters of the whole ear of Triticum turgidum (in this case) with Gordon Hillman's identification characters from his study of modern varieties. Other papers and demonstrations showed the great interest in the specialist study of cereals that exists within archaeobotany, and progress is remarkable. Others have directed their thoughts to subjects like sampling strategy, which is valuable. There still seem to be areas worthy of discussion such as the numbers of seeds which have to be counted.

Distribution mapping, summaries, and historical comparisons

The natural follow-on from very precise results is the drawing of distribution maps to show which crops were where, and when, and comparison with what is known from historical sources. Several contributions dealt with this, allowing a knowledge of the history of agriculture or even of beer brewing to be gained. The history of use of food plants, and especially of fruit, is usually well shown by faecal remains like cesspit contents, giving data on diet through the ages. It seems that the Romans brought a large range of plants which they either introduced or imported into parts of Northern Europe, but when the Roman Empire came to an end so did the cultivation or import of these exotics, and agriculture seems to have gone back to prehistoric simplicity and lack of variety. In the Middle Ages and later on, more and more plants were introduced or imported, like plums, cherries, peaches and grapes, culminating with peanuts, which were found in 19th century deposits at Amsterdam. Some Canadian cesspits from the 19th century proved similarly interesting.

The amount of archaeobotanical information is probably sufficient to give a picture of changing agriculture and diet in much of Northern and Central Europe, but elsewhere data are very scarce. There seems to be a great need for results from South-west Europe and from parts of

South-east Europe too (although some results from Central Bosnia were presented).

How many disciplines?

Seeds were the main subject at the IWGP. Some people specialise in charred seeds and grain, and others in waterlogged seeds. A few did pollen analysis as well, or could identify other plant remains like mosses or wood. It seems that most people decide on a subject area within archaeobotany which they can tackle, realising that it would probably not be practicable to try to cover the whole field because it needs so much time and experience to do justice to each part of it.

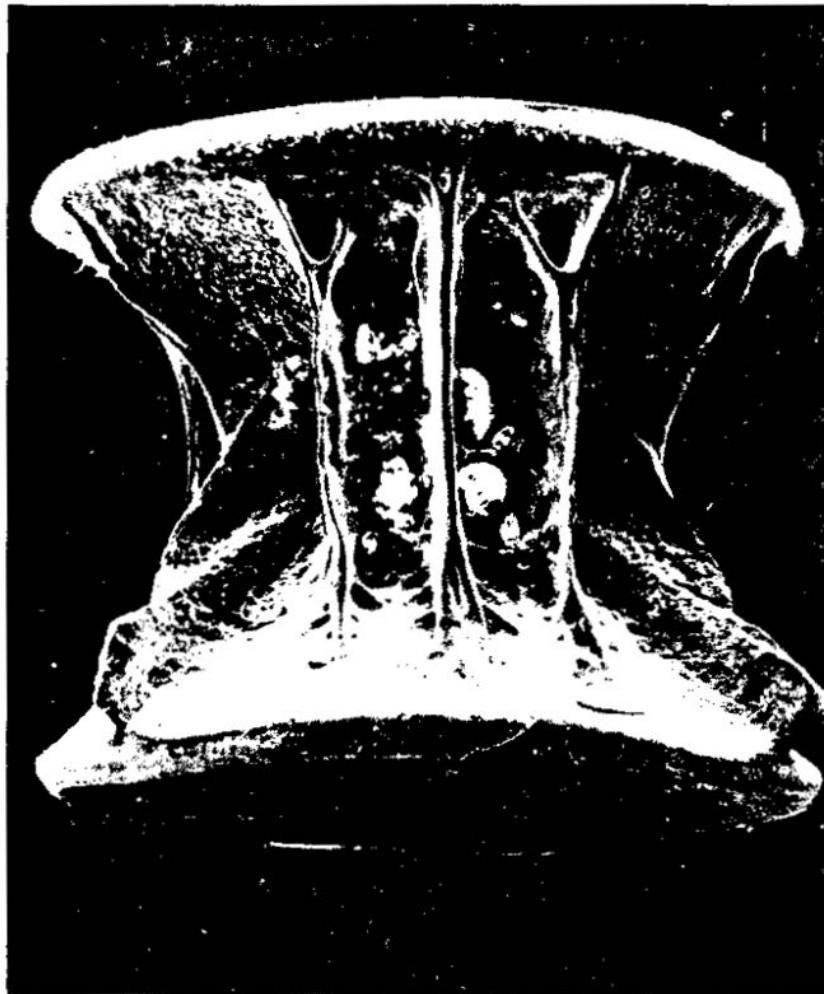
Collaborative work with specialists in other disciplines was not much in evidence at this botanical meeting, but some people said that they had round-table discussions to sort out interpretation according to the various lines of evidence.

Another way in which this subject is multidisciplinary is in the academic background of archaeobotanists. Those who have degrees in Botany will have had a grounding in pure science which is valuable even if it is then necessary to learn most of the necessary systematics and anatomy for doing archaeobotany. The archaeobotanists with archaeology degrees may have more experience in relating the results to archaeological questions than a pure botanist without archaeological experience.

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