THE MEDIEVAL DATA BANK

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THE Medieval Data Bank was founded at Rutgers University in 1982 by Rudolph M. Bell, Professor of History at Rutgers, Martha C. Howell, Associate Professor of History at Rutgers, and Peter Spufford, University Lecturer and Director of Historical Studies, Queens' College, University of Cambridge, England. It is a computer-based system for acquiring, analyzing, and distributing quantifiable data about the medieval and early modern periods of western history. The Bank is jointly sponsored by Rutgers and the Research Libraries Group, a corporation owned by major U.S. universities and research institutions that promotes, develops and operates cooperative programs in collection development and shared access to research materials. The Bank's principal data set at this time consist of some 20,000 exchanges among medieval currencies that took place between 1000 and 1500. These quotations, which until now have been almost entirely inaccessible, represent the core of a data base that will include a wide range of currency exchanges before 1800, more detailed information about the coins themselves, and, of equal significance, price and wage series from the period as well as other information that can be rendered numerically: demographic data, weights and measures, and biographical information drawn from wills, tax lists, muster rolls, or other legal and administration records. When the Bank is fully operational, scholars will be able to access data directly through the RLIN system operated by the Research Libraries Group, which is accessed by over 800 terminals in member institutions or owned by subscribers with their own modems. When the complete range of data is in place, the Bank, facilitated by its RLIN network, will allow historical studies of the pre-modern period which until now have been scarcely possible; for example, of the relationships among bullion supplies, prices and economic activity, between demographic change and economics, between monetary policy and politics, or between economic activity and cultural change. Ultimately, the Bank may substantially replace all published listings of medieval prices, wages and currency values and will eliminate the need for further costly and time-consuming publications of this sort.

Medievalists have, of course, already begun studies on a great many of

these questions and have shown an estimable willingness over the past two decades to make use of new technologies for storing and analyzing historical information with the help of computers. Machine-readable data exist on every subject from crime in England to miraculous intercessions at the shrine of St. Leonard in Bavaria. Efforts such as those of John Munro on cloth prices, of Harry A. Miskimin on mint outputs, and of Franz Irsigler on grain prices are widely known.

Still, there remain formidable problems in doing research on the Middle Ages to which the computer's potential has yet to be applied. At the same time, new problems have emerged as the computer has been increasingly put to use in gathering and analyzing data in this field. Long-published statistical data is, to illustrate the first problem, often difficult to obtain and to interpret: a price series, for example, may be expressed in currencies and units of measure obscure to all but the specialist and rarely directly comparable to prices outside the locality or time period. Even if rendered comparable by means of scattered published conversion tables, the series are difficult to analyze because they are so large; comparisons of more than two or three figures over several years are unfailingly cumbersome. While scholars theoretically are able, and in some cases have actually begun, to solve the problem by using computers for the tedious number-crunching, few individual scholars have the resources for this sort of endeavor. It is, however, not only older work that is inaccessible and of limited use: newer studies employing the most sophisticated computer technology are not fully usable by the scholarly community. Scholars who have assembled extensive machine-readable data sets for use in their own inquiries typically cannot publish them but can at best print only analytical summaries, in the form of graphs or tables, which do not contain the raw data other scholars might wish to employ in their studies. Even those lengthy appendices or entire volumes of statistical data occasionally published today are of limited use to the profession because they are so large that they can scarcely be analyzed without the computer—and a time-consuming, tedious and expensive transfer of the printed data into a new coding scheme usable by the interested scholar.

In short, older, valuable work is often underutilized and new work is not made fully available to the scholarly community. The Medieval Data Bank will address these problems, allowing scholars use of the data that has already been collected and making future research much more efficient. As presently designed, it provides five principal services:

1. Acquisitions of data sets that are already in machine-readable form. Facilities at Rutgers presently allow us to accept and read data on 9-track magnetic tape or on floppies. At present, the Bank will accept any data set; its main concern is *not* with purely text-oriented collections. Its intent is to concentrate largely on numerical files and the formulation of analytical techniques for correlating relationships across data sets. Donors may be allowed to restrict access to their materials under certain circumstances.

2. Assistance with the development of new data sets in machine-readable form. One of the difficult problems facing users of machine-readable data sets is the enormous variety, and occasionally the unfortunate choices, contained in coding schemes. While the Medieval Data Bank does not suggest a single, universal coding scheme for all projects, nor even for endeavors in seemingly related areas, its designers believe that good advice concerning appropriate strategies for encoding data can produce more accurate results that are easily accessible by other users.

3. Translation of existing data sets from one software and coding system to another, with the intent to supply most potential users of the Bank with machine-readable data sets acceptable on their instrumentation.

4. Development of ways to retrieve and analyze information across data sets. The Medieval Data Bank and RLG will collaborate in defining applications for which on-line access or down-line loading are appropriate, or those which involve the physical transfer of files from one data set to another. As more data sets are acquired, the problem of moving across them will increase in complexity. A principal function of the expanded Medieval Data Bank will be the development of techniques to link disparate files easily and quickly.

5. Creation of machine-readable data sets. In addition to accepting existing data sets on tape or disk and helping scholars create new ones, the Medieval Data Bank will foster or create new data sets from printed sources and from archival sources. This will be a time-consuming undertaking, but not an especially difficult one, for it involves simple coding or quantifiable data according to schemes already developed for similar kinds of data.

The potential value of the Medieval Data Bank is clear, but its actual value depends on making it accessible to the broader scholarly community and obtaining the support of other scholars who are working with or have

worked with data amenable to the kind of analysis the Medieval Data Bank can provide. The Bank's new relationship with the Research Libraries Group is an important step in attaining this accessibility, since the Group's capabilities, which include not only a network of more than 800 terminals nationwide, but a data base of more than 14 million bibliographic records, can be used in support of the Medieval Data Bank to ensure that Medieval data is consistent and co-managed with data from other fields and disciplines.