DATABASE MANAGEMENT SYSTEMS, RADIOCARBON AND ARCHAEOLOGY

JC MOFFETT and RE WEBB*

Institute of Archaeology, 31-34 Gordon Square,
London WC1H OPY, England

An annotated card index of ^{14}C dates directly relating to
Old World cultural material of Palaeolithic and Mesolithic age
(>50,000 - ~7000 BP) and New World material older than 7000
BP was compiled in 1972 to include all previously published
dates. It is updated annually and currently correct to the
end of 1981. The need for such an index to reduce duplication
of research time spent in primary data acquisition has long
been implicity recognized. Indeed, many such data files may
already exist. We wish to discover the nature, scope, and
intercompatibility of other lists both to improve our own
system and to allow for an exchange of information without
unnecessary duplication. Our sources include SCIENCE and
NATURE but RADIOCARBON is the major source of information.
The general scientific and archaeologic literature has not
been systematically searched. Where possible, other published
lists have been consulted and additional dates incorporated
in our list.

The data file has now been transferred for ease to re-
trieval to a Z80A microcomputer at the Institute of Archaeol-
ogy, London. Part of the cost of data input was met by the
Department of Archaeology, Cambridge University. The Z80A
has a 20 Mbyte hard disk and a single 8-inch double-density
double-sided 1 Mbyte floppy disk drive, and uses a CP/M 2.2
operating system but can also read non-CP/M formatted disks,
eg, DEC disks. A database has been set up using the MDBS
package (MDBS, 1980), which is based on the CODASYL model
(Gagle, Koehler, and Whinston, 1981). Retrieval is permitted
of all or part of the data file selected by one or any com-
bination of the following keywords: site; layer; culture;
sample type; age range. Other options are possible. Detailed
information about the structure of the database and its manip-
ulation are given in Moffett and Webb (1983).

Radiometric age determinations are particularly suited
to analysis by database management systems since the necessary

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*Department of Extra-Mural Studies, 26 Russell Square, London
WC1B 5DQ, England

information can be broken down easily into a number of fields or keywords and selectively retrieved to answer different research problems. Data are input into three files which are updated annually. The main file comprises the individual dates which are broken down into the following fields: site name; site layer; cultural attribution; quality of association; sample type; sample quality; age; error factor; δ^{13}C; laboratory identifier; laboratory number; publication reference. Two separate library files are maintained giving all available site bibliographic information and standard laboratory pretreatment and counting details. The database is primarily intended as a research tool giving keyword access to the full publication of age estimates. Therefore, for a small charge, any interested researcher may request hard copy printout of part or all of the data file for any given range of keywords. For example, it is possible to list all dates for west European Magdalenian sites, or for the South African Later Stone Age, or all dates obtained on bone collagen or mollusk shells. It is hoped that floppy disks of the full database will soon be made available to institutions with compatible host equipment.

REFERENCES

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Moffett, JC and Webb, RE, 1983, Database management of radiocarbon dates, in Aspinall, A and Warren, SE, eds, Internatl symposium on archaeometry and archaeological prospection, 22nd, Proc: Bradford, England, Univ Bradford Press, 67-72.