COMPUTER-BASED FILING SYSTEMS

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(Synopsis by J.D. Wilcock.)

This paper covered the ideal requirements for a generalised database management system. First, the program should be independent of the data format, handling a particular database by accessing a subsidiary file which contains the description of data fields in terms of starting columns and lengths. It should have a flexible input capability, allowing input from any known input device. Data validation is an important feature, allowing numerical values in particular to be checked for presence within specified ranges. There must be a capability for the building of files, and for the editing of existing files by amendation, insertion and deletion. Another useful facility is the automatic expansion of short codes to long words or sentences. Of course there must be information search and retrieval facilities, which can be enhanced by a sorting capability for the generation of alphabetical indexes. Report program generation is a common feature, with facilities for analysis, pagination and headings. Security, a term which covers the robustness of data files, checking of file names, and control of access by password validation, is another desirable feature. The control language for the system must be easy to learn and use, and specialist applications languages are frequent.

There are two main sources of database management systems. First, computer manufacturers usually provide standard database software. These systems have the advantage that program maintenance is carried out by the manufacturers themselves, but also the disadvantages of lack of specialist features (such as are often required by archaeologists) and incompatibility with computer hardware not designed by the manufacturers concerned. The alternative is to rely on "academic enterprise", i.e. the use of database management systems designed and written within academic institutions such as Universities and Polytechnics. These systems will often be specifically tailored to cater for the particular applications required by archaeologists. The software will usually be available free or at nominal charge, but unless the archaeologist is working in a team with the computer scientist he will usually find that modifications are impossible.

The paper continued with examples taken from the Sedgwick Museum catalogue system, illustrated by slides and listings. Typical prices quoted were:

Traditional reception and shelf cataloguing	60p/item
Computing charges (extra)	3p/item

In order to carry out the computing, records are prepared on a tape typewriter with upper and lower case facilities. Thus the capital cost of this machine must be added to the figures given above.

In conclusion, the most difficult part of the cataloguing is not the computing but the problem of overcoming the inflexible attitudes of traditional archaeologists.