

## Wheat International Workshop. London. 17th-18th December 1992.

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On the 17th and 18th of December 1992, a workshop on wheat taxonomy and identification was held in the Human Environment Department of the Institute of Archaeology. The aim of the workshop organised by Gordon Hillman, Sarah Mason, Dominique de Moulins and Mark Nesbitt, was to assemble a relatively small number of archaeobotanists with some special area of expertise in wheat in order to check and standardise some of the criteria used in the naming and identification of archaeological specimens. Another objective was to identify areas of study that still need to be done. About twenty five archaeobotanists from Germany, Switzerland, France as well as from all over Britain and one wheat geneticist took an active part in the workshop. In addition, around ten other archaeobotanists, mainly from the department, attended as observers.

The two days were divided into four sessions, each led by a chairperson presenting a particular topic. The first session was chaired by Terry Miller, a wheat geneticist from the Institute of Plant Science Research in Norwich. He presented the various nomenclatures for wheat that have been designated and led the debate as to whether a trinomial (where three names are used to describe an individual species, a practice recommended by some archaeobotanists) or a binomial (using two names, a more traditional approach) system should be used for maximum accuracy and yet clarity. A consensus seemed to be reached in favour of the binomial nomenclature. At the same time a note of caution against over-naming and over-identifying archaeological specimens was sounded because of the danger of forcing certain identifications into known categories although the presence of hybrids and extinct forms remains a possibility. The second part of the session was used to discuss the natural geographical distribution of wheat species and varieties and it transpired that very little is known about the natural distribution of wild species. Terry Miller gave as an example of uncertain distribution the case of *Aegilops squarrosa* which until twenty years ago naturally occupied the regions from Western Asia to Afghanistan but has now spread to China.

The second session was chaired by Stefanie Jacomet from the Botanisches Institut in Basel. She outlined the major criteria used for the identification of the chaff (mainly spikelet forks and glume bases) of glume wheat (such as emmer or spelt). On the whole there was a remarkable consensus amongst the participants in favour of these criteria and only one or two which had been used in the past were then discarded.

The next session, chaired by Gordon Hillman of the Institute of Archaeology, dealt with the chaff (mainly rachis internodes) of tetraploid and hexaploid free-threshing wheat (the type which unlike glume wheats sheds its grain readily at maturity, e.g. bread wheat). Gordon Hillman has made a special study of these rachises and has defined the criteria for identification which now seem to be used by all participants. It was pointed out that some features preserve better than others and that in any case, no criterion should be used in isolation and that a combination of two or three criteria is needed to reach an identification. One or two new criteria were pointed out by Delwen Samuel of Cambridge University; these everyone will check out in time.

The final session was introduced by Glynis Jones of Sheffield University. She had the delicate task to present the identification of grains. This is the most difficult part of the wheat plant to identify as there are so many overlaps in shape between the various species; this is why identification has to be made from the chaff which is far more diagnostic than the grain. Again, a few criteria used formerly were discarded and a lively discussion followed on the usefulness of using types instead of actual species names. The problem posed by the identification of the grains led to a presentation of chemical analysis by Frances McLaren of the Institute of Archaeology and the University of East London. Infra-red analysis of cereal grains can now provide the sort of identification that cannot be obtained from

gross morphology.

Each of the sessions was followed by a discussion on the standardization and quantification of the data in order to obtain comparable results.

The main objectives of the workshop were attained and in addition the archaeobotanists found useful to hear of the genetic background that underly many of the features they observe in the wheat remains.

A more detailed account of the meeting will be published in *Circaea*, the publication of the AEA (Association for Environmental Archaeology).