
The Medieval and Early Modern Data Bank at Rutgers

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Imagine that you are in Siena in the year 1368. You and your two brothers come from a wealthy family and have just been deposed from the city government by a revolt. After several days in hiding, you find that the new Sienese authorities will allow you to emerge and "remain at peace" in return for a fine of 100 gold florins. Now for the 64,000-florin question: how substantial was this fine? How many loaves of bread could you buy with it? Would it pay a craftsman's wages for a year? Or the rent of a substantial house? Could you have lived in luxury on it for a year, or in poverty for a month? If you chose not to pay, but rather to flee the city and await better times elsewhere, say, in Venice, or in London, or in Bruges, how many Venetian ducats, or English shillings, or Flemish groten, could you have bought with your 100 gold florins?

Historians of the Middle Ages all have encountered this kind of question. Currency fluctuations were even wilder then than they are today - with our weak dollar, strong yen, and political mark. Back in the spring of 1982, when I was writing the early chapters of a book on medieval saints, it took me the better part of two weeks simply to figure out how much work a craftsman such as a cloth dyer would have had to do in order to pay that fine, and that didn't even begin to answer the other aspects of the question.

What to do? It was puzzles such as this that led me, together with Professor Martha Howell, to found the Medieval and Early Modern Data Bank, which we refer to by the acronym MEMDB. Two circumstances then occurred to propel the MEMDB out of its tentative initial stages and into rapid development. The first of these circumstances was the generous donation to the project by Dr. Peter Spufford of Cambridge University of 13,256 medieval currency exchange rate quotations that he had compiled for his Handbook of Medieval Exchange. These exchange rates range in date from 1106 to 1500, and cover all of Europe,

Byzantium, the Levant, and North Africa. They now form the pilot data set of the Bank, as I shall demonstrate in a few minutes.

The second fortunate circumstance for MEMDB was that in 1985 it attracted the attention of the Research Libraries Group (RLG). The RLG, which is based at Stanford, is a consortium of major research institutions. Through its on-line information system known as RLIN (Research Libraries Information Network), the RLG links libraries, museums, record offices, and research institutes in North America and Europe to provide access to, at present, a total of some 28 million bibliographic records. The RLG was interested in expanding its scope to include non-bibliographic information, and offered to co-sponsor the MEMDB. As a co-sponsor, the RLG has provided three crucial services to the project: it assisted us in obtaining substantial funding for two years of full-time work; it developed the necessary computer software; and it offered to distribute the completed version of MEMDB on-line through its RLIN system.

Mention must also be made of Dr. Martha Carlin, who directs the day-to-day operations of the Medieval and Early Modern Data Bank, and who prepared the leaflet I trust you find before you. While I am here for a pleasant day in Washington, she is mired in the real work of adding new data sets to the Bank.

The MEMDB has now completed its first year of fully-funded work, and the results are exciting. We have succeeded in creating an up-and-running prototype version of the Bank that is designed to be used on personal computers, with Peter Spufford's 13,256 exchange rates as its data set. Copies of this prototype will be available publicly beginning this September, and I would like to spend the next few minutes demonstrating the system to you.

MEMDB was truly designed with novice computer users in mind. There are explanatory

screens that provide all the basic information on how to scan indexes, find data entries, custom-design tables, and keep desired results. For example, the welcome screen directs new users to an introductory explanation screen, and reminds more experienced users of the most common commands (FINd, SCAn, and STOp), and of the two handy help screens that EXPLain ACTIONS and EXPLain INDEXES.

Let us assume that we want to find out if Spufford's collection of exchange rates contains any entries that refer to London between the years 1300 and 1450. If we were to look in the index to his book, we would see that there are 29 scattered pages that contain references to London, and we would have to examine each of these pages individually in order to see if they concern the years 1300-1450. To conduct this same search in MEMDB, we first scan the general index by typing

SCAn LONDON.

This quickly shows us that there are 199 entries in Spufford's data that refer to London. To see them, we simply

press the F6 key

After a brief wait, we may

[scroll down the entries to find those that occurred in 1300-1450.] 31.

Let us examine one of these entries in detail, for example, by displaying entry number

[DISPlay] 31.

We notice that several of the fields have right-arrows; they indicate that the displays of these fields have been truncated. Similarly, there isn't enough room on a computer screen to display all the fields simultaneously. To see these off-screen fields, we

scroll to the right

until a message appears telling us that we have reached the rightmost edge of the table. In order to see a full-length display of all the fields in an entire line, we simply

press the F3 key

This will show not only all the fields of this entry, but also the entire contents of each field, without truncation. In entry number 31, for example, we see that on July 30 1387 a commercial exchange took place at London, in which 1 English pound sterling was exchanged for 26 shillings and 8 pence of Scotland. This amount is also converted for us into its decimal equivalent of 26.6667 shillings.

This full-length or "long" display also tells us that there is a background text to this entry, which we

press the F4 key to display.

As we

scroll down through the background text,

we see that it begins by describing the Scottish currency, and its relationship to English money; following which

[at the 9th screen down]

it contains a similar background history of medieval English money. If we

continue to scroll down, to the end of the text on English money

[7 more screens down],

we find ourselves at the beginning of Spufford's Introduction to his book, and if we were to continue on for about another 300 screens we would reach the Preface, at the end of which

(about another 122 screens) we would finally reach the end of the background text.

In fact, each of Spufford's exchange rate entries has an appropriate background text, and each background text ultimately leads back into the Introduction and Preface. For example, if we

DISplay 30 BACK

to look just momentarily at the background text for entry number 30, which involves Florentine florins and English shillings, we see that it provides background information that is specific to these currencies. This feature is of fundamental importance. MEMDB provides not merely tabular results, but makes available the full scholarly apparatus behind each specific datum.

Having looked at the background text, we might wish to look at the sources of entry number 31. To do this, we

ESCAPE, scroll down one item, and press the F5 key.

In this case, as we can see, the source is an entry in the Calendar of the Close Rolls, as cited by Spufford on page 212 of his Handbook.

If we wanted to know what other exchange rates were culled by Spufford from the Calendar of the Close Rolls, using the book, this would mean looking through each of the 13,256 entries. However, to conduct this same search in MEMDB, we simply type

FIND TITLE ?CLOSE ROLLS?

and in about 10 seconds we see that ten of Spufford's entries come from this source. Notice that instead of entering the entire title, I used question marks as "wild cards" to take the place of all other words and punctuation. This is convenient not only when searching for books or other types of entries with long names, but

also when one is uncertain about the spelling or wording of an entry.

To see what entries were taken by Spufford from this source, we simply

press the F6 key

to get a quick display. Obviously, what we have done here is to convert a text into a hierarchical data base, while retaining its textual features.

Perhaps at this point a user might wonder whether Spufford also consulted the Calendar of Patent Rolls or the Calendars of State Papers for his book. We can find out easily by using the handy "wild card" feature, the question mark, to type

FIND TITLE CALENDAR?

This shows us that indeed he used

[scroll down, one by one:],

the Calendars of State Papers Milanese, State Papers Venetian, and Patent Rolls, as well as the Close Rolls.

Now, perhaps, the spirit of bibliographical inquiry is really moving us, and we want to see if Spufford has consulted certain other works, for example, the work of Alan Stahl, director of the American Numismatic Society. To do this we check the author index, by typing

FIND AUTHOR STAHL?

and in short order we find that there are 37 relevant citations. Again, we can quickly see these by

pressing the F6 key.

Thus far we have seen how one can search indexes of places, authors, and titles, create

result sets of entries, and look at background texts and sources of individual entries. Now we can explore three more MEMDB facilities: reviewing and retrieving searches that we have already done, and custom-designing the tabular displays. To do this let us begin by typing

REVIEW

This displays for us a listing of all the searches performed during this working session. We can retrieve an earlier search, such as the entries on London, by

putting the highlight bar on that search and pressing the F7 key.

Suppose that we wish to redesign the format of this set of results, so that only a few of its elements are displayed in full, and the remainder suppressed so that they do not clutter up the screen. To do this we use MEMDB's

TABLE

routine to custom design our own table format. Let us say that we wish our table to display only the date, the place, and the type of exchange.

[TABLE NEW DATE 22 PLACE 25 CATEGORY 25],

We type these field names in the sequence in which we wish them to appear on the screen, following each field name with the number of spaces that we wish to allot to it. Here, for example, we are assigning 22 spaces to the date field, 25 spaces to the place field, and 25 spaces to the category field. A sample line of our new table design is then displayed in the centre of the screen. If we are satisfied with the new design, and wish to use it to display result sets, we can keep it by typing

TABLE KEEP

followed by an appropriate table name, such as

DATE-PLACE-CATegory

Now our result sets will be displayed in this new table design, until we change it again. For example, if we conduct a different search, for entries concerning the city of Paris,

[SCAn PLAcE PARIS; F6],

we find that new searches, too, are displayed in this format. Up to 36 different table designs may be saved and retrieved for use at any time. To use a previously stored table design, we can first list all the available table names by typing

TABLE REVIEW,

and then select a table format by typing

TABLE USE

followed by the name of the table we wish to use, for example,

STD,

if we wish to return to the standard table format used by MEMDB, or

TABLE USE NO-DATE

(a table format that we designed and kept the other day) if we wish to use a table format that doesn't display the date.

As a final demonstration of the many wonders of MEMDB, let us return to my original 64,000-florin question: what could you exchange your 100 florins for in 1368? This would be a nightmarish search in the printed book: we would have to look at each of the 13,256 entries in order to find those that dated from 1368. In MEMDB, however, nothing could be simpler: we simply type

FIND DATE 1368

and then see

at entry number 1

that a Florentine florin could be exchanged at Toulouse for 12 gros tournois of France;

[move highlight bar down to entry no. 10]

or at Antwerp, for 27.0833 Flemish groten; or

[move highlight bar down to entry no. 11],

at Aachen, for 33 schillings of Cologne;

[move highlight bar down to entry no. 35]

or, in Rome, for 27 Flemish groten; or

[move highlight bar down to entry no. 37]

in Sicily for 6 Sicilian tari; or

[move highlight bar down to entry no. 38]

in England, for 3 shillings; and so on.

[STOp using MEMDB.]

That's the end of our on-screen demo; I'd like to conclude now by telling you something about the future of MEMDB. Essentially, MEMDB is a continually-expanding computer-based reference library for medieval and early modern historians. When MEMDB becomes an on-line facility, accessible through the RLIN system, we will be able to expand the Bank's scope to include virtually any scholarly compilation of data that can be presented in a tabular format. Thus we will include data on such subjects as wages and prices, household size, mortality, wealth, manufacturing, property-holding, and nutrition, to name only a few categories; drawn from such sources as taxation records, wills and inventories, parish records, import and export

records, household and estate accounts, prosopographical studies, archaeological reports, and so forth. Always, we will retain full textual background for individual data items.

We will also provide on-line reference aids, such as glossaries of weights and measures, gazetteers of Latin and vernacular place names, and calendars of dates. In addition, we will be a clearing-house for information about data bases that are in progress or are held by other institutions, both here and abroad. Finally, MEMDB will serve as a prompt and effective means of publication for scholars whose data bases are too costly to publish in print, and too clumsy to publish in microform. We will be able to incorporate such data bases into MEMDB's master data set, so that they will be simultaneously and mutually searchable, while at the same time each individual entry will retain its own original documentation, as we saw with Spufford's data. We will also gladly accept data collections offered to us that are valuable, but which do not particularly complement other material currently in the master data set. In such cases we will archive the data off-line, and will make these studies available to users through our Rutgers office.

I have tried to show you something about the Medieval and Early Modern Data Bank. Please pick up a leaflet and by all means do write or telephone us with any ideas and suggestions you would like to share with us. Thank you.□