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The IASSIST QUARTERLY represents an international cooperative effort on the part of individuals managing, operating, or using machine-readable data archives, data libraries, and data services. The QUARTERLY reports on activities related to the production, acquisition, preservation, processing, distribution, and use of machine-readable data carried out by its members and others in the international social science community. Your contributions and suggestions for topics of interest are welcomed. The views set forth by authors of articles contained in this publication are not necessarily those of IASSIST.

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Educating the data user

Introduction

Finding information today need not mean going to a library. One can put a data diskette into a microcomputer, dial a remote mainframe through a modem, or turn on a CD-ROM drive from a desk at home, from the office, or from a college lab. And the information sources accessed can be as varied and as complex as the collection of a college library. But has the ease of access to information sources increased "information literacy", the ability to define a search strategy, identify good access sources, retrieve appropriate materials, and evaluate sources located. Probably not. Information skills in use today are too often identical to those used when the gateway to information was the library's card catalog and the Reader's Guide!

New information access skills must be developed. Retrieval skills which can fully exploit the potential in contemporary information access by combining traditional print sources with electronically generated media in an innovative synthesis. To meet this challenge, a growing number of American colleges and universities have added modules on electronic information access to their bibliographic instruction programs. Many articles in the literature describe their successes and failures. But an examination of this literature indicates that no specific attention is given to public data in machine-readable format.

Despite the growing importance of datafiles in business, public administration and academia research, public data is still discussed primarily in its print form in bibliographic instruction. Obviously this doesn't mean college students don't learn about data. Quite the contrary. College courses in business and the social sciences are very quantitative in keeping with the reality of the way business and research is conducted today. But the objective of most quantitative courses in these disciplines is the development of technical and analytic skills, not the acquisition of information proficiency. Often instructor-created, the datasets used in course-work offer analytic problems but bear no relation to actual public data sources. Data sources which these same students will surely use on a regular basis in their careers in business, in public agencies or in academia. The failure to teach them to design search strategies which include numeric datafiles, to evaluate the usefulness of these files alongside the same information in other formats, and to acquire these files in the most efficient manner possible, leaves a large gap in their training. Identifying and locating good numeric data sources and choosing among the storage formats available are important information skills.

At Baruch College, City University of New York, the objective of the Library Instruction Division is to educate faculty and students, graduate and undergraduate, to the vast possibilities of the contemporary information
environment. We have included all the varied sources the Library presently collects, including machine-readable datafiles. We treat datafiles as an as an information resource, leaving to others the analytic training of data users. The purpose of this panel is describe the efforts that have been made at the college to incorporate numeric datafiles into a very varied bibliographic instruction program and to underline the importance of bibliographic instruction in the training of data users. The panel consists of members of the Library Instruction Division each of whom, besides their instructional responsibilities, has responsibility for another data-related library function. Each of the panelists will discuss their individual roles and the work they have done in developing the methods being used in this program. But first some information about Baruch College.

Baruch College is a four-year college, predominantly undergraduate. It is part of one of the largest public university systems in the United States: the City University of New York. It consists of three schools, Liberal Arts, Education and Educational Services and Business although its primary strength, and the majority of the student body, is in the business fields. Most of the graduate programs, which include a Ph.D., are in business fields. To meet the needs of its students and faculty, the Library began an instructional program more than 15 years ago. Its goal was and is the improvement of the level of “information literacy” among Baruch graduates and faculty.

The Baruch programs emphasize the responsibility of the researcher or information consumer to develop appropriate strategies for finding information, to become knowledgeable about major sources in a field, and to choose access methods most appropriate to the problem at hand. Extremely sophisticated and complex, the course offerings have responded to changes in the information environment students are expected to work in. The program offers levels of education and training suitable for students and faculty with differing needs and differing backgrounds. The offerings include:

- Library Orientation Exercises
- Library Research Workshops — one or two lecture modules given within another course to meet specific information objectives within that course
- Bibliographic Instruction Courses — 3 credit courses designed to teach the conceptual aspects of information access as well as the specific skills of information retrieval
- Computerized Information Services Training Seminars — Programs designed to teach online information access;
- Data Resources Seminars — seminars devoted to machine-readable numeric datafiles
- specialized Study Center to provide resources and training for graduate business students.

The most recent addition to this multi-faceted program is a curriculum, currently under development, for an information studies major and minor intended for those students in liberal arts, business or education who are interested in pursuing information, not necessarily library, careers.

The papers presented as part of this panel will detail how numeric datafiles, public data sources, have been incorporated into the varying parts of this program.
Educating the data user: the data archivist and bibliographic instruction

by Bliss B. Siman
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Information specialists have long been aware that graduates usually leave academia with only a rudimentary knowledge of information strategies and resources. The expansion of information access opportunities has not changed this situation radically. In the area of information about public data sources, the gap between what students know and what they could know, is tremendous. At Baruch, this problem is particularly important because there are few areas more dependent on information access and utilization, particularly in machine-readable formats, than business, and few academic disciplines, therefore, in which this "information gap" has greater significance. Since the Library at Baruch College provides access to information in almost all currently available formats: print, microform, audiodisc, microcomputer diskette, CD-ROM, and machine-readable data files, its instructional program has tried to include all of these information technologies in its workshops and courses. Sometimes this has come about quite by accident.

When the library began to collect machine-readable data files (MRDF), the activity was assigned to me based on my expressed interest. Since it was not a full-time assignment, I continued teaching in the bibliographic instruction program. In retrospect, it was a fortuitous combination of responsibilities. Working with data users, I became aware of the gaps in their information skills, the very skills I was teaching in my sections of the "Information Research in Business" course. Most data users were capable of using SAS or SPSS.x to analyze their data, and many could write elegant COBOL programs, or download data into LOTUS, but almost none had training in how to search for and identify quality data. Few graduate students or faculty members were sufficiently aware of the vast potential of public data for their research or teaching.

Surprisingly, many sophisticated faculty researchers continued to use datasets first introduced to them by their Ph.D. mentors simply because they were unaware of alternatives. Few were familiar with the varied storage media for data and how these could be effectively combined. For example, a faculty member working on a project using the Census of Population and Housing on magnetic tape might be totally unaware that portions of the work could be better accomplished using the same data in print. Clearly there were many exceptions to this bleak picture, but data users were not able to use the wide variety of sources available due to lack of information skills. Finding the means to overcome this deficiency became an important objective of a combined

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1Presented at the International Association for Social Science Information Service and Technology (IASSIST) Conference held in Washington, D.C., May 26-29, 1988
Data Archives/Bibliographic Instruction Program.

At the same time that the Data Library was being developed, other sections of the instructional program were beginning to include numeric data as part of the information process being taught. Online computerized retrieval services began to provide access to numeric data, and instruction in print sources of data was increasing in sophistication. Naturally, with all these programs being developed in the same division, there was a good deal of beneficial "cross-fertilization" in the planning and implementation of the instructional programs as well as the data service. Recognition of the competitive importance of numeric, quantitative information in business reinforced our desire to equip Baruch graduates, many of whom are the first generation of their families to go to college, with the data access skills they lacked. With respect to information literacy, business requirements were growing and we wanted to be sure that our students were prepared. Our method of attacking this problem also reflects a basic philosophy that information resources in general are underutilized due to the public's lack of training and education in research resources and research skills.

Consistent with this philosophy, the Data Resources Service immediately organized a seminar series to introduce users to numeric data sources. These seminars, which are still offered on a regular basis, were organized by subject field and publicized to faculty and graduate students. Unlike many similar seminars given in computer centers and data archives, these presentations included not only discussions of important datafiles, but also information on the same data in print, or the major print reference works in the same field. Often the data being discussed was also available through online vendors or on microcomputer diskette, and the criteria for using the various media were presented with practice problems to illustrate important points. The objective of the seminars was not to provide a "shopping list" of datafiles, but rather to equip the audience with the skills to find and evaluate the data needed for a particular project. Most importantly, no seminar failed to include information on important sources, whether data archives, government agencies or private vendors, of new data in the field, both general and specialized resources.

Models for locating data in a new field were discussed. These strategies paralleled those taught in the "Information Research in Business" course, in which students are equipped with the ability to identify sources in new fields as a basic part of modern information retrieval skills. The reception this information received underscored the need the modern data user has to identify quality data when beginning research in an unfamiliar area. For new graduates in entry-level positions, such skills can be invaluable. Many of these seminars included an online demonstration of some dataset using, where appropriate, SCSS (the interactive version of SPSS). The object of these seminars was to present MRDF in the context of other information sources, as well as to educate users in the available resources.

Initially, the target audiences were those who were already data users, individuals who had used data and were probably aware of the limitations of their knowledge of public data file availability. Because they were knowledgeable about data, they particularly appreciated training in strategies for finding data sources when the usual avenues were unproductive. These users were also receptive to information on selection of format of data, because they were also not aware of the many choices that could be made. Widening the scope of data knowledge and information retrieval skills among attendees was the primary objective of the first seminars. This objective remains central, although the seminars today are often presented to those who don't know very much about data. Of necessity, lists of data files are distributed when the seminar is attended by new data users. Although analytic
issues are sometimes discussed, research methodology is never the focus. When Baruch became the coordinator of the ICPSR membership for the City University, these seminars were extended to the entire University with equal success.

Building on this basic format, we have experimented with workshops which include specific demonstrations of data sources that appear in online format, perhaps in print, and as machine-readable data files. For example, the Trinet database, which contains market share data for companies, is issued online and on magnetic tape. The Computer Search Services Librarian and I conducted this seminar to demonstrate the pros and cons of using numeric data online versus on tape. Baruch faculty and graduate students have become informed users of online information services, partly because these services have been free, and partly due to the excellent assistance that has been available to online users. But the consequence has been an expectation among the clients of the online services that all information, bibliographic and numeric, will be found neatly set up in database format, easily retrieved by a packaged query language. Seminars in which the nuances of using different formats has been presented, have increased the sophistication and information proficiency of faculty and students, especially the graduate students.

On the other hand, one can be too successful in encouraging data users to become aware of the wide variety of data sources available. The demand for data increases and the multiplicity of data requested creates budgetary problems. Since our graduate students are primarily in business fields, their need for expensive financial and economic data cannot always be met within the Data Resources Service budget. Finding ways in which to meet their needs is a constant challenge. Recently the number of very specific, very limited financial datasets being requested (example: 10 years of currency prices for five specific countries) went far beyond the capacity of the Baruch computerized information services. Methods of creating datasets, rather than purchasing them from private vendors were explored.

Using an online vendor, I. P. Sharp, we downloaded small amounts of data to meet specific needs. In order to make the data more widely available, they were also uploaded to magnetic tape on the mainframe and listed in the data archive holdings. As another alternative, microcomputer diskette data sets in Lotus 1-2-3 format were also created. We are hoping that knowledge of these data will encourage users to plan their graduate theses, etc., around data that are available rather than devising projects dependant on costly new data sets. However, philosophically, it was important not just to create these data sets ourselves, but to educate users to the benefits of this technique, a technique that could be very useful to faculty in their current work and to students in their future business roles. Consequently, the entire process was demonstrated at a data seminar. The demonstration included how the data were identified, accessed online, downloaded to diskette, uploaded to magnetic tape and then accessed using SAS. At the same time, the use of the data at each intermediary step was discussed, providing greater depth to the users' understanding of the pros and cons of each technique.

As the variety of formats increases, we see increased possibilities for this type of seminar. For example, seminars on the census, could present alternative methods of searching for data files, beginning with bibliographic searches online, as well as the choices to be made among formats: print, microfiche, Cendata, machine-readable data files, diskettes, CD-ROM, etc. Census data are very much underutilized at many colleges of the City University, and we believe such instruction will assist users in identifying valuable data not previously considered.
Most of this discussion has focused on the kind of training given sophisticated data users to improve their information skills. But the Library Instruction Division and the Data Resources Service have been equally engaged in a dialogue concerning the competence that undergraduate students should master in order to attain "information literacy" with respect to public data sources. Actually, this dialogue is part of a continuing discussion and re-evaluation of the entire bibliographic instruction program, necessary in a rapidly changing information environment. There is not yet consensus on what represents an adequate set of information skills.

Although the Library Instruction Division (LID) offers a basic course in information research in business (Library 1016, Information Sources in Business) the core of materials covered has changed over time. In fact, although all instructors teaching the course use the same text and give uniform exams, there is considerable flexibility in planning the curriculum. Instructors are encouraged to experiment with materials and share their successes or failures with colleagues. As the importance of public data sources became recognized within the LID, the department began discussing methods of including this information resource in the curriculum. Frankly, a complete answer has not been arrived at, although several configurations have been used.

Clearly, undergraduates do not need sophisticated knowledge of public data, but they do need some awareness of the role of raw data in the information process, of the availability of data for secondary analysis, and where data can be obtained. The inclusion of data sources in the curriculum reinforced some of the conceptual goals of the course as well. Mastery of the development of search strategies is an important objective of the course, and data files, due to the lack of bibliographic control, provide an excellent example of non-standard information search strategies. The process of searching for data is, of necessity, very different from the index searching model which undergraduates come to assume is relevant in all situations.

Awareness of raw data files and of what constitutes an authoritative source in this field reinforces another objective of the course, that of enhancing the students' ability to evaluate the information they consume on a daily basis. Polls and government reports based on data are constantly presented in newspapers, magazines, etc. Questioning the data on which these reports are based is an important attribute of the educated citizen in private or professional life. By including data as an information resource in the research course, we are equipping students the better to handle this important task.

Working with my colleagues, I developed several different instructional modules which presented numeric data and the different formats in which they come. The lectures contained explanations of machine-readable data files and the nature of secondary analysis. Basically, I wanted students to understand how data are used in business and academic research and the retrieval methods used to find data files. These lectures were tied to different units of the course, depending on the instructor: marketing in one case, social science research in another. In each case, the lectures built on what the students had already learned about information access and retrieval as well as emphasizing the evaluation of sources. The lectures always included a demonstration of data use in an area that would pique students' interest.

During these demonstrations, students were encouraged to participate in the development of a hypothesis and the testing of it with data at hand. Although this technique was borrowed from modules developed for sociology courses, the emphasis was placed on information dissemination and evaluation issues rather than
on research methodologies. These demonstrations were very effective in making students aware of the whole process of research transmission, but it is not clear that the best combination of subject year and lecture format has yet been found.

Despite their success, these lectures have not yet become a standard part of the course for several reasons. As with every academic institution, we are understaffed. It is not always possible for me to do these lectures at the appropriate time in each instructor's syllabus. Nor do the instructors necessarily have the time in a single semester course to devote a full lecture to data files. The amount of material we would like to cover in a course is far greater than can be managed in a semester. Topics are constantly being juggled as we search for the optimum mix. However, the Department has a commitment to including the identification and retrieval of data files in the basic information course because we feel that use of these sources is an important information skill. Data users must first be able to find data, and the bibliographic instruction course can equip them with the skills to do the job efficiently and cost-effectively.
Undergraduate education and data:
The entry level information specialist experience

by Eleanor Langstaff
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"The medieval historian M. T. Clanchy has illustrated the reluctant acceptance of written documentation in place of first-person witness over more than three centuries of early English history. 'Documents,' he tells us, 'did not immediately inspire trust.' People had to be persuaded that written documentation was a reliable reflection of concrete, observable events" (Zuboff 77). Although it is true today that at one level people will accept anything in writing as probably authoritative, and all statistics as incontrovertible, in most of our working environments a higher level of sophistication obtains. From time to time there may be an urgent desire to replicate surveys available in archival form, a survival from the 12th century where the spoken word, direct experience, had a validity not available in documentary evidence.

The real problem, however, is more substantial, and deals with the nature of information, with those basic characteristics of information that make it what it is: transferability without diminution, growth each time it is used, its accumulation at meteoric rates, the increasing dependence of each new management decision on prior cases. In the federal government, for instance, according to Wilson Dizard, as early as 1979 there were 600+ database management systems installed (Dizard 81); by 1990, it will cost nearly $10 billion to maintain the computers and $2 billion for modernization. Of course, these levels of growth are reflected in the private sector.

The impact of information technology on society has been variously described in terms of lessening labor or improving final quality. Shoshana Zuboff, in her In the Age of the Smart Machine characterizes it as resulting in a comprehensive "textualization" of work, the creation of a new symbolic medium, an "electronic text" that increasingly mediates between workers and their work, between the body and the task. We are well aware of this phenomenon: the surrogate level, in the index, abstract and full data levels. In the information process, work becomes abstract, the manipulation of intangible symbols rather than concrete objects. Zuboff's concern is with process, not with the accumulated data it engenders, but I suggest that where work is increasingly done in a technological mode, no matter what attitudes people may have about information, it continues to increase and require management - a kind of management which cuts across present functional lines and which most futurists, such as Shoshana Zuboff and Harlan Cleveland in his The Knowledge Executive, assert to be destroying the hierarchical structure of organizations. Although I have not observed this phenomenon, except as it apparently engenders anxiety in certain groups when discussed, it is one of the justifications for the academic preparation of

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end-users of information (Atkins, passim; Debons, passim; Porat, passim). So too the permanent growth of data is justification for providing new kinds of information intermediaries (Duffy, passim; Schmidt, passim; Spivack, passim; Topics, 77).

What I would like to do this morning is to describe to you, for the purpose of discussion, the Information Studies Program now in the design stage at Baruch College, in the hope that a such discussion will provide material with which we can fine-tune our work, to make it more responsive to the workplace.

The Information Studies Program is based on three premises based on perceived need:

1. That information has value to society, to organizations and to individual professionals.

2. That personnel are needed who understand and are able to organize and utilize information effectively.

3. That to reach enough information users, programs in Information Studies are needed at the undergraduate level.

What is the Information Studies program? This inter-disciplinary program focuses on the use and users of information as well as the technologies involved. It provides students with the conceptual bases they need to work in an information environment and some professional training. When taken as a minor concentration it complements a major—business, one of the social sciences, or one of the natural sciences.

Baruch College, offering as it does fully accredited business, health care administration, education and liberal arts programs, is in a unique position to offer an Information Studies program which is responsive to the needs of a changing economy. One of the senior colleges of the City University of New York, it has an enrollment of about 14,000 and houses the business programs of the university. There is a growing need for information specialists in business, science and education; the marketing of information products is one of a growing number of examples that dramatically illustrate the viability of the Baruch meld of information studies and business.

In 1981 Baruch College began to develop and offer courses in the discipline of Information Studies and at present has five advanced courses approved by the Board of Trustees, and four courses approved by the School. The design of these courses is based on our view of the nature of information studies.

In spite of the growth of programs for training information professionals, and for some, the concentration on that part of the spectrum of information science which can be styled information studies, the discipline is still in what can be described as a pre-paradigmatic stage in which the producers are characterized by training in other, usually related, disciplines. In common with the outer reaches of all disciplines, conflicting views are held and discussed among peers and with a general but educated, thinking audience (Kusack, passim). The product, the texts produced, are treatises characterized by full discussion of the whole subject in so far as it is known (for instance Summary Results...). The assumptions of the discipline are the assertions of the treatises. Information Studies also has characteristics common to the next phase of development.

The paradigmatic phase partakes of patterns common in academic departments in which research is carried out in response to specific questions posed by the discipline. Thomas Kuhn’s paradigms—recognized scientific achievements that define acceptable problems and methods—provide a generally accepted conceptual context for further investigation. The audience contracts to one of peers only. Communication moves from the treatise, a
literary form, to brief articles, written in highly technical terminology for that specialized audience (Paulson, Chapter 2).

Information Studies in the United States exhibits many of the characteristics of the pre-paradigmatic stage, especially in the kind of publication it engenders—think pieces, forecasts, theoretical approaches, essentially all assertions. Have you counted the number of assertions I’ve made so far?

Let’s move to the more practical, more descriptive kind of approach to the subject:

**General** objectives of the program are:

1. to contribute to the preparation of undergraduate students for critical and effective participation in the complex structure of today’s information society;

2. to prepare undergraduate Information Studies students for employment as information specialists in a variety of agencies and institutions;

3. to orient undergraduate Information Studies students towards graduate education in Information Studies or related fields;

4. to contribute to the academic preparation of undergraduate students who will enter careers or graduate education in related fields;

5. to provide course offerings that might be utilized by other segments of the University to augment their curricula.

**Specific** objectives of the program are to prepare students who will, within the limits of a minor subject specialization:

1. understand the nature and role of information in society in general, and in a variety of organizational settings;

2. understand how to find, evaluate, and use recorded information;

3. understand how to organize and retrieve recorded information;

4. acquire applied skills in information processing technologies;

5. be able to analyze the information needs of individuals, organizations and other social entities;

6. be able to design and manage information systems which meet specific information needs;

7. be able to instruct others in the use of retrieval systems;

8. be able to evaluate the effectiveness of information systems;

9. understand behavioral aspects of information transfer including communications theory and communication skills.

What valorizes information studies? The valorization process, still in the earliest stages, stems from politics and from economics. Information poses problems both political, in the sense of well-ordered organizations becoming chaotic in the face of too much information, and economic in developing feasible ways of dealing with information. Thus, we have talked about the specific and practical ends of such training, with the assumption that such training will be part of the solution, not part of the problem.

The following are some of the courses we are teaching, or plan to teach in conjunction with such subject majors as international business, management, biology, education or business communication. The latter concentrations we might call the content courses; what follows are
the Information Studies Courses:

Online Information Retrieval. Juniors and seniors learn database searching using several databanks, and employ advanced strategies. They download, edit and format bibliographies and abstracts. A variety of software—gateways and frontends—is examined and used.

Advanced Information Retrieval. Students learn to prepare material for input into databases. An indexing component presents automated indexing using standard software packages for file, periodical, and back-of-the-book indexing. An abstracting component explores the writing of indicative and informative abstracts, as well as other forms of terse writing. Students prepare an index for the alumni magazine, a permanent responsibility of the class.

Information and Society. A discussion and reading course covering policy matters and a general range of information technology and effects on society. The impact of telecommunications, electronic media, transborder data flows, etc., are studied. Students also visit state-of-the-art workplaces.

Informational Writing and Editing in Computer Environments. Efficient use of computer-generated information depends on its presentation. Students learn to reprocess bibliographic, text, and numeric data in print and graphic forms usable in business, government and non-profit organizations.

Science Information Retrieval. This course teaches basic principles of information retrieval in science and technology to students in pre-medical, health sciences and natural science programs using various interactive systems. In addition to bibliographic databases, students gain experience using databases to search for patents, to track technological developments, and to identify chemical substances. The purpose is to develop, in a scientific environment, those diagnostic, prescriptive and evaluative skills needed for information-searching at entry level in the modern science environment.

Information Technologies. An overview course designed to acquaint the student with several categories of information technology: computers, telecommunications and satellites, and video/print reproduction/graphics. Representative technologies are examined in terms of functions, roles and design, and are related to the management of information resources. Term projects explore in depth examples from each category. Field trips to technologically advanced worksites acquaint the student with the latest applications.

Management of Information Resources and Records. General principles of information organization: classification and filing, coding and indexing, routing and copying are examined, then applied to specific formats in print and computer environments. Working with a computer model of an information center for both internal and external data, students make information management decisions and test them for relevance to organizational needs.

Management of External Numeric Data Bases. Managerial principles and practice by which external numeric data bases such as economic time-series, surveys and polls are effectively handled in business, academic, and public organizations provide the substance of this course. Acquisition, organization, service, and dissemination are considered. Students gain familiarity with a variety of data sources available from government agencies, data archives, research institutions, private vendors and scholars. They use mainframe computers and microcomputers to work with actual data in a laboratory setting to gain expertise with secondary data files and the technical aspects of data storage and retrieval.

This then is the program: what have we omitted that should be added? What have we
included that could be deleted? It is an ambitious program. Does it respond to the needs of an information society?

Sources


"You people are really in the business of selling information" was a recent comment from a faculty member at Baruch College after a presentation to his class of 98 students. We certainly are in the business of marketing information. Indeed, our Classroom Support Services Program is an active and proactive one. During the past academic year we conducted nearly 200 Library Research Workshops. Over 6000 students were spoken to directly and many more were reached through printed literature such as Resources for Research and Access Guides. Currently, twenty-two departments in the college use our services, including: Marketing, Management, Business Communications, Marketing, Education, Speech, and English, to name only a few.

The goals of the Classroom Support Services are to inform assist students in their search for information for assignments in the various classes, and, equally important, to provide them with an understanding of how information is organized in the various disciplines. These information seeking skills help students develop confidence in the use of bibliographic and quantitative sources, not only for their college assignments but throughout their later careers.

The library research workshops are assignment driven and given at the request of faculty. Therefore the success of the program depends on how well faculty are informed about the importance of students learning how to do research. We advertise our program to faculty through a flyer and by attending departmental meetings. A lot of our publicity is done by word of mouth; a faculty member who is pleased with the program tells his colleague. Most of the requests come from our undergraduate faculty. We only do library research workshops for classes with research assignments (sometimes these assignments are made up by the librarians and faculty member together), and we require faculty members to be present at the workshops.

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The content of a typical library research workshop includes the following: (1) the importance of information and an outline of a research strategy with examples of tools appropriate to the subject, discipline, or topics that the students are researching; and (2) practice in the library or online classroom using the materials and techniques discussed in the workshop. Practice is essential because it is effective in clearing confusion and misunderstandings about the information presented in the workshop. Most workshops are seventy-five minutes in length.

The majority of the subjects taught at Baruch require students to use some type of public data. The basic bibliographies and keys to finding information which are tailored to the content of the assignments and/or the course are called Resources for Research. Most of the Resources for Research include government documents or an access tool that refers to government documents as sources of information. For example, the most heavily used Resources for Research, "The Basic Research Strategy", lists the Public Affairs Information Service Bulletin (PAIS) which indexes several government documents. The one entitled "Company and Industry" includes many other public data sources as well. Others that include listings of public data sources are: "International Marketing," "Statistics", "Marketing", "Education", "International Business", and "Business Journalism".

Public data are presented to students as being plentiful, reasonable, and generally easily accessible. Because Baruch College is one of the largest business schools, it is not surprising that our students need information on companies, industries, marketing, and statistics. Even the English classes tend to do research on social science issues which required access to government data. In the majority of workshops some information on government data is presented, but it is a crucial source of information in the following classes: Business Communications, Marketing, International Business, and Business Journalism. Below is a sampling of the kinds of information sought most by students in these classes, with some representative public data sources about which students are informed.

The usual assignment in the business communications and marketing classes requires students to research companies, industries, products, and demographic data. They need information on sales, marketing, a financial profile, market share information, etc. In these classes, students are introduced to a variety of public data sources such as annual reports of publicly held companies, and U. S. Department of Commerce publications such as the U. S. Industrial Outlook. For statistical information on both products and industries students are advised to begin with the Statistical Abstract which serves as a summary and guide to most federal statistics including census data. Predicasts, F & S Index of Corporations and Industries, PAIS, and other indices such the Business Periodicals Index identify governmental data in periodicals. For information in books, students are shown how to look up information by subject, e.g. U. S. industries, or by governmental agency, e.g. U. S. Department of Commerce.

In some market research classes, students are required to develop questionnaires. The instructors suggest that they look at many different types of questionnaires. The Inter-University Consortium for Political and Social Research (ICPSR) codebooks such as The Quality of American Life are very helpful to students in completing these assignments.

In international business and international marketing classes, students study conditions for business in foreign countries and the import and export trade. For assignments in these classes, students are introduced to the numerous publications produced by the U. S. Department of State and U. S. Department of
Commerce. **Background Notes, Overseas Business Reports, Marketing in ..., and Foreign Economic trends and Their Implications for the United States** are but a few of the public data sources taught in these classes.

The business journalism class produces a national periodical called *Dollars and Sense*. The students research and write articles using mostly primary sources. Therefore, they need general background information, names of experts to interview, and a great deal of statistical data to back up their theses. The topics in the latest issue of this magazine, AIDS, women entrepreneurs, illiteracy in the workplace, West Indian businesses, are representative of the articles that students write for this publication. Public data sources on national and local levels are used heavily. Students are introduced to the following indices which are excellent for identifying statistical information to support a point of view or to document a trend. The indices are the **American Statistical Index** which identifies statistical information in over 400 federal governmental agencies, and **Statistical Reference Index**, an excellent source of statistical data published by local governments. For example, *Business Statistics* by the New York State Department of Commerce contained important statistical data on West Indian businesses in New York. Students are also made familiar with many other government publications through the use of the **Monthly Catalog, CIS Index**, and a multitude of other government directories.
Educating the data user: the role of bibliographic instruction

by Kristin McDonough
Baruch College, City University of New York

The program of credit courses in research methods and materials offered by the Library Instruction Division at Baruch College, CUNY, has been in existence since the early 1970's. With the exponential growth of information and the advancement of technology the courses have shifted dramatically from a practical "how to use the library" approach to a more conceptually based one that integrates process and product, tools and techniques, traditional print and electronic information sources. What were pioneered as library research courses two decades ago have come to bear the titles "Information Research in Business" and "Information Research in the Social Sciences and the Humanities", testimony to the fact that the site of research is now just as often an online laboratory or a personal computer in the office or home as a library.

Of course, research involves much more than just a choice of site or form/media in which a body of disciplinary evidence or a synthesis of opinion, or string of raw numbers is stored. As research methods have evolved and changed, so has the content of these basic courses over the years. One of the most dramatic changes in the substantive content of the courses has been the increase in emphasis on access to, evaluation, and use of public data. Our team of six bibliographic instruction librarians has a special commitment to alerting students to potential sources of data because of the nature of the institution in which we teach. Baruch College is, arguably, the largest business school in the world. As such, it attracts students who are, or are quickly trying to become, quantitatively oriented, and offers business and social science courses that are, in the main, quantitatively based. By junior year a student can reasonably expect in one semester to be working on a demographic analysis for a market plan, an econometric projection for a finance course, and the comparison of a fictitious company's data with that of a national sample for an industrial management class.

What is perhaps surprising is that emphasis more often is on the manipulation and application of numbers, using increasingly sophisticated statistical and spreadsheet software, than on identification and retrieval of the sources of these figures. By and large, students are provided with the numbers that they are expected to "crunch." Our goal in the information research courses is to go a step further and tie the identification of authoritative sources of data to the secondary data analysis. We teach students how to identify and recognize potential sources of data from ever-growing core of government, institutional, corporate and private generators of data on both domestic and international levels because we are loathe to make them dependant on data derived from out-of-date textbooks and recycled classroom lectures.

1Presented at the International Association for Social Science Information Service and Technology (IASSIST) Conference held in Washington, D.C., May 26-29, 1988
If our courses as now constituted succeed in the important task of convincing students of the relative availability of published data relevant to their particular needs, it is because we have made a conscious effort to integrate this notion into the fabric of the courses. This was, unfortunately, not always so, at least not for those sections of the courses taught by a humanities-oriented, numbers-shy librarian such as myself. In fact, it is only within the past six or seven semesters that I have stopped treating statistics as a separate entity to be introduced toward the middle of the semester and confined to a fairly cursory treatment of standard sources, such as the specialized statistical indexes.

There are several reasons for my former approach to statistics as a self-contained unit broached halfway into a course. The first is simply that the material on statistical sources forms chapter 11 in each of the two in-house textbooks that we use in these courses: Access Information: Research in the Social Sciences and the Humanities, and Access Information: Research in Business. The position of this chapter, following a chapter on government documents, meant that an instructor following the chronology of the text waited to focus on statistical sources until the students had wrestled with government documents—that bibliographically unwieldy type of material daunting even to the most experienced of librarians. The reasoning behind this order of presentation seemed to be that since so many of the important statistical series are, in fact, government publications with complex corporate authorship and involved series added entries, it was best to deal with these later in the semester when the students would be more knowledgable. Linking statistical sources with government documents not only reinforced the notion that statistics could be complicated to identify—as anyone who has searched under 'United States. Bureau of the Census' as author can attest—but, in a non-depository library like ours, difficult to actually locate.

Another reason for this artificial approach toward teaching public data sources was the use of the search strategy as a conceptual framework upon which to structure the presentation of instructional material and the completion of assignments. A search strategy is a suggested sequence of steps to be followed in conducting research on almost any subject. The order is, of course, approximate, and the object is to dispel the notion that relevant knowledge and information on a subject are acquired serendipitously rather than through a orderly process using standard bibliographic tools. Using this approach, for example, librarians have students choose a topic of their choice and then introduce them, first, to the notion of background reading, then to the definition of terms using a thesaurus, thirdly to the identification of a bibliography of previous research, fourthly to books using the catalog, fifthly to periodicals for current information, and finally, the icing on the cake, to RECENT STATISTICS. One was lucky to have guided the students this far through a search strategy by the midterm point!

Below are selected examples of the approach adopted over the past few years in an attempt to underscore the centrality and virtual omnipresence of quantitative evidence in the sort of contemporary social science research in which students are expected to engage or with which, at minimum, they are expected to be familiar. Though I continue to use a modified search strategy framework, my goal is to stress the fact that there are a number of ways to identify and access significant collections of published data. The focus of these examples is child day care, a timely and interesting topic for our largely working class students at Baruch.

Very early in the semester students are taught to immerse themselves in a subject as they start their research. This initial immersion is referred to as background reading and yields a definition and condensed history of the subject, an overview of the major issues involved, as well
as the identification of major associations and researchers who have contributed to the formation of the body knowledge in the field.

A specialized encyclopedia, such as in this case the Encyclopedia of Social Work, is often an ideal source of background reading. It features an expanded definition of the modalities of child care, with references to both individual and teams of researchers, as well as government agencies which have gathered data relating to "neighborhood care for several million families" (illus. 1). An additional point about the time lag inherent in data collection and analysis can be made by noting how relatively dated are the references in, for example, the latest 1987 edition of an authoritative reference book. (illus. 1)

In explaining the parenthetical citation form used in the encyclopedia, it is necessary to refer to the list of references appended at the end of each article. Focusing on the organizations represented in the entries is an ideal way to underscore the number and variety of groups involved in data collecting. (illus. 2) Profiles of these groups in the Encyclopedia of Associations indicate those which have data gathering central to their mission. (illus. 3)

Guides to the literature or research guides are a generic family of library tools that students are encouraged to use early in the semester. It seems relevant to introduce the latest edition of Wasserman's Statistics Sources at the same time as Webb's Sources of Information in the Social Sciences and Friedes' Literature and Bibliography of the Social Sciences. As the illustration (illus. 4) suggests, students should be alerted to the fact that to maximize retrieval of information, flexibility of approach is essential. Important series of statistics on day care can be found by looking either under "CHILD CARE ARRANGEMENTS" or under "CHILDREN - MOTHERS WORKING." That many of the publications identified in this guide are available on magnetic tapes as well as in paper is a point made again and again.

This very question of research terminology is one best tackled right at the start of search strategy, with LC Subject Headings introduced as an example of a thesaurus. Its function is to provide an authority list of terms to be used in searching the catalog for books on a topic. One of the key points is that once the researcher determines the correct heading or search term, quantitative data on that same subject can be found by employing the standard subdivision —STATISTICS immediately following the heading, e.g. DAY CARE CENTERS —UNITED STATES —STATISTICS. (Illus. 5)

Another type of reference tool with which students should fairly quickly become familiar is the handbook. The Statistical Abstract of the United States is introduced as an example of the type of handbook that is a compilation of tables, as well as the first recourse a student has when confronted with the task of "finding statistics". But rather than emphasize only the technical features of this single volume wonder, with its tabular titles, headings and notes, contents tables and subject index, it is more effective to present this as a first step which offers a "snapshot" of the full range of statistical series available from various government agencies. In the illustration below (illus. 6), for example, the crucial part of the table is the source note which identifies a Current Population Report by series number. That these periodic census updates are relatively easy to find and are available in machine-readable form are points that can be made immediately and re-emphasized later in the course of reviewing the concept of series entries as one of the elements of the catalog. (illus. 7)

By this very early point in the semester, then, students have been shown that a key publication such as Current Population Reports can be located in a variety of ways, through references in a bibliographic guide (Statistics Sources), or
those in a handbook (Statistical Abstract of the United States), or through the subject or series approach to the library’s catalog. That there is more than one route in no way diminishes the key importance of American Statistics Index or the Statistical Reference Index, which are now routinely introduced along with other periodical indexes. The power of these relatively sophisticated bibliographic tools and the level of detailed analysis they provide of statistical publications is impressed on the students. One effective way in which to start students thinking about the degree of complexity of a social issue such as day care is to have them simply scan the index volume of either ASI or SRI and note the various aspects of the subject on which data are generated and collected for subsequent analysis and policy implementation. This pair of bibliographic tools are no longer only viewed as access tools alone but also as a record or mirror of the perspectives from which day care can be viewed: a service to working mothers, a fast growing service industry, a tax benefit to individuals and corporations, an employee benefit, a unit in the health and nutrition delivery system and so on. (Illus. 9)

One reason why it is important to familiarize students with a number of other indexes that can lead to statistical series is that the wealth of material identified by ASI or SRI, either online or in print, can be overwhelming and ultimately disappointing, especially to students using a non-depository library of moderate size which may not subscribe to all the publications indexed. Other indexes that are profitably introduced as adjuncts to, if not substitutes for, the above are Monthly Catalog of the United States (illus. 10) and the PAIS Bulletin (illus. 11). The latter identifies quantitative studies in two ways: with the subdivision “Statistics”, or by means of a note in the citation indicating that the material contains graphs, tables, charts. Each of these indexes generally employs subject terms identical to LC Subject Headings, with which, by this time, the students feel familiar.

References to public data can also be used effectively when the class discusses the protocol of documentation, which is a concept that undergraduates often find difficult to grasp. “What kind of facts do I have to cite?” is one of the most frequently asked questions, to which for years I had been responding, “Any opinion not your own, controversial ideas, facts that are not generally known.” Since adding to that not very helpful list “figures or data that are subject to change” I have begun to sense that at least a few of the students now comprehend. They are beginning to understand that a statement such as “Albany is the capital of New York State” is both generally known and relatively stable but that a reference to the population of New York state should be documented since demographic figures change. In fact, as the students now realize, reference to statistics that are woefully in error is one of the surest signs that the sources on which a paper is based are either out-of-date or unreliable.

Then, too, even the most reliable and authoritative of sources is never entirely bias-free, and is certainly subject to misinterpretation, an observation that surfaces continually in class discussions on the importance of evaluating material. In response to an assignment to identify at least one publication or report the data in which have subsequently been questioned, several students located accounts in the popular press or scholarly literature about surveys whose results had been either misrepresented or misinterpreted. A New York Times article reported an assertion by one researcher that the number of latchkey children in the U.S. is far greater than suspected, since the estimate of their numbers has largely been based on the self-reported responses of the parents. Many working couples who are surveyed may not admit that their young children are left alone at home while they are at work. A union newspaper published by the AFT contained an editorial repudiating the results of an NIE report on school crime on the grounds that the
national survey had made virtually no distinction in the category "incidents of crime" between pranks, minor vandalism and armed assaults on teachers! As each student reported on the assignment orally to the class, it became clear that for the majority of students, this exercise really made the notion of data come alive.

Undoubtedly, the fact that Bliss Siman, the ICPSR coordinator for all units of the City University of New York, is a dynamic member of our teaching team has contributed to our determination to make awareness of potential sources and uses of survey, census, and time-series data a vital part of our credit courses. For several semesters she has been presenting sessions on the secondary analysis of data to all sections of the social sciences and business information research courses, using an approach that she describes elsewhere in this issue. The prime motive for the emphasis we place on the interdependence between data identification, retrieval and evaluation on the one hand and manipulation on the other, is to give the students the skills necessary to locate sources of authoritative data.

There is yet another impetus behind our thrust toward familiarizing even our beginning, non-specialist students with sources of available data. We want, over the course of the undergraduate's career, to turn the student into a discerning and demanding consumer who will incorporate use of data into subsequent business and professional life. Without a developed group of educated and expectant users coming out of our colleges, universities and professional schools, who will join with librarians and scholars to protest, for example, the Bureau of the Census' intent to make certain of their series available in electronic form only? In the future, when dollar values are put on information and access becomes a matter of economics and political will, we hope that our efforts in the classroom will have had some effect. □

Bibliography


Illustration 1


older brothers and sisters, grandmothers, other kin, and householders to the extent possible, or even on the children themselves (Werner, 1984).

Increasingly, however, families are turning to care outside the home. It is estimated that this was the case by 1980 for about half of all children under 6 (U.S. Bureau of the Census, 1982). Smaller families and increased rates of maternal employment have gone hand in hand, and most families using out-of-home care are purchasing care for one child (Emlen, 1974, 1982; Hayghe, 1984).

**Family Day Care.** The care of children in a relative’s home is less common than it used to be (U.S. Bureau of the Census, 1982). Day care is more likely to be nearby with a neighbor. Family day care is provided by women who are not in the labor force, who have child care responsibilities of their own (usually involving larger families), and whose experience and motivations are suited to providing a child care service, typically involving three or four children—less than the limits imposed by regulation. Family day care is the predominant resource used outside the home for infants and toddlers. It is also a major resource for school-age children. Care in family homes affords flexibility in the ages of children accommodated and in the hours that care is provided. Concern has been raised about the use of family day care in deteriorated neighborhoods, about the isolation of caregivers from social support and training, and about their inaccessibility to regulation or to I & R programs. Family day care persists, however, as a viable system of neighborhood care for several million families (Collins & Watson, 1976; Emlen, 1974; Emlen & Koren, 1984; Fosburg et al., 1981; Werner, 1984).

**Center Care.** Although nonprofit day care centers continue to provide a significant amount of subsidized care for lower-income 500 percent in 5 years (Kinder-Care, 1983) and has the largest market share of the center care business. The second-largest chain, La Petite Academy, has over 400 programs in 24 states, and Children’s World serves more than 20,000 children in 160 centers (Friedman, 1985). These chains have been profitable, in part by achieving efficiencies from large numbers of children per center and minimum labor costs, as well as by marketing their discount programs to employers.

**Treatment In Day Care Settings.** In any community, child care is recognized as occupying an important, though often neglected, position on a continuum of specialized services to families at risk of dissolution. Whether for mental health or child welfare, child care is one of the least restrictive services that can be supportive of family functioning and of a child’s treatment program. Child care services play a part in the “reasonable effort” required as alternatives to placement in foster care or residential treatment facilities (Adoption Assistance and Child Welfare Act of 1980, P.L. 96-272).

**Employee Assistance.** Of wider scope, however, are two kinds of services to families to help them cope with their child care responsibilities. One is the employee assistance program (EAP), which began as a corporate approach to problems related to alcoholism and has been broadened to address the individualized child care needs of employees. Employee assistance programs have expanded in scope as more attention has been paid to how employees manage child care, how it affects their work, and how company policies, in turn, facilitate or adversely affect the ability of employees to combine working with family responsibilities. The flexibility of policies concerning sick leave, maternity and paternity leave, flexible work hours, and absenteeism are being modified by companies,
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<td><strong>Founded</strong>: 1973. <strong>Staff</strong>: 60. <strong>Budget</strong>: $4,000,000. Provides systematic, long-range advocacy on behalf of the nation’s children. Engages in research, public education, monitoring of federal agencies, litigation, legislative drafting and testimony, assistance to state and local groups, and community organizing in areas of child welfare, child health, adolescent pregnancy prevention, child care and development, family services, and child mental health. Works with individuals and groups to change policies and practices resulting in neglect or maltreatment of millions of children. Advocates: access to existing programs and services; creation of new programs and services where necessary; enforcement of civil rights laws; program accountability; strong parent and community role in decision-making; adequate funding for essential programs for children. Maintains speakers' bureau; compiles statistics. <strong>Publications</strong>: (1) CDF Reports (newsletter), monthly; (2) Adolescent Pregnancy Prevention Clearinghouse Reports, bimonthly; also publishes series of books and handbooks on issues affecting children. <strong>Formerly</strong>: (1978) Children's Defense Fund of the Washington Research Project. <strong>Convention/Meeting</strong>: annual conference.</td>
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## Illustration 4


### STATISTICS SOURCES, Eleventh Edition - 1988

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<th>CHILDREN - UNDER EIGHTEEN - BY PRESENCE OF PARENTS</th>
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Illustration 5

CUNY Library. Card catalogue.

DAY CARE CENTERS--UNITED STATES--STATISTICS.

Ref
BA Bruino, Rosalind R.
203 After-school care of school-age
A218 children: December 1984 / by Rosalind
no. 149 R. Bruino. -- Washington, D.C.: U.S.

Dept. of Commerce, Bureau of the Census

lv, 27 p.: ill. form; 28 cm.--

(Current population reports, special
studies series P-23 ; no. 149)

Shipping list no.: 87-64-P.

"Issued January 1987."

Includes bibliographical references.

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Illustration 6


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<td>[In thousands, except percent. As of winter 1984-1985. Data were obtained for the three youngest children under 15 years old (excluding any adopted or stepchildren in their care) in the household. This represents approximately 90 percent of all children under 15 years old of working women. Based on the Survey of Income and Program Participation, see text, section 14]</td>
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<p>| USUAL WEEKLY CHILD CARE ARRANGEMENT | CHILDREN UNDER 15 YEARS | | CHILDREN UNDER 5 YEARS | | CHILDREN 5-14 YEARS |
|-------------------------------------|------------------------|------------------|----------------------|-------------------|
|                                     | Mother employed |       | Mother employed |       | Under 1 year | 1 and 2 years | 3 and 4 years | Total |</p>
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<th>Part time</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>26,453</td>
<td>16,812</td>
<td>9,641</td>
<td>8,168</td>
<td>5,060</td>
<td>3,108</td>
<td>1,385</td>
<td>3,267</td>
</tr>
<tr>
<td>Care in child's home</td>
<td>4,699</td>
<td>2,480</td>
<td>2,219</td>
<td>2,534</td>
<td>1,235</td>
<td>1,300</td>
<td>516</td>
<td>1,068</td>
</tr>
<tr>
<td>By father</td>
<td>2,436</td>
<td>1,133</td>
<td>1,163</td>
<td>1,282</td>
<td>542</td>
<td>240</td>
<td>252</td>
<td>526</td>
</tr>
<tr>
<td>By grandparent</td>
<td>712</td>
<td>423</td>
<td>289</td>
<td>487</td>
<td>239</td>
<td>209</td>
<td>102</td>
<td>208</td>
</tr>
<tr>
<td>By other relative</td>
<td>804</td>
<td>539</td>
<td>265</td>
<td>306</td>
<td>183</td>
<td>123</td>
<td>44</td>
<td>147</td>
</tr>
<tr>
<td>By nonrelative</td>
<td>687</td>
<td>385</td>
<td>302</td>
<td>479</td>
<td>251</td>
<td>228</td>
<td>113</td>
<td>185</td>
</tr>
<tr>
<td>Care in another home</td>
<td>3,801</td>
<td>2,675</td>
<td>1,126</td>
<td>3,020</td>
<td>2,135</td>
<td>884</td>
<td>563</td>
<td>1,368</td>
</tr>
<tr>
<td>By grandparent</td>
<td>1,128</td>
<td>743</td>
<td>385</td>
<td>833</td>
<td>533</td>
<td>300</td>
<td>174</td>
<td>361</td>
</tr>
<tr>
<td>By other relative</td>
<td>467</td>
<td>265</td>
<td>182</td>
<td>368</td>
<td>212</td>
<td>155</td>
<td>70</td>
<td>130</td>
</tr>
<tr>
<td>By nonrelative</td>
<td>2,196</td>
<td>1,647</td>
<td>549</td>
<td>1,819</td>
<td>1,300</td>
<td>429</td>
<td>319</td>
<td>877</td>
</tr>
<tr>
<td>Organized child care facilities</td>
<td>2,411</td>
<td>1,830</td>
<td>581</td>
<td>1,888</td>
<td>1,415</td>
<td>473</td>
<td>195</td>
<td>563</td>
</tr>
<tr>
<td>Day/group care center</td>
<td>1,440</td>
<td>1,067</td>
<td>373</td>
<td>1,142</td>
<td>835</td>
<td>307</td>
<td>116</td>
<td>401</td>
</tr>
<tr>
<td>Nursery school/preschool</td>
<td>971</td>
<td>753</td>
<td>218</td>
<td>748</td>
<td>580</td>
<td>168</td>
<td>79</td>
<td>162</td>
</tr>
<tr>
<td>Kindergarten/grade school</td>
<td>13,815</td>
<td>8,976</td>
<td>4,839</td>
<td>8,102</td>
<td>5,385</td>
<td>2,717</td>
<td>1,142</td>
<td>3,546</td>
</tr>
<tr>
<td>Child cares for self</td>
<td>468</td>
<td>354</td>
<td>134</td>
<td>468</td>
<td>354</td>
<td>134</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td>Parent cares for child</td>
<td>1,245</td>
<td>497</td>
<td>748</td>
<td>1,245</td>
<td>497</td>
<td>748</td>
<td>112</td>
<td>267</td>
</tr>
</tbody>
</table>

PERCENT DISTRIBUTION

Total: 100.0%

Case in child's home: 17.8%
By father: 6.7%
By grandparent: 2.7%
By other relative: 8.3%
By nonrelative: 8.3%
Case in another home: 14.4%
By grandparent: 4.3%
By other relative: 1.8%
By nonrelative: 8.3%
Organized child care facilities: 3.2%
Day/group care center: 3.4%
Nursery school/preschool: 3.7%
Kindergarten/grade school: 5.2%
Child cares for self: 1.8%
Parent cares for child: 4.7%

X Not applicable
1 Full-time jobs comprised 35 hours or more per week.
2 Includes women working at home or away.

Summer 1988
CUNY Library. Card catalogue.
Illustration 8


TABLES:
Caregivers of children include parents, adult siblings, other adult relatives, unrelated adults, nonadults, and self-care.
Data by type of household are shown for all, married couple, and female-headed households.]

CHILDREN
[Tables show number of children aged 5-13 years old enrolled in school.]
1.2. By after-school caretaker of children, age of child, type of household, labor force status of mother, and race. (p. 7-12)
3. By after-school care [caretaker] of children whose mothers work full time by occupation and education of mother, family income, and race. (p. 13)
4. By hours of care for children who regularly spend time not under parents’ supervision, type of caretaker, and period of day. (p. 15)

HOUSEHOLDS
[Tables show number of households with children aged 5-13 years old enrolled in school.]
5. By whether fully cared for by parents after school and whether any child was regularly not in adult care, by type of household, labor force status and education of female household member, and family income. (p. 16)
6. By number of children and whether any child was not in adult care after school, by labor force status of female household member and race. (p. 17)

TRENDS

described below. Part A is described in ASI 1986 Annual (or 1986 Monthly Supplement 11) under this number. The remaining 4 parts have not yet been issued.

A similar report was issued for the 1970 census (see ASI Retrospective Edition and 1st-3rd Annual Supplements under 2557-1).


Contents:
Chapter 4. Includes narrative discussion of census promotion program objectives and activities; supporting organizations and program participation; facsimile advertisements and other promotional materials; and program evaluation. (p. 4.1-4.16)
Chapter 5. Includes narrative discussion of census field operations, organization structure, logistics, personnel and training, and mailing and interviewing procedures; lists of district offices and public and field-use forms; facsimile reporting forms; staffing calendars; and 6 methodological tables. (p. 5.1-5.103)

[Dec. 1986. 9 + 75 p. PHIC80-R2-C. Price not given. ASI/MF/3]

Contents:
Chapter 7. Includes narrative discussion of sample design and features, estimation procedures, and sampling variability and errors; and list of references. (p. 7.1-7.9)
Chapter 12. Includes narrative discussion of each population and housing questionnaire item; its purpose and history, user instructions, and computer editing and processing specifications; facsimile survey forms; computer edit sequence; and lists of instructional and classification codes. (p. 12.1-12.75)
Illustration 9


Child day care
AFDC eligibility and payment errors, by type and State, 2nd half FY84, semiannual rpt, 4692-1
AFDC recipients demographic and financial characteristics, by State, FY83, annual rpt, 4694-1
Employer-sponsored child day care, finances and operations of Federal program by agency, with data for selected private firms, 1985, GAO rpt, 26119-104
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Food service establishments and sales, by establishment type, 1977 and 1984, annual rpt, 1544-22.4
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Hepatitis cases by infection source, age, sex, race, and State, and deaths, by strain, 1984 and trends from 1966, 4205-2
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AFDC eligibility and payment errors, by type and State, 2nd half FY84, semiannual rpt, 4692-1
AFDC State admin agencies performance measures, caseloads, payments, and costs, by State, FY83-84, annual rpt, 4694-2
Beneficiaries of noncash public and employer-based transfer programs, by income source and socioeconomic characteristics, 1984, annual Current Population Rpt, 2546-6.46
Child Support Enforcement Program financial and operating data, FY81-85, annual rpt, 4004-16
Collection of child support, States using selected methods including wage garnishment, various dates 1986, GAO rpt, 26121-119
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Income tax returns of high income individuals with and without tax liability, income and tax items, 1983, article, 8302-2.614
Income tax returns of individuals, by filing status, tax item, and income level, 1985, annual article, 8302-2.618
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Income tax returns of individuals, selected
Illustration 10


v. ill. ; 28 cm.
Annual

87-7041

C 3.158:MA 36 Q (85-1)
Annual
$1.00

87-7042

C 3.164:455/985/v.1
Annual
$3.00

87-7043

C 3.186:P-23/149
Bruno, Rosalind R.
Annual
$5.50

87-7045

C 3.204/3:984
Annual
$5.50

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Educating the data user: online information retrieval

by Ida Lowe
Baruch College, City University of New York

In a rapidly changing environment in which current accurate information is a key element in staying up-to-date and maintaining an edge in an ever-more-competitive marketplace, access to on-line databases and information services is definitely worthwhile.

Baruch College Library has been offering access to online information since 1981. Currently, we subscribe to about twelve online services, which provide access to bibliographic, textual, and numeric databases. In the beginning the service was available only through intermediaries (i.e., trained expert searchers), but as demand has increased, direct access by end users (i.e., those who actually need the information, but who are, in general, inexperienced searchers), has been provided.

Obstacles to Accessing Online Databases

The major obstacle to accessing online databases is that information online is costly. In general, online services charge for every second of time that one is connected, and retrieving information can be a very expensive endeavor, even when the search is performed by an expert, and more so when performed by an end user. Some services offer special academic rates. For example, Dow Jones News/Retrieval charges academic institutions a monthly flat fee for unlimited access to most of their databases. This service offers comprehensive company and industry information, as well as general business information. In addition, major services such as Dialog, BRS, and Orbit offer special training as well as 'after hours' agreements which provide access to most of their databases at greatly discounted rates. Baruch College Library has taken advantage of all these special rates in order to make online access available to end users.

1Presented at the International Association for Social Science Information Service and Technology (IASSIST) Conference held in Washington, D.C., May 26-29, 1988
The second major obstacle is that getting the information is not easy. The nature of the majority of databases makes it difficult to extract information from them. Most online databases were originally created to be accessed directly not by the end user of the information, but by intermediaries working on his or her behalf. Those intermediaries were information professionals, usually librarians, familiar with the particular jargon and structure that apply to information-searching in the library field. As a result, the interface to most online databases was structured for their needs.

Not surprisingly, a lot more work and a great deal of confusion occurs when end users try to get at such information on their own. For most online databases, the situation comes down to the end user needing to learn the information professional's language and methods if he or she wants direct access to information. Users who want or need to conduct their own searches for information have to invest some time and effort in learning how to use these systems. In the process, they often have to deal with almost as many information retrieval formats as there are databases. Most online services strongly recommend training for new users. For example, Dialog already has a two-day training session for beginners, and half- to full-day sessions for special categories of databases, such as business and economics. However, for the end user who will need to use the system only once in a while, this training may be too much, and will generally be wasted for lack of practice.

There is a movement among online services to make at least some of their information more accessible to users who are not information professionals. Dialog Information already has two services that provide simplified access: the Business Connection allows users to easily access detailed information on thousands of corporations and businesses, and the Medical Connection provides menu-driven access to information on clinical medicine and medical research.

EasyNet, a service of Telebase Systems Inc. of Narberth, Pa., attempts to overcome the potential confusion inherent in trying to interface with so many different databases by providing a single user interface that quizzes the user in order to narrow down and define the information he or she is seeking. EasyNet then uses that information to determine which databases it should access and how to conduct the search. EasyNet serves as a central access point to approximately 900 database and information services. There are hidden disadvantages of which users may not be aware, including restrictions on the number of databases or type of information that can be accessed.

Also, recent developments of more sophisticated, user friendly interfaces are making end user searching easier. Prosearch, from Personal Bibliographic Software, allows the user to access any database on Dialog or BRS without specific knowledge about the databases or the systems. By using a scheme of menus and submenus, the information seeker can set up a search statement and verify its correctness before logging on to the system. Prosearch provides descriptions of each database structure. All the user has to do is highlight the database fields and type the necessary keywords. Prosearch uses this information to construct the search statement.

Users who want access to on-line information must take the time to learn the best way to get at the information, or at least make sure they have access to someone who can.

A final problem users may face is that, even if they are able to easily access the type of information they need, it may not be in a form that is especially useful to them. The more useful services make information available in a form that can easily be incorporated into dBASE III, Lotus 1-2-3 or similar formats.
The development of databases on CD-ROM will contribute substantially to the solution of all three problems enumerated above, i.e. there are no connect charges, the access software can be simple and effective, and the user can have a choice of formats of the information retrieved. One database producer that has successfully taken advantage of this medium is Disclosure, a database containing financial information on public companies. The end user can search Disclosure effectively without any knowledge of Boolean logic, truncation, field delimiters, etc., and download the information into Lotus 1-2-3, or ASCII for use with SPSSx or SAS.

Taking all these obstacles into consideration, a plan to promote the use of information online was developed at Baruch College.

The first factor to be considered was the audience we wanted to reach:

- Undergraduate students, the majority of whom are business majors,
- Graduate students, business and education majors (we subdivide this group further into masters degree candidates, doctoral students, and research assistants), and
- Faculty. At present online information retrieval services are completely subsidized by the College. Searches done by professional librarians (intermediaries) are not available to undergraduates.

In order to serve our patrons, we developed several approaches:

1. At the undergraduate level, online information retrieval is introduced in the basic library course, which is a three-credit course, part of the core curriculum for all students at the College. A more advanced course on online information retrieval is offered for juniors and seniors. The students are introduced to basic concepts such as Boolean logic, truncation, proximity operators, field delimiters, and basic search strategy preparation. The systems introduced are Dow Jones News/Retrieval, a menu-driven system, and Dialog, a command-driven system. The goal of the course is to provide the student with enough of the basic concepts so as to enable him or her to learn a new system without too much trouble. They learn that the basic concepts apply to all systems, only the mechanics change. A similar course is offered at the graduate level in the Masters in Educational Technology program. The command-driven system introduced in the latter course is BRS, because this is the prevalent system in elementary and secondary schools.

2. Online information retrieval workshops are offered to graduate students and faculty. These workshops last four hours, and the participants learn to search Dialog and BRS using Prosearch. Anyone who has taken this workshop is then allowed to do their own searching in a special information lab. The lab has five IBM XT's with 1200 baud modems. Each computer has Prosearch set up with the appropriate passwords, and keeps track of all searches. A trained research assistant supervises the lab and provides basic assistance. If the searcher needs more help, a professional librarian can be consulted.

3. In addition to the general application workshop described above, special subject-oriented workshops are offered to thesis students and research assistants. For example, accounting and finance students can take a workshop on accessing I.P.Sharp (a service which contains over 40 million time series of primarily economic and financial data), learn to download time series data to a diskette, and upload them to the City University of New York central computer for use with such statistical
packages as SAS or SPSS.x.

4. Doctoral students are required to take a research methods course in which they are taught to use Prosearch for online information retrieval, and are expected to use it throughout the semester for all their projects.

5. In order to promote the use of those systems which are simple to use, and require no special training, such as Dow Jones News/Retrieval and databases on CD-ROM, we hold biweekly demonstrations for anyone interested. The emphasis in the workshops and demonstrations is on 'hands on' experience. We make sure ALL participants carry out a search.

6. Finally, we distribute to all faculty promotional literature on new products that we acquire or to which we subscribe.

Baruch College has been offering these programs for several years. The form and content have changed to keep up with new developments, but the purpose remains the same, i.e. to make every member of the Baruch College community "online information literate." I feel quite confident that we have been successful.
End user searching and data: the Graduate Business Resource Center experience

by Rona Ostrow
Deputy Director
Graduate Business Resource Center
Baruch College
City University of New York

Introduction

The Graduate Business Resource Center of Baruch College, C.U.N.Y. is a technology-based facility located in close proximity to the School of Business but physically separated from the library. It is an attempt to serve a population of approximately 3000 graduate students and faculty in the School of Business and Public Administration without having an actual graduate level business library. Since there are so many of them, and so few of us, we have emphasized enduser applications wherever possible. Moreover, we feel that part of our mission is to prepare the graduate students for the "real" world of business they'll discover upon graduation. We aim, therefore, to make available to them those data sources which they are likely to encounter within the business community or to which they can request access once employed by a firm.

Our goals are to use access points that are as user friendly as possible and to teach the students where and how to obtain the data. We do not attempt to analyze the data, but do make available such software programs as Lotus 1-2-3 to help them analyze it on their own. Of course, many of our constituents, particularly faculty members, have complex data needs beyond those of the average student/enduser. These needs are referred to our Data Resources Service, headed by Professor Siman and our Computerized Information Services, headed by Professor Lowe. Since both of my colleagues have already addressed to you, I'd like to concentrate on those areas of our service which do indeed focus on enduser and user-friendly services and which meet the needs of the average data user at this level.

Many of our constituents need data that is readily available to them once they know it exists. For example, our students often request such data as demographics, market share, market segmentation figures, advertising reach, financials, and usage of materials in production. Our role in the GBRC is to publicize the available data, emphasize new user-friendly methods of access, and teach the endusers how to meet their own data requirements.

Spreading the Word

Publicizing the available sources is a major function of our Center. The GBRC publishes NewsAlerts several times each semester to alert both students and faculty to new data sources.
programs, demonstrations, and services. (See figures #1 and #2). By bringing new datafiles and services to the attention of our constituency, we are trying, in essence, to "create a market" of potential users. Typically, our users may not even be aware that such data exists and, if they are, may not realize how they can use it in their research. Some NewsAlerts focus on new datasets available through the Data Resources Service while others announce workshops and demonstrations of data available through commercial vendors via online information retrieval.

### Teaching

This, in turn, brings us to the second major function of our program. Once we have interested our researchers in the available data, we then proceed to introduce them to it. We let them try it out for themselves so that they will learn how to access data without the intervention of an intermediary. Since enduser searching is becoming increasingly the norm in the business community, we want our students to feel confident that they can access the information they need long after they've completed their degrees. In addition to the more or less formal training obtained through our seminars, we also offer point-of-use assistance through AccessGuides (brochures we prepare to guide endusers) and one-on-one help in the person of trained professional consultations to assist each researcher in the selection of the most appropriate data sources available both at Baruch and elsewhere.

### Availability

Finally, to fulfill the third part of our perceived mission, we bring the data to them in an user-friendly format as possible. This has, until recently, meant that we provide the students with after-training access to the Dow Jones News/Retrieval Service (which is available to us on a prepaid monthly basis as an educational institution) and Prosearch (which provides user-friendly access to both the Dialog and BRS information services). For budgetary reasons, the latter must be monitored closely and limited to research for theses, dissertations, and articles for publication. More recently, the advent of CD Rom technology has allowed us to make several of these same data sources available to a much larger audience since they, too, are prepaid. Although our facility is still small we are able, through CD Roms, to make the Disclosure database (including Spectrum Ownership) and Standard and Poor's Corporations available to our students and faculty along with such bibliographic databases in CD Rom format as PsycLit, ABI/INFORM, and ERIC.

### Dow Jones News/Retrieval Service

One of the most pressing needs for data we have at the GBRC is for company financial information. Our students are constantly on the lookout for income statements, balance sheets, key ratios and the like. One of the easiest ways to make this data available is through the Dow Jones News Retrieval Service. We have arranged to prepay for the service and have configured our PCs to automatically dial up, connect, and enter a password through Smartcom. Through Dow Jones News, our students have access to Disclosure (including extracts from over 10,000 publicly held
company's 10-K report and other SEC filings see figure #4). Media General (detailed corporate financial information on approximately 4,300 companies and 170 industries), Standard and Poor's (which provides brief profiles of over 4,500 companies including earnings, dividend and market for the current and past four years), Historical Quotes (including daily volume, high, low and close for stock quotes and composites), Historical Averages, and Current Quotes, among others. Our students make particularly good use of Dow Jones News' "Quicksearch" feature. By simply entering "//quick" and a company's ticker symbol, they can immediately key into a wealth of financial information drawing from multiple Dow Jones News/Retrieval files (see figure #5). Data includes current quotes, latest news stories, a financial and market overview, earnings estimates, company profiles, and investment research reports. (see figure #6). The students may print their Dow Jones News/Retrieval results and/or save the information to a diskette for future use.

Among the business, economic and demographic databases most in demand at the GBRC are the PTS family of databases (Forecasts, Times Series, and Annual Reports Abstracts) as well as the bibliographic database PROMT - excellent for market share information, and MARS - useful for targeting advertising audiences). In addition, students and faculty make great use of Donnelly Demographics and Cendata for additional demographic information (see figure #7).

In order to use Prosearch, the researcher merely highlights the desired category and subject by using the up and down keys and the return key. By the way, all of this is done while offline, so no charges are accumulating for typing time. Once the researcher has selected a subject, he or she selects a database from the "catalog cards" screen (see figure #8) and enters the search request on a grid designed to enter fields with the mere touch of a key. The researcher uses Boolean connectors in the usual way and, when the request is complete, connects automatically to Dialog or BRS by simply hitting the F5 key. Although we often send our students to the Library to use the PTS print sources, their ability to use Boolean logic easily through Prosearch greatly enhances their chances of finding the exact statistical or demographic table they need.

Graphic Presentations

We have also begun to make software available for our students to analyse and present the data they've found. Although we do not teach the use of Lotus 1-2-3 and other statistical packages, we do have a copy available for knowledgeable students to use. We also provide access to a plotter, laser printers, and a scanner which our students use to create graphic representations of their findings (see figure #9).
CD Rom

At present, the GBRC provides access to both Standard and Poor's Corporations and Disclosure in addition to bibliographic databases in CD Rom format. Once again, having this prepaid data allows us to make it available to a much wider audience. Instead of being limited to online searching for thesis, dissertation, or publication purposes, all our constituents may access this business and financial data at any time. We hope in the near future to enhance our capabilities through the acquisition of a new CD Rom product, Lotus One Source which contains both the data our students need and Lotus 1-2-3 on a single laser disk. Another anticipated acquisition is Batelle's America 2000 software package which will enable the students to make economic projections based on extensive data included in the package.

In sum, there is quite a bit of data in the fields of business and economics which can be made available to the novice user who does not require raw data or anything very sophisticated in the way of data manipulation. The way to get this data to the user is threefold: publicity, teaching, and availability. Through our publications, training sessions, and consultations, we at the Graduate Business Resource Center try to give our students access to the data they need and, more importantly, the skills to continue to meet their own requirements for information.
Welcome to the fall 1988 semester! The Graduate Business Resource Center plans a series of workshops and new services designed to meet specific research needs.

Workshops

Online Information for Endusers

Learn to access Dialog databases online without the assistance of a professional intermediary. Participants receive training, hands-on experience, and access to online information. Professor Ida Lowe will conduct all seminars in Room 1224, 360 Park Avenue South. Workshops are open to all Baruch faculty and graduate students.

Dates and Times

Friday, October 21, 1988
10:00 a.m. - 12:00 p.m.

Friday, November 4, 1988
10:00 a.m. - 12:00 p.m.

Thursday, December 8, 1988
3:00 p.m. - 5:00 p.m.

To register, please complete the attached application and mail to: Professor Ida Lowe, GBRC, Box 262, or phone 725-7114.

Fall Hours

Monday-Thursday 9:30 a.m. - 9:00 p.m.
Friday 9:30 a.m. - 4:00 p.m.
Saturday 2:00 p.m. - 6:00 p.m.

The GBRC is not open when the College is closed. On days when there are no classes, but the College is open, the GBRC will close at 4:00 p.m. The Information desk will not be filled on Saturdays.

CD ROM Demonstrations

The newest innovation in information technology is the database in compact optical disk format (CD ROMs). Now, without professional assistance, any researcher may access both bibliographic and informational databases free of charge.

Currently available CD ROM databases at the GBRC include Compact Disclosure, PsychLit, ABI-INFORM, ERIC, and Standard & Poor's Corporations.

Professor Ida Lowe will demonstrate how CD ROMs can benefit research in a series of programs to be given at the GBRC, Room 1224, 360 Park Avenue South. The programs are open to all Baruch faculty and graduate students.

Dates and Times

General Introduction to CD ROM Databases
Thursday, October 20, 1988
12:30 p.m. - 1:30 p.m.

Business Information on CD ROM: ABI-Inform and PsychLit
Thursday, November 3, 1988
12:30 p.m. - 1:30 p.m.

Social Sciences Information on CD ROM: Eric and PsychLit
Thursday, November 17, 1988
12:30 p.m. - 1:30 p.m.

Corporate Directories on CD ROM: Disclosure and Standard & Poor's
Thursday, December 1, 1988
12:30 p.m. - 1:30 p.m.
1985 GENERAL SOCIAL SURVEYS

The 1985 General Social Surveys (GSS) are here. Produced by the University of Chicago's National Opinion Research Center (NORC), the General Social Surveys provide a cross-sectional sample of the United States adult population. The data has been collected almost every year since 1972 (no survey was done in 1979 or 1981).

The surveys are based on a 300 question interview which identifies respondents' attitudes and opinions on such issues as the family, social mobility, social control, race relations, sexual mores, and national morale. This high quality data is used for research and instruction in many fields including sociology, marketing, psychology, and consumer behavior. In 1982 the National Opinion Research Center oversampled the black population, thus providing an excellent data set for studying this minority group. This data set is now available in machine-readable format on computer tape at the CUNY/UCC. It is a cumulative data file, with each annual survey contained in a separate subfile. Merging all 12 yearly files greatly simplifies the use of the General Social Surveys for trend analysis of specific questions. Subsets of the data may be created for research or instructional purposes. The subsets may be used on the mainframe, either on tape or on disk, or downloaded for use with microcomputers. Special data modules may be prepared for student exercises and classroom work using these files.

In order to access the data, you will need the following information for Tape CDA 115: File 1 is the raw datafile; file 2 is a set of SPSS control cards; file 3 contains the SPSS control cards for the first half of the data; file 4 is the SPSS control cards for the second half of the data; and file 5 is a file of SPSSX control cards for the data.

<table>
<thead>
<tr>
<th>FILE NUMBER</th>
<th>DSNAME</th>
<th>RECFM</th>
<th>LRECL</th>
<th>BLKSIZE</th>
<th>COUNT</th>
<th>FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ICPSR.GSS4435.A</td>
<td>FB</td>
<td>80</td>
<td>2000</td>
<td>744</td>
<td>3.1</td>
</tr>
<tr>
<td>2</td>
<td>ICPSR.GSS4435.B</td>
<td>FB</td>
<td>80</td>
<td>2120</td>
<td>37</td>
<td>4.3</td>
</tr>
<tr>
<td>3</td>
<td>ICPSR.GSS4435.C</td>
<td>FB</td>
<td>80</td>
<td>2120</td>
<td>37</td>
<td>4.3</td>
</tr>
<tr>
<td>4</td>
<td>ICPSR.GSS4435.D</td>
<td>FB</td>
<td>80</td>
<td>2120</td>
<td>17</td>
<td>2.6</td>
</tr>
<tr>
<td>5</td>
<td>ICPSR.GSS4435.E</td>
<td>FB</td>
<td>80</td>
<td>2120</td>
<td>37</td>
<td>4.3</td>
</tr>
</tbody>
</table>
Figure #3: Sample page of an Access Guide.

Proximity Operators
Proximity operators specify relationships between terms.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Relationship</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/#</td>
<td>First term within # words of second.</td>
<td></td>
</tr>
<tr>
<td>pre/#</td>
<td>First term precedes second by exactly # words.</td>
<td></td>
</tr>
<tr>
<td>w/seg</td>
<td>Both terms present in same database field.</td>
<td></td>
</tr>
</tbody>
</table>

Examples:
- Communications w/7 satellite federal prev2 commission jan w/seg 1987

Searching by Field
To search for a term only within a specific database field, type the field name (or abbreviation). Then enclose the term in parentheses ( ).

Most commonly used field names and abbreviations:

<table>
<thead>
<tr>
<th>Field</th>
<th>TI</th>
<th>Durs</th>
<th>DU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>JO</td>
<td>Terms</td>
<td>TE</td>
</tr>
<tr>
<td>Journal</td>
<td>JR</td>
<td>Codes</td>
<td>CD</td>
</tr>
<tr>
<td>Jnlcode</td>
<td>DA</td>
<td>Abstract</td>
<td>AB</td>
</tr>
<tr>
<td>Date</td>
<td>Company</td>
<td>CO</td>
<td></td>
</tr>
</tbody>
</table>

Examples:
- Company (Sears)
- Terms (direct mail)
- CO (Gris Corp)
- JO (Forbes)

Search Sets
Search sets can be reused and combined by using the set number enclosed in square brackets [ ].

Examples:
- [1] or [3]
- [2] and underlining

Complex Search Expressions
Use parentheses ( ) to group terms.

Examples:
- Oil spills and (litigation or torts)
- Interactive w/10 [video or videodisc] and retail?

Important Keys

[F1] HELP, Opens and closes HELP windows. HELP windows are specific to the user's current location in the program.

[F2] COMMANDS. Press F2 repeatedly to see all of the active commands on the bottom line of the screen.

[F3] SEARCH. Press [F3] to begin a new search or modify the current search.

[F4] PRINT. Prints the current item or the title list.

[F10] RESTART. Gears all previous searches and returns to the Main Menu.

[1] PREVIOUS SEARCH. Allows return to a previous search exactly where it terminated.


[3] ENTER. Completes entry and moves forward through the program.

[ESC] GO BACK. Moves backward through the program — retracing steps.

#40 How to Use
The ABI-INFORM Business Database

Prepared by
Ida Lowe
1988

Manager and Editor of Library Publications, Raina Ohlone
### Illustration 4

**Figure 4: Disclosure Database (Spectrum Ownership)**

<table>
<thead>
<tr>
<th>RANK</th>
<th>NAME</th>
<th>SHARES HELD</th>
<th>LATEST QTR CHANGE</th>
<th>FILING DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WELLS FARGO BANK N.A.</td>
<td>9,543,720</td>
<td>-1,205,830</td>
<td>06/30/87</td>
</tr>
<tr>
<td>2</td>
<td>MORGAN J P &amp; CO INC</td>
<td>8,533,000</td>
<td>-271,000</td>
<td>06/30/87</td>
</tr>
<tr>
<td>3</td>
<td>BANKERS TRUST N Y CORP</td>
<td>7,990,373</td>
<td>-253,664</td>
<td>06/30/87</td>
</tr>
<tr>
<td>4</td>
<td>COLLEGE RETIRE EQUITIES</td>
<td>7,785,100</td>
<td>-124,600</td>
<td>06/30/87</td>
</tr>
<tr>
<td>5</td>
<td>BERNSTEIN SANFORD C &amp; CO</td>
<td>5,773,247</td>
<td>69,055</td>
<td>06/30/87</td>
</tr>
<tr>
<td>6</td>
<td>MELLON BANK CORPORATION</td>
<td>5,675,094</td>
<td>-169,164</td>
<td>06/30/87</td>
</tr>
<tr>
<td>7</td>
<td>MICHIGAN STATE TREASURER</td>
<td>5,496,029</td>
<td>557,000</td>
<td>06/30/87</td>
</tr>
<tr>
<td>8</td>
<td>NEW YORK ST COMMON RET.</td>
<td>5,175,000</td>
<td>-111,000</td>
<td>06/30/87</td>
</tr>
<tr>
<td>9</td>
<td>WELLINGTON/THORNDIKE</td>
<td>4,564,513</td>
<td>-709,384</td>
<td>06/30/87</td>
</tr>
<tr>
<td>10</td>
<td>CHASE MANHATTAN CORP</td>
<td>4,311,346</td>
<td>-10,225</td>
<td>06/30/87</td>
</tr>
<tr>
<td>11</td>
<td>CAPITAL GUARDIAN TRUST</td>
<td>4,068,000</td>
<td>-39,200</td>
<td>03/31/87</td>
</tr>
<tr>
<td>12</td>
<td>CAPITAL RESEARCH &amp; MGMT</td>
<td>3,447,700</td>
<td>30,000</td>
<td>06/30/87</td>
</tr>
<tr>
<td>13</td>
<td>ALLIANCE CAPITAL MGMT</td>
<td>3,321,999</td>
<td>-879,861</td>
<td>06/30/87</td>
</tr>
<tr>
<td>14</td>
<td>STATE STREET BOSTON CORP</td>
<td>3,299,325</td>
<td>82,000</td>
<td>03/31/87</td>
</tr>
<tr>
<td>15</td>
<td>PNC FINANCIAL CORP</td>
<td>3,132,733</td>
<td>-293,795</td>
<td>06/30/87</td>
</tr>
<tr>
<td>16</td>
<td>CALIF PUBLIC EMPLOYEES RETIRED</td>
<td>3,099,100</td>
<td>-26,500</td>
<td>03/31/87</td>
</tr>
<tr>
<td>17</td>
<td>MANUFACTURERS HANGOVER TR</td>
<td>3,032,505</td>
<td>-177,552</td>
<td>06/30/87</td>
</tr>
</tbody>
</table>

Summer 1988
Illustration 5

Figure 5: "Quicksearch" start-up screen.

QUICKSEARCH

COPYRIGHT (C) 1987
DOW JONES & COMPANY, INC.

An automated method for accessing quotes, company news, financial data and profile information from eight News/Retrieval services

Press To
1 Search by company stock symbol
2 Access a QuickSearch help menu

Or enter as much of the company name as you're sure of and press return
ibm

*END*

PRESS FOR
1 IBM CREDIT CORP.

----------------------------
OR ENTER ANOTHER NAME OR /T FOR TOP
Figure 6: Part of a Dow Jones News/Retrieval Quicksearch.

**Dow Jones Quicksearch**

**IBM Credit Corp.**

**Press for**

1. Current Quotes - N/A
2. Latest News on D. I/A - N/A
3. Financial and Market Overview - N/A
4. Earnings Estimates + N/A
5. Company vs Industry Performance - N/A
6. Income Statements, All Sheets
7. Company Profile
8. Insider Trading Summary - N/A
9. Investment Research Reports - N/A

Type print followed by item numbers, separated by commas, to print selected sections of the report at regular usage rates. Example: Print 1,3,9.

Press return for instructions and pricing information.

### Disclosure

<table>
<thead>
<tr>
<th>Year</th>
<th>Five Year Summary</th>
<th>Net Income</th>
<th>EPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>640,147,000</td>
<td>118,118,000</td>
<td>1.41</td>
</tr>
<tr>
<td>1985</td>
<td>504,176,000</td>
<td>103,033,000</td>
<td>1.46</td>
</tr>
<tr>
<td>1984</td>
<td>296,439,000</td>
<td>63,691,000</td>
<td>1.43</td>
</tr>
<tr>
<td>1983</td>
<td>162,655,000</td>
<td>41,670,000</td>
<td>1.40</td>
</tr>
<tr>
<td>1982</td>
<td>118,017,000</td>
<td>31,274,000</td>
<td>1.39</td>
</tr>
</tbody>
</table>

*5-Yr Growth Rate (%)* 110.6 69.4 0.4

### Disclosure

Quarterly Report for: 03/31/87

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales</td>
<td>164,593,000</td>
</tr>
<tr>
<td>Cost of Goods</td>
<td>110,689,000</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>54,303,000</td>
</tr>
<tr>
<td>R &amp; D Expenditures</td>
<td>NA</td>
</tr>
<tr>
<td>Sell, Gen &amp; Admin Exp</td>
<td>20,613,000</td>
</tr>
<tr>
<td>Inc Dep &amp; Amort</td>
<td>33,480,000</td>
</tr>
<tr>
<td>Depreciation &amp; Amort</td>
<td>NA</td>
</tr>
<tr>
<td>Non-Operating Inc</td>
<td>NA</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>NA</td>
</tr>
<tr>
<td>Income Before Tax</td>
<td>33,490,000</td>
</tr>
<tr>
<td>Prov for Inc Taxes</td>
<td>7,614,000</td>
</tr>
<tr>
<td>Minority Int Income</td>
<td>NA</td>
</tr>
<tr>
<td>Invest Gains/Losses</td>
<td>NA</td>
</tr>
<tr>
<td>Other Income</td>
<td>NA</td>
</tr>
<tr>
<td>Net Inc bef ex Items</td>
<td>25,876,000</td>
</tr>
<tr>
<td>Ex Items &amp; Disc Ops</td>
<td>NA</td>
</tr>
<tr>
<td>Net Income</td>
<td>25,876,000</td>
</tr>
<tr>
<td>Outstanding Shares</td>
<td>NA</td>
</tr>
</tbody>
</table>
### FILE 575

**DONNELLEY DEMOGRAPHICS**

**DIALOG FILE 575**

#### SAMPLE RECORD

<table>
<thead>
<tr>
<th>Dialog Accession Number</th>
<th>Level</th>
<th>City</th>
<th>State</th>
<th>City or Place</th>
<th>Age</th>
<th>1980 Census</th>
<th>1980 Estimate</th>
<th>% Change 80 to 84</th>
<th>1984 Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0051398</td>
<td>S</td>
<td>STL</td>
<td>MO</td>
<td>St. Louis City MO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TOTAL POPULATION BY AGE

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1980 Census</th>
<th>1980 Estimate</th>
<th>% Change 80 to 84</th>
<th>1984 Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 - 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 - 17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 - 34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 - 44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 - 54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 - 64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### FEMALE POPULATION BY AGE

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1980 Census</th>
<th>1980 Estimate</th>
<th>% Change 80 to 84</th>
<th>1984 Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 - 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 - 17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 - 34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 - 44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 - 54</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>55 - 64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### MALE POPULATION BY AGE

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1980 Census</th>
<th>1980 Estimate</th>
<th>% Change 80 to 84</th>
<th>1984 Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 - 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 - 17</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>18 - 24</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>25 - 34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 - 44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 - 54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 - 64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Median Age Total Population

<table>
<thead>
<tr>
<th>Age</th>
<th>1980 Census</th>
<th>1980 Estimate</th>
<th>% Change 80 to 84</th>
<th>1984 Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### HOUSEHOLD INCOME

<table>
<thead>
<tr>
<th>Income</th>
<th>1980 Census</th>
<th>1980 Estimate</th>
<th>% Change 80 to 84</th>
<th>1984 Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $7,999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$7,500 - $9,999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$10,000 - $14,999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$15,000 - $24,999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$25,000 - $49,999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50,000 - $74,999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$75,000 +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


---

**Illustration 7**

**Summer 1988**
Illustration 8

Figure 8: Prosearch selection screens.

The Database Selection Screen

After you select the high-level interface, the Database Selection screen appears:

<table>
<thead>
<tr>
<th>Categories</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>MBRO</td>
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<tr>
<td>Accounting: ABI/INFORM</td>
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INFO abstracts
Covers all phases of business and management. Stresses general information applicable to many businesses and industries, including company case histories, competitive intelligence, new product development, and decision making. Covers over 600 primary publications. 1971-. Monthly updates. 225,000 records.
$1.17/minute $.20/offline print $.20/online display
Figure 9: An example of student graphics completed at the GBRC.

Ques 8: Product Selection of Consumers

<table>
<thead>
<tr>
<th>Products</th>
<th>Frequencies</th>
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<tr>
<td>A = Carrot Cake</td>
<td>24</td>
</tr>
<tr>
<td>B = Chocolate Chunk Cookie</td>
<td>22</td>
</tr>
<tr>
<td>C = Chocolate Eclair</td>
<td>20</td>
</tr>
<tr>
<td>D = Zucchini Bread</td>
<td>18</td>
</tr>
<tr>
<td>E = Chocolate Brownie</td>
<td>16</td>
</tr>
<tr>
<td>F = Chocolate Mousse Cake</td>
<td>14</td>
</tr>
<tr>
<td>G = Chocolate Sour Cream Cake</td>
<td>12</td>
</tr>
<tr>
<td>H = Blueberry/Cream Cheese Bar</td>
<td>10</td>
</tr>
<tr>
<td>I = Hazelnut Cheesecake</td>
<td>8</td>
</tr>
<tr>
<td>J = Frosted Devil's Food Cupcake</td>
<td>6</td>
</tr>
<tr>
<td>K = Peanut Crunch Bar</td>
<td>4</td>
</tr>
<tr>
<td>L = Sweet Potato Pecan Pie</td>
<td>2</td>
</tr>
<tr>
<td>M = Coconut Angel Food Cake</td>
<td>0</td>
</tr>
<tr>
<td>N = Date Bar</td>
<td>0</td>
</tr>
<tr>
<td>O = Lemon Frosted Ginger Scone</td>
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</tbody>
</table>
Reviews by Daniel Tsang, University of California, Irvine.


The second edition of this statistical software directory, some two to three years after the first, is a massive 744-page book. Based on questionnaires to vendors, over 200 statistical software packages are analyzed. Entries contain hardware/software requirements, ordering/price information, available documentation and phone support, statistical features supported, graphic output, product history, and occasionally, a listing published reviews. For SPSS-PC+, there is a citation to a review in the August, 1986 issue of "American Statistician", but no review is listed for SAS. A useful feature is an appendix listing program capabilities for each program. Also useful is the name of a contact person at each vendor, although inevitably, that information will become dated readily. Rather surprising is the information given for the number of current users for the software package—from unknown to a dozen to thousands. A good source for the harder to find statistical package.


This catalog of MRDF in cartography is part 6 in the British Library Information Guide series. The subjects covered span not only oceanography or cartography, but also administrative and political divisions of Great Britain. Each entry describes the data file and lists the source. It may also list availability of hard copy output. Also sometimes given is compatibility with particular statistical packages, such as SAS. In total 257 datasets are identified.

Of special interest is a short essay on "data archives and libraries," arguing that "if use of digital data and their transfer over telecommunications links become commonplace, then efficient storage of the digital records becomes essential."

It notes that back in 1984, the British House of Lords Select Committee on Science and Technology produced a report on remote sensing and digital mapping. Among its 46 recommendations was one calling on the British Library to preserve a retrospective archive of UK digital maps and remote sensing images. Subsequently, the British government decided the British Library should be an appropriate place for such an archive, and this book is a preliminary first step to survey the field.
The essay concludes with a caution to be aware of "major difficulties" facing a library intent on archiving digital images: cost of acquisition, including the cost of obtaining adequate descriptions; the need for skilled staff, and the need to acquire hardware and software to store, retrieve and plot the data. A complete large-scale topographic map coverage of all of Britain would produce an estimated 16 gigabytes of data.

The book is a outcome of a project, begun in late 1984 and finished shortly thereafter in March, 1985, to compile an inventory of MRDF on cartography. Project director was David Rhind, a Professor of Geography at Birkbeck College, University of London; the research was done by Sara Finch. The MRDF identified in the book are not, however, archived at the British Library.

In the US and Canada, the book is distributed by Longwood Publishing Group Inc., 27 S. Main St., Wolfeboro NH 03894-2069.
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For further information, contact Ilze Hobin, Population Research Laboratory, University of Alberta, phone (403) 432-4659 or e-mail: USERINS7@UALTAMTS.
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IFDO / IASSIST 1989 in Jerusalem.

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Summer 1988
Dear Colleague,

We are looking forward to meeting you at the international conference on social science data issues. This meeting is a joint endeavor of IFDO and IASSIST held every fourth year in a different country. This time it will be hosted by the Social Sciences Data Archive at the Hebrew University of Jerusalem. The conference will provide a unique opportunity for researchers and practitioners from Israel and other parts of the world to exchange ideas, discuss common problems and thus promote international cooperation in research, including data collection, processing, access and use.

The meeting is open to data archivists, data librarians, academic and government researchers, traditional archivists, teachers and advanced students from the social sciences and the broad spectrum of related disciplines. Data producers from national statistical agencies are more than invited to share information and discuss problems with users and their representatives. Other people whose work relates to data collection, processing and dissemination, are welcome.

The conference will take place in Jerusalem, a city with a history that goes back thousands of years, occupying a unique role in the evolution of civilization. The blending of ancient and modern, of different communities, of architectural styles and antiquities makes the visit to Jerusalem a memorable and unique experience.

We are looking forward to welcoming you in Jerusalem in May 1989.

The Organizing Committees

The program will include invited lectures as well as contributed presentations. In addition, small group workshops will concentrate on special topics while some sessions will provide the opportunity to demonstrate computerized systems. Participants are invited to report on their recent projects and to discuss potential new directions and applications. Papers concerning any of the following topics are solicited. However, other papers and special sessions on related subjects will be considered.

Research Issues
- Value of Social Sciences Data for the Public and Commercial Sectors
- The Role of National Statistical Agencies in Providing Social Science Data
- Social Trends Issues
- Cross National Surveys
- Post-Censal Surveys
- Quantitative Historical Research

Technologies
- The Impact of New Technologies on the Usage of Data
  - Statistical Mapping
  - CD-ROM Data Products
  - Computer Networks for Communication and Service
  - Policies/Techniques for Long Term Storage

Data Management
- Criteria for Selecting Data for Preservation
- Indexing Data Archive Holdings
- Legal Issues in Data Preservation and Dissemination
- Traditional Archiving Issues
- Special Textual Databanks
Abstracts (English only) should be submitted by November 20, 1988. Please send them by airmail, E-MAIL or FAX to any of the following addresses:

Judith S. Rowe
Computer Center, Princeton University
87 Prospect Street
Princeton, New Jersey 08544
Tel. 609/452-6052
BITNET: JUDITH@PUCC

Paul de Guchteneire
c/o Steinmetz Archives
Herengracht 410-412
NL 1017 BX AMSTERDAM
Tel. (20)225061
BITNET: U00002@HASARA5

Michal Peleg
Social Sciences Data Archive
The Hebrew University, Mount Scopus
Jerusalem 91905, Israel
Tel. (972)2-883007
FAX. (972)2-826249
BITNET: MAGARIA@HBRUNOS

The program committee response will be sent by February 1, 1989.

GENERAL INFORMATION:

Language
The conference will be conducted in English.

Location
The Hebrew University, Mount Scopus
Campus, Maiersdorf House, Jerusalem, Israel.

Transportation
Overseas participants can arrive on any flight to Tel-Aviv Airport, located on the highway to Jerusalem. TWA, PAN-AM, EL-AL and nearly all European national carriers have regular flights to Ben-Gurion (Tel-Aviv) Airport. Take a taxi directly to the conference site or to your hotel. Shared taxi fares are regulated by the Ministry of Transportation, including the ride to the hotel. HERTZ, AVIS and BUDGET agencies at the Airport provide rented cars as well.

Accommodation
Hotel space has been reserved at the conference venue — Maiersdorf Faculty House and at the luxury Hyatt Hotel, in the close vicinity of the campus. All at special reduced rates (30-80$ per room). More rooms will be available at a 3 star hotel at about $60.

Climate
In May, the weather in Jerusalem is generally sunny, dry and pleasant. Temperatures are about 26°C during the day and drop to around 17°C in the evening.

Social Events
A half-day excursion, 2 receptions and a folk dance evening. The Israel Festival will be opened in Jerusalem by Mid-May, offering a diversified collection of music, theatre and dance performances. Early order of tickets will be made by the conference secretariat.

Please send further questions as well as the attached form to:

Nancy Haluta
Social Sciences Data Archive
The Hebrew University, Mount Scopus
Jerusalem 91905, Israel
E-MAIL: KGUNH@HUJIVM1.BITNET
VALUE OF RESEARCH DATA FOR GOVERNMENT AND BUSINESS

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IASSIST — International Association of Social Science Information Service and Technology
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The newest edition of Data Map 1988: Index of Published Tables of Statistical Data is now available from The Oryx Press, giving researchers, librarians, and others convenient access to more than 12,500 statistical tables.

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Drawn from a thesaurus of more than 9,000 terms, the Subject Index provides the user with a quick reference to statistical information held in the source publications.

The 1986 edition was called by Choice magazine, "A basic source for every reference collection...strongly recommended."

Jarol B. Manheim is professor of Political Science and Communication and Director of Programs in Political Communication, George Washington University, Washington, D.C. Allison Ondrasik is project manager of the Database Management Department at Dynamac Corporation and is a specialist in indexing language.
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