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ABSTRACT

The aim was to design a seminar which would allow time for each individual to grow into the subject, to reflect, to participate in discussions, to come back to points as appropriate -- the antithesis of a 'crash course'. The intention was to give all participants a representative introduction to the whole range of what is now available, and to discuss with them the ramifications of computerized information services in the three areas of main concern: in library-acquiring, systematizing, and providing service from, machine-readable information stores. Thus a format that was as much like a full-scale academic course as possible was chosen. A 10-week program was established with attendance based upon a commitment of two half days per week. The appropriate pedigogical setting was provided by the seminar rooms of the School of Library Service and the Campus Computing Network. Part II of this report contains the outlines of the seminar sessions. (For related documents see LI 003295-003299 and LI 003301). (Author/NH)

CENTER FOR INFORMATION SERVICES,

PHASE II: DETAILED SYSTEM DESIGN AND PROGRAMMING,

NSF GRANT GN-827

PHASE IIA FINAL REPORT,

PART 6 -

CIS SEMINARS.

by

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1 April 1971

Institute of Library Research
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ACKNOWLEDGEMENTS

The excellent work of the Seminar instructors (listed in Figures 2 and 3: Seminar Schedule) is hereby gratefully acknowledged. The outlines are based on their presentations, but final responsibility for any shortcomings rests with the author.

I. REPORT ON THE UCLA SEMINARS

INTRODUCTION

Early in Phase IIA of the development of a Center for Information Services at UCLA, it became clear that all parties to the CIS project would benefit from the existence of a formal structure for detailed examination of the large-scale implications of the CIS development. In particular the Library, if it was to be properly prepared for the major extension to its service that CIS entailed, needed to be at once more thoroughly informed and more thoroughly consulted. To these ends, it was decided to hold a seminar for library staff, to present them with the broad picture of CIS and to enlist their active co-operation in shaping it into a viable system for the UCLA environment. This accordingly took place in April-June 1970. The first of these seminars having proved successful, a repeat performance was suggested (by the participants in the first one) and was presented later in the year. Thus, by the end of the reporting period, approximately 60 key people from 12 of the 18 libraries on the UCLA Campus--including many heads of units or departments--had received some degree of exposure to CIS, and had had an opportunity to provide project staff with qualified input. As well as producing new insights and operational factors for the CIS group to take into account, this nucleus of informed library staff will constitute an invaluable base of expertise upon which to build more detailed continuing contacts (e.g. committee work) in subsequent phases of the project, toward the day when the library assumes full operational responsibility for the Center for Information Services.

ORGANIZATION

From the first, the aim was to design a seminar which would allow time for each individual to grow into the subject, to reflect, to participate in discussions, to come back to points as appropriate--the antithesis of a 'crash course'. The intention was not to make experts of certain librarians with certain data bases, but to give all participants a representative introduction to the whole range of what is now available, and to discuss with them the ramifications of computerized information services in the three areas of main concern in a library--acquiring, systematizing, and providing service from, machine-readable information stores.

Aware that nothing along these lines had previously been attempted, we chose a format that was as much like a full-scale academic course as possible. A 10-week program was established, virtually synchronous with the academic quarter, with attendance to be based upon a commitment of 20% time (i.e. the equivalent of two half days per week). Fully equipped seminar rooms were provided by the School of Library Service and the Campus Computing Network, respectively, which removed the participants from the atmosphere of internal library staff meetings and gave the seminar the appropriate pedagogical setting.

PARTICIPANTS

For both seminars, a group size of 15-20 people was specified, this being a logistically manageable number that also allowed for a representative cross-section of personnel from the many branch libraries and departments with an interest in sending someone. Participants were selected by the Library Administrative Office with the same end in view, namely to build up the necessary expertise in those units upon which, when the CIS project became a permanent part of the library, demand was likely to fall first. Figure 1 shows the distribution of participants for both seminars.

During the first seminar this worked out in practice to a central group of 9-10 people who were able to attend almost all the sessions, with 21 others sharing a further 7 places. In the second seminar, after it had been demonstrated that occasional attendance did not fulfil the goals of either the project staff or the library staff, a stronger commitment to full attendance was obtained, resulting in the selection of a group of 17 people to make up 15 places. Naturally some substitutions were made, but these were frequently used by people who had attended parts of the first seminar and who wished to pick up on sessions they had missed. The number of UCLA personnel who may be said to have taken the whole seminar (over 70% attendance) is 20; another 16 attended a substantial part of it (30-70%), while a further 21 were present on a few occasions.

After the first seminar had been completed, and its scope and contents became known within the UC system, several other UC campus libraries asked to be allowed to send representatives to the second seminar, at the libraries' expense. An invitation was accordingly issued. Although the northern group of campuses--Berkeley, Davis, Santa Cruz and San Francisco--were precluded by distance and other considerations from accepting, they expressed a strong interest in the idea of having such a seminar in their area, funded separately and organized, for example, by ILR-Berkeley. The southern campuses--Santa Barbara, San Diego, Irvine and Riverside--responded eagerly and, by means of the daily inter-campus bus system between each of these libraries and the UCLA Library, sent a total of 15 people, approximately 9 FTE.

FIGURE 1

SEMINAR PARTICIPATION

LIBRARY UNIT	FTE PARTICIPATION	
	1st Sem.	2nd Sem.
University Research Library (Total)	(8)	(8)
Acquisitions	1	2
Cataloging	1	3
Reference	2	1
Systems	2	-
Circulation	1	-
Serials	1	-
Administration	-	1
Technical Services Task Force	-	1
Engineering & Math. Science Library	2	1 1/2
Physics Library	1/2	-
Chemistry Library	1/2	-
Geology-Geophysics Library	-	1/2
Biomedical Library	1	1
Education & Psychology Library	1	1
Public Affairs Service	1	-
College Library	1	-
Law Library	1	2
Architecture & Urban Planning Library	-	1
Business Administration Library	1	-
TOTAL	17	15

TIMING

As noted above, the seminars ran for 10 weeks and demanded a commitment of 20% of the participants' time each week (i.e. 8 hours). This was arranged as 2 formal seminar sessions each week (Tuesday and Thursday), each of 2 hours duration, with a 2-hour allocation of private or informal study time attached to each formal session. This was used for covering the extensive required reading, for working-group meetings, for formulating searches to be run on the computer, and for other background or 'homework' activities. Figures 2 and 3 present the detailed schedule for each seminar. The dates were 7 April - 12 June, and 6 October - 15 December, 1971. From experience with the first seminar, a method was evolved in the second of beginning a 2-part presentation on data bases on Thursday, learning 2 working days, rather than 1, to do the search formulations.

CONTENT

As can be seen from the detailed schedules, the underlying idea of giving all participants exposure to a representative sample of data bases and to the broad range of library problems, was embodied in 5 presentations, each occupying a week, on some major examples of data bases, and 3 weeks on areas of specific concern to libraries. The order was changed between seminars 1 and 2, reflecting the opinion of those attending the first seminar that more would be gained if library questions were only introduced after a working familiarity with the cause of the problem, data bases, had been achieved.

In the presentation of each data base, the following general guidelines were used:

a. The CONTEXT of the data base--both national and professional. E.g., the context of the MARC data base would be the broad national need for beginning the automation of ordering and cataloging procedures; the need for standards for machine-readable bibliographic files and thus for an information interchange format; the LC automation program stemming from the King Report (1963); the MARC pilot project and the subsequent appearance of the MARC II format, etc.

b. The FILE CHARACTERISTICS--total size, years of coverage if applicable; the organization of the logical record; the reasons why the file is organized as it is (variable length fields, repeating fields, etc.); any associated files, such as the thesaurus, etc.

c. Given this context and this file, what can be done with it, and what is being done with it? E.g. MARC is beginning to be applied to ordering, cataloging, and other technical processes;

FIGURE 2

SEMINAR OUTLINE

DATE	WEEK	MEETING	SUBJECT	SUPERVISOR	ASSIGNED READING
April 7	1	1	Overview	Dr. R. M. Hayes	Phase I Final Report, Part 1
9		2		"	Phase I Final Report, Part 3
14	2	1		"	Phase I Final Report, Part 10
16		2		"	Phase I Final Report, Parts 2 and 11
21	3	1	Acquisitions	Mr. P. G. Watson	Working Report on Acquisitions
23		2	"	"	"
28	4	1	Cataloging	"	Working Report on Cataloging (Phase I Final Report, Part 4)
30		2	"	"	"
May 5	5	1	Public Service	"	Working Report on Public Service n. 1
7		2	"	"	" n. 2
12	6	1	CENSUS 70	Dr. K. D. Reilly	Census Descriptive Documents n. 3
14		2	"	"	"
19	7	1	MARC	Mr. J. Knapp, Mr. A. Hall, and Mr. R. Bell	MARC Descriptive Documents and MARC Report (Phase I Final Report, Part 7)
21		2	"		
26	8	1	ERIC	Dr. L. Mathies	ERIC Descriptive Documents
28		2	"	"	"
June 2	9	1	Chem. Abstracts	Mrs. K. Forrest	CAS Descriptive Documents
4		2	"	"	"
9	10	1	MEDLARS	Mrs. B. Beamish	MEDLARS Descriptive Documents
11		2	"	"	"
12		3	Summary	Dr. R. M. Hayes	n. 4

FOOTNOTES TO FIGURE 2

1. A tour of the UCLA Campus Computing Network, which included a discussion session with Mr. P. Donahoe and Mrs. B. Blankenship of the CIS programming staff in CCN, was substituted for this presentation. Several seminar members had indicated their desire for such a tour; however, when it was arranged, we could not foresee the situation recorded in note 2, next.

2. By unfortunate coincidence, the entire UC System was declared closed on this day by order of the Governor of the State. Thus, was lost the chance to hold a scheduled presentation on Public Service questions. Many parts of the library system experienced a critical vise in their workload at this time of pervasive turmoil, and this unit was not rescheduled.

3. Included a slide presentation by Mr. Alvano Dean, of SCRIS (Southern California Regional Information Study).

4. A summary session was added after the May 7th presentation was cancelled. Participants were asked for their views on the form and the content of the seminar.

FIGURE 3

SECOND CIS SEMINAR

October--December 1970

DATE	TIME	TOPIC	SUPERVISOR	ASSIGNED READING
Oct. 6	10:30 to 11:00	Introduction to Seminar	Dr. R. M. Hayes	Phase I Final Report, Parts 1, 2, 13
	11:00 to 11:30	(Housekeeping)	Mr. P. G. Watson	
	1:00 to 2:00 pm	Introduction to CIS--history, overview, etc.	Dr. R. M. Hayes	
Oct. 8	10:30 to 11:00	Introduction to CIS--concluded	Mr. P. G. Watson	Phase I Final Report Part 3. ISSUES, Pro and Con.
	11:00 to 11:30	CIS Development	Mr. R. L. Carmichael	Extracts from Phase IIB proposal (1971).
	1:00 to 2:00 pm	Boolean Strategy	Dr. R. M. Hayes	
Oct. 13	10:30 to 11:30	The Computer and how it operates	Mr. P. G. Watson Mr. S. S. Silver Mr. A. H. de Boer	UCLA - CCN descriptive documents
	1:00 to 2:00 pm	(Tour of Campus Computing Network)	Mr. S. S. Silver Mr. A. H. de Boer	
Oct. 15	10:30 to 12:30	Chemical Abstracts --slide presentation	Mrs. K. Forrest	Chemical Abstracts descriptive documents
Oct. 20	10:30 to 12:30	Chemical Abstracts --analysis of search results.	Mrs. K. Forrest	
Oct. 22	10:30 to 12:30	MEDLARS--slide presentation	Mrs. B. Beamish	MEDLARS descriptive documents

FIGURE 3 (Continued)

DATE	TIME	TOPIC	SUPERVISOR	ASSIGNED READING
Oct. 27	10:30 to 11:30	MEDLARS--the AIM-TWX system--a demonstration	Mrs. B. Beamish	
	11:30 to 12:30	MEDLARS--analysis of indexing and search exercise		
Oct. 29	10:30 to 12:30	ERIC--slide presentation	Dr. M. L. Mathies	ERIC descriptive documents
Nov. 3	10:30 to 12:30	ERIC--analysis of search results	Dr. M. L. Mathies	
Nov. 5	10:30 to 12:30	MARC	Mr. J. Knapp	MARC descriptive documents
Nov. 10	10:30 to 12:30	(Demonstration and use of UCLA's console operating system, using sample MARC file and other data)	Mr. A. H. de Boer Mr. P. G. Watson	
Nov. 12	10:30 to 12:30	1970 CENSUS	Prof. D. Marvick	Phase I Final Report, Part 11
Nov. 17	10:30 to 12:30	1970 CENSUS	Miss M. Ryan	Census descriptive documents
Nov. 19	10:30 to 12:30	Acquisitions	Mr. P. G. Watson	Working Report on Acquisitions
Nov. 24	10:30 to 12:30	Acquisitions	Mr. N. Dudley	
Dec. 1	10:30 to 12:30	Cataloging	Mr. P. G. Watson	Working Report on Cataloging (Phase I Final Report, Part 4)
Dec. 3	10:30 to 12:30	Cataloging	Miss E. Koch	
Dec. 8	10:30 to 12:30	Public Service	Mr. P. G. Watson	Working Report on Public Service

FIGURE 3 (Continued)

DATE	TIME	TOPIC	SUPERVISOR	ASSIGNED READING
Dec. 10	10:30 to 12:30	Public Service	Prof. R. L. Collison	Phase I Final Report, Part 10
Dec. 15	10:30 to 11:30	The UC Library System Development project and its relation to CIS	Mr. F. Bellomy Mr. R. L. Carmichael	Phase I Final Report, Part 12
	11:30 to 12:30	CIS--Administrative aspects. Conclusion	Dr. R. M. Hayes	

Chemical Abstracts' CA-Condensates is in use at UC Riverside for the provision of SDI services to anyone in the UC system; to utilize Census data, a geographic cross-index is being developed, etc.

d. Based on the above, the participants were called upon to solve a representative problem involving use of a computer search to demonstrate some of the realities of machine retrieval; they then analyzed the output and, where time permitted, re-submitted the search.

INSTRUCTORS

The Institute was fortunate to have many highly qualified and experienced people available to serve as instructors. To talk about Chemical Abstracts we had the Assistant University Librarian for the Sciences, UC Riverside, who at that time was engaged in providing services to UC users from CA files (see Part 2 of Phase IIA Final Report); for MEDLARS we asked the Head of the UCLA MEDLARS Station which serves 4 western states; the instructor on ERIC has been involved in the development of that system from the beginning; the instructor on MARC was a member of the original MARC design team at LC; etc. After the Heads of Acquisitions, Cataloging and Reference in UCLA Library had attended relevant sections of the first seminar, they were asked to serve as instructors in the second. Dr. R. M. Hayes gave sessions on the background to CIS, on Boolean logic, and on administrative issues raised by the CIS development, and the present author acted as general supervisor.

FEEDBACK

Selection and Acquisition

Participants in general favored the Library having its customary voice in selection decisions (it is in the best position to know the needs of the whole campus) and also supported the concept of handling the acquisition process as much in line with the existing acquisitions routine as possible. Some specific suggestions:

a. make full use of the CIS User Committees for selection assistance, moral, political and, if possible, financial support. (Also inform and consult with the Academic Senate Library Committee.) Regard User Comms. as an extension of the Departmental Library Committees. Also encourage selection suggestions from individual faculty or research staff. Final decision to purchase should be the Library's.

b. treat the 10-part order form merely as an internal form for the Acquisitions department if necessary, but it will have to be completed if acquisition is to be handled through the Library's organizational structure (law requires an official authorized signature on purchase orders).

c. receiving and checking procedures are crucial; will have to involve Systems department and CIS staff.

d. serial tapes: records should be centralized in Serials department. The CIS unit in the Library would pass serial tape orders to Serials, which would then use its whole array of serials procedures to maintain control.

e. serial tapes: a CIS acquisitions unit consisting of specialists with experience of data bases and computers would co-ordinate this and other types of CIS acquisition for the various parties (branch libraries; URL Technical Services; Systems department; Serials department, etc.).

f. a campus- and university-wide inventory of data base holdings is needed. ILR should co-ordinate and produce it.

Cataloging

All participants agreed with the main CIS hypothesis that one of the important advantages of involving the library was the assurance of a public catalog (p.c.) record, though some did not see the card catalog as the best place for it. No final opinions were expressed at this stage on the question of 'how much' cataloging should be done for the p.c., but there was general agreement that the one-page form (from part 4 of the Phase I Report, "Standards for Cataloging of Magnetic Tape Material" by Joan Troutman) constituted a good basis. Again, the consensus was that the AA Code of Cataloging Rules should be applied wherever possible. Some specific suggestions:

a. keep brief details only in p.c. and locate a 'master sheet' (similar to the example from "Standards . . .") at all appropriate reference desks.

b. call number? Yes - as a class designation, not as a location number of shelf-mark.

c. accession numbers? Will scatter tapes in the same series, but may be necessary in the Systems department/Computing Network's storage environment. As long as they can rapidly find the desired tape (out of hundreds? thousands?) this is their affair. They will apparently change the physical medium from time to time (onto disc, different reels, etc.).

d. catalogers could not use the physical tape, so must have complete set of details (from Systems department/CIS) and a printout of the beginning of the file.

e. Systems/CIS to keep complete documentation on the file.

f. acronyms: since most data bases will be serial in nature, they can be cataloged under title using Rule 6B. AA Codes treatment of acronyms should then be followed. Ample cross-references and addeds will be needed. If data base is not a serial, regular cataloging procedure can be followed. In any case, where a file exists in both printed and machine-readable form, the same entry must be used for both.

g. subject cataloging? Yes, even if general headings are all that are possible. Suggest a working maximum of three.

Public Service

For internal reasons, no formal exercises on public service problems were distributed. Feedback therefore was of a general nature. Most participants, after being heavily bombarded with the potential problems in all areas of library involvement with computerized information services, saw the public service problems as the critical factor. Most agreed that the CIS project would have a big enough task for its present resources in merely serving UCLA, but recognized at the same time that a major state university does have external service obligations. In UCLA's case, these were itemized as: a) the rest of the UC system. b) other academic institutions, nationwide and c) the local geographic area. especially its business and industry.

It was also felt that a full-scale switch-over to a broad range of services would not be possible through reference departments on the first day of an operational CIS. Rather, reference librarians would work with specialized CIS staff in meeting the client's need. Even if sufficient expertise could be developed within a reference department, with specific files or with computerized data generally, the reference librarian was simply not going to have time (without the addition of several new people to the staff) to analyze requests, code profiles, monitor the search and analyze results. Some kind of 'information specialist' would be needed.

The Seminars

Opinions on the 2 seminars were generally favorable; as noted above, participants in the first one suggested that a second should be held, and participants in the second recommended continuing contact between librarians and project staff in the form of seminars and workshops. The consensus

appears to be that follow-up sessions for those who attended the 2 seminars are probably more vital as the project progresses than 'basic' seminars. Given present budgetary and staffing difficulties, it is also not surprising that the 10-week format may not be sustainable again at UCLA. Most participants seemed to report that they "enjoyed" the sessions on specific data bases more than those on library questions: it is clear that in part, at least, this attitude stemmed from a natural tendency (despite CIS staff's urgings otherwise) to regard the seminars as a teaching device. Whereas the project staff approached the sessions on library questions with a genuine need for qualified suggestions on the implementation of CIS, the librarians not infrequently would have been happier to have had a tight, firm plan, timed and budgeted, expounded and the library's decision to provide these services treated as a fait accompli, rather than confront an experimental venture with many problems needing solution. However, it would be inaccurate to suggest that this vitiated very seriously their discussion of the issues. The seminars provoked a great deal of enthusiasm for the prospect of computerized information services; served to convince many participants that the library not only should, but could, accept the responsibilities entailed; assisted toward that goal by providing a lively forum for librarians to learn some of what needs to be learnt in order for them to tackle the problems of integrating a CIS into library operations; and gave project staff an indispensable body of feedback upon which to base a design that is rational for the UCLA environment.

II. SYLLABUS FOR A SEMINAR FOR LIBRARIANS

ON COMPUTERIZED INFORMATION SERVICES

INTRODUCTION

In the belief that the many critical questions surrounding computerized information services now confronting almost every scholarly library in some form or other need thorough examination by librarians, the syllabus for the UCLA seminars has been used to produce a format that may be employed elsewhere. While the bulk of what follows is obviously closely based on the UCLA seminars, it is not a transcript of them. The many references to "CIS" within the text might therefore be generally understood to refer to whatever technical and organizational framework for computerized information services an institution may be evolving.

OUTLINE OF INTRODUCTION

Background

a. Information explosion and the development of the computer as a tool for handling it (scientific and mathematical computation followed by data processing applications).

b. What is to be the university's response? The Phase I Study ("Mechanized Information Services in the University Library"). NSF grant to ILR.

c. What the Phase I study did: (i) surveyed currently available files, (ii) surveyed currently available methods of processing them, (iii) gathered information and opinions from potential user-groups, (iv) propounded a rational plan for meeting projected needs of a medium-to-large university in computerized information services.

d. The plan. The CIS concept based on 2 hypotheses, one technical, one administrative: (i) that the best solution to the programming problems (many files, many programs, many languages) was to build modular, general-purpose programs--task-oriented, not file dependent, (ii) that the library was the agency on campus best able to take responsibility for the provision of information services from these new media. These hypotheses are being tested by developmental research in Phase II.

e. Brief discussion of the programming aspects, then examination of the ISSUES (Pro and Con) involved in attempting to answer the question "Is the library the appropriate agency?"

Introduction to Seminar

Purposes; structure; content.

Distribute Glossary from Draft (Review) version of Hayes, R. M. and Becker, J. Handbook of Data Processing for Libraries.

TO: C.I.S. Seminar Participants and Supervisors

FROM: Peter Watson

Seminar 1. A group of advanced students studying a subject under a professor, each doing some original research, and all exchanging results by informal lectures, reports and discussions.

Webster's 3rd

Rather than being called a class, or a course of instruction, or a training program, this series of meetings has been characterised as a seminar, because, to have any permanent value, that is precisely what it must be. In addition to us introducing you to certain new concepts, procedures and problems relating to that which you are expert in (i.e., the large-scale handling of information) you will be functioning, in the coming weeks, as an advisory body for us, feeding us with ideas, insights, improvements, caveats, etc., and generally forcing us to focus our thinking more sharply on the real operational shape of our proposed Center for Information Services. You are now a part of the C.I.S. team, a panel of consultants in effect, without whose interest and participation at this stage the small research staff of the project do not feel that they can . . profitably continue to press forward.

Phase II of the C.I.S. project, the phase in which we are currently engaged, is called "Detailed System Design and Programming". Phase I, as you know, was the basic feasibility study; Phase III will be the first operational (but still experimental) stage; and the whole project is a 5 - 7 year research effort.

We are now, therefore, working on the actual design and specification of a system by which the UCLA library network, acting as an integrated whole, can extend its sphere of operations into the area of computerized information resources; a huge undertaking, and one which, if we see it to a successful conclusion, could place UCLA library in the 1970's years ahead of any other major academic or scholarly library in the world. So it will be apparent that while a research team is essential, it alone cannot realistically design

a system for daily use by you, the UCLA library staff, and then hope to 'sell' you the result as a nice, neat systems package. If it is to be a library service, "owned and operated entirely by librarians", then the librarians must have a voice, and a major voice, in the planning and design. That is how we have put the matter to the NSF, which is funding this research, and that is why you are in this seminar. Incidentally, let me mention two related developments at this point. Just as you, who will be responsible for operating the service, have been asked to join the project as advisors, so the faculty, who will constitute the primary users, have been invited to have a share in determining its basic form, through a series of C.I.S. User Committees in each of the major disciplinary areas--Physical Sciences, Life Sciences, Social Sciences, Law, etc. And the second item in our effort to ensure the maximum feasible amount of qualified participation is to be a campuswide survey, involving a questionnaire and perhaps also interviews. So as you see, we are by no means trying to impose something on this university community that it may not in fact want; rather we are saying "if the thing looks feasible, (and we believe that it does) how do we achieve it in the best possible way?"

In view of all this, you will see that the more active a role you feel able to assume, the better the seminar, and ultimately the better the actual C.I.S. system, will be. In the two hours of time which accompany every two-hour formal meeting, you will probably be called upon to examine a specific problem that has been no more than outlined in the meeting, do a literature search, and write up your findings and ideas and criticisms and suggestions in any form you think appropriate (an essay, a set of notes, charts, diagrams, tabulations, etc., etc.). It may be feasible to ask you, individually or in groups, to keep a diary of events, recording both what happened at a particular session, and what your responses were. And anything you care to write at any point in the proceedings upon any topic that provokes you will be warmly welcomed by us; two words of caution, though--if it is the broad social implications of what we are doing that turns you on, write a paper by all means, but avoid the trap of talking in vague and wishful generalisations about what the computer is going to do for society, etc. Tie it to specific issues that concern us here and now at UCLA. The second point is: keep a carbon copy for yourself, for you may not see the original again--the project staff are going to have a field day sifting

through what they hope will be a veritable mountain of feedback, and they may well wish to contact you at a later date to discuss further with you some intriguing point you raised.

Therefore, do not be perturbed if at times we seem to be picking your brains--that is precisely what we shall be doing, and it is intended as a compliment. Conversely, since we are seeking the maximum volume of ideas about all aspects of C.I.S., you have performed an equally valuable service in giving us your ideas whether they can eventually be implemented or not--we will know we have actively examined the question, rather than simply never thinking of it. There are many examples I could give you of aspects upon which we need help; briefly, let us take the design of forms. It is a detailed task, requiring prior agreement between several parties as to the items for inclusion on the form, and the best method of presentation. These in turn cannot be decided until the larger question of procedure is decided, namely "What exactly are to be the duties of the librarian in this system?" Of course this itself implies that even larger questions have been answered, such as "What do we want this system to do? Exactly what are we aiming for?" Fortunately, we have at least reached <u>that</u> stage, as you will see from the documents that were submitted to the NSF as the Phase I Final Report. To have 15 or 20 professional librarians all contributing ideas and suggestions can lead to the design of a rational and stable form, whereas if one member of the ILR had tried to do it singlehanded, the task would have been fruitless, since he would <u>then</u> have had to consult the library staff, who would quite rapidly and correctly point out drawbacks he had not foreseen. And other examples will become obvious as the seminar progresses.

Finally, I might mention that the seminar itself is an experiment: as far as we know, no other campus in the country has been able to provide such a forum for discussion of the library problems of mechanized information. Yet if the university library is indeed the agency on a campus which could best take responsibility for data bases, such seminars as this pioneering effort may very well become a customary part of C.I.S.-type operations elsewhere.

ISSUE: THE PURPOSE OF THE LIBRARY AS AN INSTITUTION

PRO	CON
As a general principle, the library is the permanent agency of the university commissioned to collect, systematize and disseminate recorded knowledge to the academic community. This it does, exclusively and on a continuous basis. Magnetic tape, although a new medium of information, is certainly well within this general scope, just as microforms, slides and phonorecords are. Furthermore, if the library is regarded not merely as the repository of the record, but as the agency chiefly involved in the transfer of information from the producer to the user, the case for adding information on magnetic tape is strengthened.	The modern library developed as the historical concomitant to the ascendancy of the book, from which it even derives its name. Anything else it stores with difficulty, and only by treating it like books (Serials and pamphlets are bound like books, and microforms are printed documents miniaturized for convenience--the borrower is provided with a magnifying lens to bring them back to full-size.). There is no inherent reason why, as a general principle, the library should be responsible for all forms of recorded knowledge: for example, the Academic Communications Facility is the agency on this campus designed to acquire and disseminate instructional films, which it may do at least as well as the library could.

ISSUE: THE NATURE OF THIS PARTICULAR MEDIUM

PRO	CON
Information in a machine-readable format does not exist *in vacuo*, but bears an organic relationship to the traditional forms of recorded knowledge: a) Some tapes contain the full text of printed documents already to be found in the library. b) Other tapes provide reference and bibliographic information to assist the patron in using the traditional materials. c) Libraries, information centers and publishing houses are foremost among the organizations creating data bases or supplying services from them. The great majority of tape products have been designed and marketed with the scholarly library in mind. d) In view of these factors, it appears that most large special libraries will develop this side of their activities, if only because they see themselves among the primary users. e) Placing the tapes under the supervision of the librarian will enable him to deploy the printed collection with the tapes, to better evaluate the relative merits of tapes, and to direct the borrower to the best source for his information needs--tapes or printed documents.	Essential to the use of magnetic tapes are the computer and a staff of people trained in programming and machine use. If some central computing facility on the campus is used, the library will be dependent upon the efficiency and co-operative spirit of that facility. The library might be in the position of telling its patrons that this or that range of services is available, only for the patron to find that they are not. A second feature of magnetic tape data bases which is not found in any of the library's 'traditional' records is the dynamic nature of the medium. Additions to the file come, not only as a fresh issue in a series of issues, but as changes in the file itself as well. Apart from the programming tasks foreseen in the updating of files, the library will become responsible for the security, the currency, the manipulation and perhaps also for the formatting and reformatting of the information on these very complex files.

ISSUE: THE QUALIFICATIONS AND EXPERTISE REQUIRED TO PERFORM THIS SERVICE

PRO	CON
The library is a specialist organization wholly dedicated to the problems of recorded information. The 3 essential processes--(1) obtaining the records, (2) systematizing them and (3) making them available--form the very lines of its organizational structure (Acquisitions, Cataloging, and Circulation or Reference). These will be as necessary if the university acquires magnetic tapes (whoever may be made responsible for them) as they are for books, serials, etc. The basic expertise, however, is the same, and the library already possesses it.	Far from the library being structured to handle "recorded information", its acquisition procedures are built around the print-publishing industry, its cataloging techniques around the single-subject monograph, and its public services around the attributes of portability and legibility.
Naturally some special training will be necessary--for this, a 10-week seminar is proposed. Furthermore, libraries generally are now beginning to benefit from the introduction, some years ago, of data processing and information retrieval classes into the library school curriculum.	The processing of machine readable data bases requires totally new skills not presently to be found within the library. For the operation of the hardware itself, people with a higher education in electronics or mathematics are indispensable. Even if this aspect is controlled by the campus computing facility, there are still many specialized tasks requiring computer programmers, system analysts, and staff trained in logic, statistics or structural linguistics, and of course information science as a separate discipline. Suddenly to expect librarians to be familiar with terms like "Boolean operations, codes, search strategies, compilers"--to take only the software side--is unrealistic, especially in view of the library's history and the composition of its personnel. To overcome such difficulties will take more than a "quickie" course of instruction for existing library staff--it will take perhaps a decade more of intensive training in library schools. But the crisis will not wait ten years, it is here now.
The dynamic nature of magnetic tape files has been adduced as a debit for the library--it may equally be seen as a credit, since the library alone has had many years of experience in the technical and administrative aspects of serials control.	

ISSUE: REQUIREMENTS OF SPACE AND PHYSICAL FACILITIES

PRO	CON
The library is a permanent campus body, having its own physical facilities and procedures for the maintenance of the collections. It is likely that the library's computer can be utilized for C.I.S. processing tasks, thus helping to justify costs.	To locate tapes in the library would require: a) Temperature control b) Humidity control c) Separate tape cabinets and other devices d) Probably some type of tape cleaning and testing apparatus. There would be no point in having any tapes stored in the library if the computer on which they are to be processed is elsewhere. That issue is not yet settled. Even if all these special facilities were to be set up in the library, they would only add to the existing problems of overcrowding.

ISSUE: ADMINISTRATION

PRO	CON
The library usually is a well-administered organization, with a history of performance and dependability. It possesses the administrative mechanisms, the personnel, and the proven fiscal stability. In contrast to many computing facilities and 'audio-visual media centers' which often do not know from year to year the precise extent or sources of their funding, the library is not a grant-supported, or a temporary, or an experimental operation--it is permanent, stable and efficient.	Administratively, the library has always been a rather conservative organization. Early this century, for example, there was much opposition to the introduction of the typewriter, on the grounds that it would be the death of the 'library hand'. Other examples, such as its cataloging procedures, its technical processing generally, or its attitudes to open access, would tend to confirm this. So far, it cannot be denied that the library has shown a certain unwillingness to adopt new concepts of scientific management, system analysis and machine operation.

ISSUE: COST

PRO	CON
Since the library already has the organization, the personnel and the expertise to provide information services on a whole-campus basis, it will be cheaper to handle magnetic tapes using these existing facilities than either a) Using any other campus body (which?) or b) Adapting any other campus body to this function or c) Creating a complete new agency. --it is obvious that the last alternative would simply add enormously to the developmental and operational costs without any guarantee of a competent and continuing service afterwards. The librarian has developed working relations with departments (e.g. via the faculty library committees) by which to resolve the problems of allocation of financial resources among various campus needs for library materials.	It is by no means clear that a systematic acquisition program which operates in advance of any stated demand is the best way to approach the costly business of acquiring data bases. Ad hoc acquisition might make individual items more expensive, but it could be vastly cheaper in total. In those cases where the tapes are not available for purchase, but for rent or remote consultation only, complicated service agreements are called for, often entailing issues of copyright: the fewer of these that the library has to become involved in, the better. It should be done only at need. The library's budget is already seriously strained, and there is grounds to wonder whether it could bear the huge increases needed for the acquisition of data bases. A separate agency with its own funding might prove more efficient, even including the immediate capital outlay for its creation. Furthermore, the allocation of funds among the many competing subject interests is already a difficult enough problem, without adding these data bases, which customarily cost hundreds or even thousands of dollars each.

ISSUE: OFF-CAMPUS SERVICE

PRO	CON
The library long ago accepted that it had a responsibility to off-campus users, and has developed a set of reasonable guidelines as to the extent of that responsibility. One thing is certain: whatever problems the library would have to face arising from the possession of data bases, no other campus agency has a fraction of its administrative and professional capacity to deal with off-campus use, and such an agency would therefore confront an extra problem over and above the considerable task of serving the whole campus. The Southern California area is honeycombed with government-contracted industry which has been given large federal support in order to set up its own kinds of mechanized services, so that the potential market for such a service offered by U.C.L.A. is lessened. With reference to the U.C. system, most of its library administrators are agreed that, both from an economic and a technological and professional point of view, co-operation in this area is highly desirable at the earliest opportunity. To that end, plans are now being formulated with Riverside, Davis and other campuses to achieve continuing co-ordination with their work.	There are many very serious problems: a) The library is finding its existing rate of off-campus service something of a burden, and has thus recently taken steps to discourage outside borrowers except where the need is genuine (e.g. U.C.L.A. is the only practicable source). With data bases, their scarcity and sophistication will ensure that the need is always genuine, and demand will rise. b) Paid outside user demand is usually satisfied at the expense of ongoing campus services and campus users. If industrial and business firms have paid for a service they are in a position to demand priority, and this creates a strain on the regular ongoing library services. c) Even from within the U.C. system, demands may well reach such proportions as to cause the library the embarrassment of having to refuse. There appears at this point to be very little active co-operation between the various campuses. d) The Law Library here has particular problems of outside service. e) The general public may well consider that they have the absolute right to free access to the census (and other government products) for we are a major depository, and a tax-supported institution. f) How far should the university go in subscribing to outside service bureaux, etc. on behalf of the academic community and thus, by direct implication, for the benefit of outside users of the library?

ISSUE: TIMING

PRO	CON
One of the purposes of the C.I.S. project, which all told is a 5-7-year research effort, is to test the responsibility of the future library in the area of mechanized data bases and the services which it should try to provide from them. Although certain questions of the extent of library involvement stand unresolved, it is plain that if the library does not take the initiative at this point, then all this new mechanized activity will inevitably flow round the library and it will be reduced to the role of a kind of housing facility for humanities literature, while the sciences and the social sciences will come to depend basically on another type of facility located elsewhere completely outside of and unrelated to the traditional library.	Before the library becomes involved in a computerized information scheme it should give top priority to mechanizing its ongoing daily bread-and-butter operations such as Acquisitions, Circulation and Serials. This is a major effort which will require complete attention of all existing library staff, departments and the Library Systems staff, and the library can ill afford to have their attention diverted into the information aspect which would be possible and profitable only as a subsequent development.
By 1969 there were about 100 major data bases available, many of them reference and bibliographic in nature, and the U.S. Census of 1970 will itself demand a response from the library--so the timing is already very close-run. Tactical problems will be attacked as the project unfolds, but there is no doubt of the larger issue of whether or not data bases will be used--the library itself will be among the heaviest users.	It has been pointed out that the rapidly changing computer technology may leave the library with a heavy investment in a lot of obsolescent data bases. For example, in the last four years the density of the magnetic structures on these tapes has changed three times. Each change requires a large reprogramming effort and reinvestment in equipment. How much real demand is there on campus for a tape service? There is a real possibility that the Library and the Institute will find they have provided the faculty and students, at very great cost, with a service that they don't really want or need.

ISSUE: IS C.C.N. READY?

PRO	CON
The U.C.L.A. campus possesses vast computing power, primarily through the IBM 360/91, but also through other smaller machines on the campus. The Director of C.C.N. has testified to his organizations "sincere need" to solve the type of problem that the C.I.S. project will generate, whether there were such a project or not.	The requisite programming talent is not presently available, and will be extremely difficult to assemble on a permanent basis. Programmers are in very short supply and their salaries high. It is not certain that the C.I.S. project will be able to find a sufficient number willing to join for the limited term of the grant, or that if it can, those programmers would then be willing to stay permanently. Either way, there is obviously a serious problem of liaison and continuity between the library and C.C.N., which facility is described as disorganized and poorly administered. It is extremely doubtful whether a generalized service program, as envisaged by the C.I.S. proposals, can in fact be designed, to handle data bases of such enormous diversity as we are already faced with. This calls for a level of sophistication and diversity in design, programming and equipment which is far beyond the capacity of the projected staff and far beyond the capacity of the equipment on this campus to handle, even if all of the dozens upon dozens of programs to do it had been written.

OUTLINE OF SESSIONS ON BOOLEAN STRATEGY

Introduction

a. Basic aim is to take a 'natural language' request and turn it into a formal expression suitable for manipulation by a computer.

b. Foundation of Boolean logic is the binary process--two possible states (current is either on or off, this space either has a character written in it or it doesn't, etc.). Short introduction to Binary Arithmetic.

c. Logical operations: AND; OR; NOT. Order of precedence.

d. Notational conventions for AND; OR; NOT.

e. Use of Venn diagrams to map up to (say) 3 variables.

f. Use of parentheses--nesting. Push-down principle.

g. Illustrations of Boolean search formulations.

h. Use of arithmetic operators: Equal to (EQ); Greater Than (GT); Less Than (LT); Greater than or Equal to (GE); Less than or Equal to (LE).

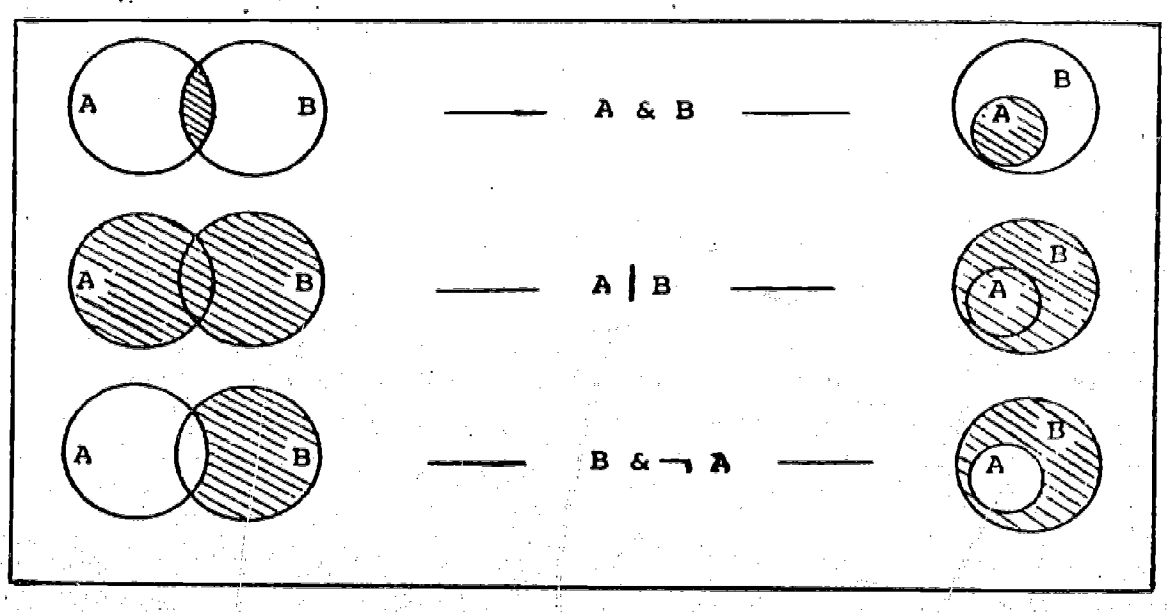
j. Importance of frequency statistics. ("A&B&C" where A has frequency of 1000; B of 700; C of 3.)

Boolean Connector	Symbol	Algebraic Representation	Meaning
AND	· &	A · B A & B	Both A and B must be 'true' or must 'occur'.
OR	+ !	A + B A ! B	Either A or B must be 'true' or must 'occur'.
NOT	- ¬	A & $\overline{B}$ A & ¬ B (A ¬ B)	A must be 'true' or must 'occur' and B must be 'not true' or must 'not occur'.

NOTE: In the above examples, the first version employs the traditional logical notation while the second shows the conventional typographical symbols that have been developed for use on keyboards to input data to the computer -- card-punches, video terminals, magnetic tape typewriters, etc. Remember that '+' equals logical OR, not logical AND.

VENN DIAGRAMS

(After John Venn, 19th Century English Mathematician)



Blackboard Exercises

1. A ↓ B & C ↓ D — is an ambiguous formulation. Using the hierarchy of logical operations discussed above, place parentheses around it to show how the machine would interpret it.

2. A ↓ B & C ¬ D — is an ambiguous formulation. Proceed as in (1).

3. (A↓B) & (C↓D) — is a valid compound formulation, which can be expanded into a series of OR statements until all the possible combinations that would fit this formulation have been exhausted. How many such simple OR statements are there, and what are they?

Binary Numeration

This is a method of counting in units of 2, instead of the conventional ten ("to the base 2" is the technical term, i.e. on a working base of 2, as if man happened to have two fingers instead of 10). This means that instead of waiting until we have amassed 10 of a class and calling that a unit of one "ten" by moving the position of the figure "1" left a space, we amass only two, call this a unit of "two" and move the "1" left a space. In binary arithmetic, therefore, the group of symbols "10" indicates two.

DECIMAL ARITHMETIC

etc.	Thousands	Hundreds	Tens	Units
	6	3	4	7

BINARY ARITHMETIC

etc.	Thirty-twos	Six-teens	Eights	Fours	Twos	Units	Number
						1	1
					1	0	2
					1	1	3
				1	0	0	4
	1	0	0	0	0	0	32

The presence of "yes-no" logic is again apparent here: the only digits one can meet in any given space are "0" and "1". Naturally the system is colossally redundant as a counting system for normal purposes (to read "32" one has to count the positions of six digits, not the customary two -- 100000.) Bearing in mind that the computer has to have everything reduced to this "on-off" mode, either a "bit" of information in this space or no information, and that it can check in this fashion billions of bits of information per second, it has proved a feasible modus operandi, especially since the early 1950's when the responsibility for handling data at this level began to be turned over to the computer itself, leaving the human operator able to ask for "32", or "SMITH, M.J." just like that.

Binary arithmetic is thus a method of working in powers of 2 rather than powers of 10, and so to find out how many code spaces we need in order to represent any set of objects uniquely (e.g. the alphabet), we simply determine what is the next highest power of 2. Thus, given an 8-bit code, we can assign a unique combination to 128 members of a class (2^7=128). This allows quite easily for all the normal typographic characters and punctuation marks.

Note: In encoding decimal numbers in binary, there are two possible approaches.

a) One can take a whole number (e.g. 32) and find the binary version of this number (100000) or,

b) One can take each component of the number, the digit 3 and the digit 2, and encode them separately; since one will never have to go beyond 9 (whose binary code is 1001) one can still work in groups of 4; then 32 would appear as 0011 0010. Since this is 8 characters rather than 6, we have a certain amount of redundancy which increases with the representation of numbers over 99. (The true binary code for 100 is 1100100, 7 digits, but the binary coded decimal representation has 12, i.e. 0001 0000 0000. And so on.) In spite of the redundance, however, this is the principle of operation generally in use, because it is far easier for human operators to handle.

Weighting

Weighting is a technique for permitting some shading in a request; something more flexible than the rigid Boolean categories will allow. At the same time as we tell the computer which terms we require it to look for, we attach to each term a number representing its relative importance in the group, stipulate a threshold weight, and, by instructing the computer to add the totals for each hit, retrieve only those references whose threshold of relevance matches our need. To take a simple example; if a client requested material on "The teaching of American history to minority children in primary grades especially in large city school systems -- preferably written after 1967" -- our terms and their weights might be

AMERICAN HISTORY	20
PRIMARY GRADES	20
MINORITY GROUP CHILDREN	6
NEGROES	5
MEXICAN AMERICANS	5
AMERICAN INDIANS	3
URBAN SCHOOLS	2
DATE GREATER THAN OR EQUAL TO 1968	1
THRESHOLD WEIGHT:	46

Any combination totalling 46 or more would be retrieved. This means that occurrence of the three major terms will automatically cause a hit, that nothing about the teaching of other subjects to minority grades will be a hit, and that material relating only to American Indian children will qualify only if it pertains to Urban Schools and was published after 1967, or if it is a comparative study involving another minority group.

One can see the possibilities; this mode of searching, since it attempts to cope with nuances and emphases, can, for example, be used to soften the rigid NOT-logic of a Boolean expression. In the above illustration, we are saying in effect that we do not want material on American Indian children unless it relates to American Indian children in Urban Schools. We could have stated this another way, by giving American Indian a negative weight, introducing gradations into how much we do not want something, as well as having a scale of how much we do. In addition, this method will be found useful if the question makes it necessary to pay attention to several types of data -- not just subject terms, but perhaps also authors, dates, conference proceedings, anything done at the University of X, etc., etc.

Arithmetic Operators

These are often used in more general bibliographic searches, where other elements beside the subject field are to be scanned. They instruct the computer to proceed by doing a simple arithmetical test: thus, rather than limiting ourselves to saying what the value in a particular field must be, we can search for a given range.

Arithmetic	Abbreviation	Symbol
Equal to	EQ	=
Greater than	GT	>
Less than	LT	<
Greater than or equal to	GE	≥
Less than or equal to	LE	≤

Any NOT-logic that is needed can be handled in one of two ways:

a) Using the reverse condition as positive logic (i.e. asking for something to be "NOT (GREATER THAN OR EQUAL TO 1960) . . . is the same as asking for it to be "LESS THAN 1960").

b) Using the conventional Boolean NOT condition -- "___ AND NOT (AUTHOR = SMITH, P.A.)"

As will be readily observed, this capability can be combined with a Boolean search of the subject field to provide a different (often more comprehensive) bibliographic search.

ERIC FREQUENCY ORDERED DESCRIPTOR LIST PAGE: 1
FREQ DESCRIPTOR 1202 RECORDS

FREQ	DESCRIPTOR
1200	JUNIOR COLLEGES
146	VOCATIONAL EDUCATION
131	TECHNICAL EDUCATION
130	HIGHER EDUCATION
111	QUESTIONNAIRES
111	STUDENT CHARACTERISTICS
84	COLLEGE PLANNING
78	TRANSFER STUDENTS
76	EDUCATIONAL FINANCE
72	STATE PROGRAMS
69	COMMUNITY COLLEGES
68	DOCTORAL THESES
65	COLLEGE FACULTY
63	CURRICULUM DEVELOPMENT
55	TEACHER EDUCATION
52	ACADEMIC ACHIEVEMENT
52	MASTER PLANS
51	GOVERNANCE
49	SUBPROFESSIONALS
47	EUDCATIONAL FACILITIES
46	COLLEGE ROLE
45	COLLEGE TEACHERS
45	FOLLOWUP STUDIES
44	ARTICULATION (PROGRAM)
44	INSTITUTIONAL RESEARCH
44	STUDENT ATTITUDES
43	EDUCATIONAL PLANNING
43	STUDENT PERSONNEL SERVICES
40	COLLEGE STUDENTS
40	CONFERENCE REPORTS
40	CURRICULUM PLANNING
40	PROGRAM EVALUATION
39	ENGLISH INSTRUCTION
39	INSTRUCTIONAL INNOVATION
37	ADMINISTRATIVE ORGANIZATION
35	SURVEYS
34	ACADEMIC PERFORMANCE
34	COLLEGE ADMINISTRATION
34	CURRICULUM
34	INNOVATION
34	TESTING
32	ADMINISTRATIVE PERSONNEL
32	INSTRUCTIONAL IMPROVEMENT
32	STATE LEGISLATION
32	STUDENT OPINION
31	ADULT EDUCATION
31	COUNSELING
31	FINANCIAL SUPPORT
30	EXPERIMENTAL PROGRAMS
30	GRADE POINT AVERAGE
29	REMEDIAL PROGRAMS
28	ADMINISTRATOR ROLE

ERIC DESCRIPTOR FREQUENCY LIST 1202 RECORDS PAGE 1

FREQ	DESCRIPTOR
1	ABILITY
1	ABILITY GROUPING
4	ABILITY IDENTIFICATION
3	ABLE STUDENTS
1	ABSTRACT REASONING
1	ABSTRACTS
19	ACADEMIC ABILITY
52	ACADEMIC ACHIEVEMENT
7	ACADEMIC APTITUDE
5	ACADEMIC ASPIRATION
5	ACADEMIC EDUCATION
2	ACADEMIC ENRICHMENT
1	ACADEMIC FAILURE
3	ACADEMIC FREEDOM
34	ACADEMIC PERFORMANCE
15	ACADEMIC PROBATION
5	ACADEMIC RANK (PROFESSIONAL)
1	ACADEMIC RECORDS
6	ACADEMIC STANDARDS
2	ACCELERATED PROGRAMS
1	ACCELERATION
2	ACCOUNTING
16	ACCREDITATION (INSTITUTIONS)
8	ACHIEVEMENT
2	ACHIEVEMENT GAINS
3	ACHIEVEMENT RATING
4	ACHIEVEMENT TESTS
3	ACTIVISM
1	ACTIVITIES
1	ADJUSTMENT PROBLEMS
18	ADMINISTRATION
1	ADMINISTRATIVE AGENCIES
1	ADMINISTRATIVE CHANGE
37	ADMINISTRATIVE ORGANIZATION
32	ADMINISTRATIVE PERSONNEL
14	ADMINISTRATIVE POLICY
9	ADMINISTRATIVE PROBLEMS
15	ADMINISTRATOR ATTITUDES
6	ADMINISTRATOR BACKGROUND
3	ADMINISTRATOR CHARACTERISTICS
4	ADMINISTRATOR GUIDES
9	ADMINISTRATOR QUALIFICATIONS
16	ADMINISTRATOR RESPONSIBILITY
28	ADMINISTRATOR ROLE
3	ADMINISTRATOR SELECTION
8	ADMISSION (SCHOOL)
28	ADMISSION CRITERIA
1	ADULT BASIC EDUCATION
31	ADULT EDUCATION
10	ADULT EDUCATION PROGRAMS
1	ADULT PROGRAMS

ERIC INVERTED DESCRIPTOR LIST 1202 RECORDS PAGE 1

FREQ	DESCRIPTOR	RESUME NUMBERS
1	ABILITY	ED027883
1	ABILITY GROUPING	ED027009
4	ABILITY IDENTIFICATION	ED012166 ED012612 ED012613 ED013103
3	ABLE STUDENTS	ED012580 ED014308 ED019076
1	ABSTRACT REASONING	ED024325
1	ABSTRACTS	ED013600
19	ACADEMIC ABILITY	ED010098 ED010954 ED011190 ED011191 ED011771 ED013106 ED014277 ED020728 ED021539 ED022436
52	ACADEMIC ACHIEVEMENT	ED003047 ED003283 ED010734 ED010740 ED010741 ED012181 ED012186 ED012580 ED012603 ED012615 ED013628 ED013632 ED014308 ED014878 ED014949 ED017259 ED019936 ED019937 ED019953 ED019956 ED022464 ED022472 ED022474 ED023380 ED023381 ED027016 ED027893
7	ACADEMIC APTITUDE	ED011383 ED012181 ED012609 ED012612 ED013103
5	ACADEMIC ASPIRATION	ED003047 ED013615 ED018225 ED027016 ED027870
5	ACADEMIC EDUCATION	ED012615 ED017260 ED019921 ED026072 ED027895
2	ACADEMIC ENRICHMENT	ED023705 ED027009
1	ACADEMIC FAILURE	ED026064
3	ACADEMIC FREEDOM	ED015730 ED015731 ED026039

OUTLINE OF SESSIONS ON ERIC

In Preparation

At previous session, distribute to participants one copy of each of the following: Research in Education, any monthly issue; Education and Psychology Library Information Leaflets, nos. 6 and 7; three search requests to be answered manually (before 1st ERIC session) by using August issue of Research in Education.

1st Session

Lecture and Discussion

I. What is the Educational Resources Information Center (ERIC)?

A. The Design of ERIC an an Information Network

1. The nature of the literature in education (soft, imprecise)
   a. Multi-disciplinary field
2. Brief history of the genesis of ERIC
3. The users of the ERIC network
   a. Researchers, scholars, teachers, etc. (clearinghouse staffs)
   b. Information specialists, librarians, etc. (clearinghouse staffs)

B. ERIC Dissemination (Products of the System)

1. Functions of the clearinghouses
   a. Documentation (processing)
   b. Information analysis and synthesis
   c. Research
2. Research in Education, Current Index to Journals in Education, microfiche
   a. Filmstrip
   b. Hard copy

II. How to Use ERIC

A. Discussion of Research in Education with regard to Earlier (Manual) Search Experience

B. Thesaurus of ERIC Descriptors

1. Development
2. Functions

C. "Hands-on" Experience: Preparation for machine search (Using ERIC Tape, Research in Education, Nov. 1966 - August 1969; Note: Sample Tape Consists of 1202 records from Junior College File)

1. Discussion of search strategy
2. Arrange participants into pairs. Distribute a reference question to each pair of participants.
   a. Using Thesaurus and/or printout of ERIC Descriptor Frequency List, participants analyze question and translate the inquiry into language of system.
      (1) CIS staff convert inquiry from each pair or participants into machine language (punch cards, etc.) and to do machine search in preparation for next meeting of seminar.
   b. Using sample issue of Research in Education, do manual search of second question to be answered for next session of seminar.

2nd Session

Lecture and Discussion

I. Indexing for ERIC and Its Relation to Subject Retrieval

A. Coordinate Indexing

B. Search Theory

C. Subject Retrieval

II. Analysis of "Hands-on" Experience

A. Reports from Participants

1. Manual search
2. Machine Search

B. Evaluation of Manual vs. Machine Search

Education & Psychology Library / UCLA

Information Leaflet No. 6

RESEARCH IN EDUCATION

Monthly Abstract Journal of the ERIC System

Indexes and abstracts unpublished reports collected by the 19 clearinghouses which comprise the Educational Resources Information Center (ERIC) as well as reports received from research projects funded by the U.S. Office of Education. A list of the Clearinghouses and the area which each covers may be found on the inside of the back cover of Research In Education.

HOW IS RESEARCH IN EDUCATION ORGANIZED?

Research In Education is made up of resumes and indexes arranged in two sections - Documents Sections (ED prefix) and Projects Section (EP prefix). The resumes include highlights of each document and are numbered sequentially with either ED or EP prefixes. The ED prefix indentifies ERIC documents which are located in this Library; the EP prefix indentifies newly-funded Office of Education research projects which have not yet been completed. Once these projects are completed and reports have been prepared, they will be included in the Document Section of Research In Education.

HOW DO YOU SEARCH RESEARCH IN EDUCATION?

Because the ERIC subject headings, called "descriptors", are more specific than those of other library indexing systems, a successful search is dependent upon identifying those terms which most closely describe your topic. The Thesaurus of ERIC Descriptors, shelved with each set of Research In Education, should be used for this purpose. There are no cross references within the Subject Index itself. The following is an example from the entries under the descriptor COUNSELORS:

COUNSELORS

UF guidance counselors	UF (means "use for" or synonym not used as descriptor)
NT adjustment counselors elementary school counselors secondary school counselors special counselors	NT (means "narrower term" or more specific descriptor)
BT guidance personnel	BT (means "broader term" or less specific descriptor)
RT adult counseling counseling counselor acceptance counselor characteristics	RT (means "related term" or related descriptor
Guidance workers use Counselors	Cross reference from synonym to ERIC descriptor

Accession Number - an identification number sequentially assigned to project documents as they are processed.

SAMPLE ENTRY FROM RESEARCH IN EDUCATION

Clearinghouse Accession Number

ED 014 334 PS 000 242

Title of Research Project

CALDWELL, BETTYE M. SOULE, DONALD

THE PRESCHOOL INVENTORY.

Author(s) (or investigator)--the individual responsible for the project

Institutional Source - the organization at which the research activity was conducted.

STATE UNIV. OF N.Y., SYRACUSE, UPSTATE MED. CTR.

Report Number - an administrative number assigned by the Office of Economic Opportunity.

REPORT NUMBER OEO-514

PUB DATE 65

EDRS PRICE MF-$0.25 HC-$1.88 45P.

Descriptors - the subject terms assigned by an indexer to characterize the substance of a project. Only the major terms preceded by an asterisk are printed in the subject index.

DESCRIPTORS *BASIC SKILLS, *MEASUREMENT INSTRUMENTS, *PRESCHOOL EVALUATION, *PRESCHOOL TESTS, ACHIEVEMENT, CHILD DEVELOPMENT, DISADVANTAGED YOUTH, FACTOR ANALYSIS, HEADSTART, INSTRUMENTATION, PRESCHOOL CHILDREN, PSI, TEST RESULTS, VERBAL TESTS,

Informative Abstract - a synopsis of the project in about 200 words. When applicable it includes the purpose and procedure of the research activity.

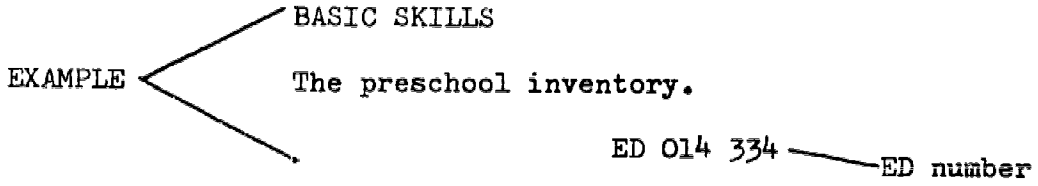
THE PRESCHOOL INVENTORY BEGAN AS AN ANSWER TO THE NEED FOR SOME TYPE OF INSTRUMENT THAT WOULD PROVIDE AN INDICATION OF HOW MUCH A DISADVANTAGED CHILD, PRIOR TO HIS INTRODUCTION TO HEAD START, HAD ACHIEVED IN AREAS REGARDED AS NECESSARY FOUNDATIONS FOR SUBSEQUENT SUCCESS IN SCHOOL. MEASURING BASIC INTELLIGENCE WAS NOT THE GOAL. RATHER, THE INVENTORY WAS AN ATTEMPT TO DEMONSTRATE THE FACT THAT THE DISADVANTAGED CHILD WAS FUNCTIONING AT A DEFICIT AT THE TIME HE BEGAN SCHOOL. IT WAS ALSO TO BE USED ON A BEFORE-AFTER BASIS AND TO BE AVAILABLE AS AN INDEX OF EDUCATIONAL ACHIEVEMENT ASSOCIATED WITH HEAD START. THE AUTHOR CONCLUDES THAT THE INVENTORY SHOULD BE MORE SYSTEMATICALLY STANDARDIZED BEFORE BEING MADE AVAILABLE FOR PUBLICATION. (APPENDIXES INCLUDE THE INSTRUMENT AND AN ADMINISTRATION AND SCORING MANUAL.) (COD)

Abstractor's initials.

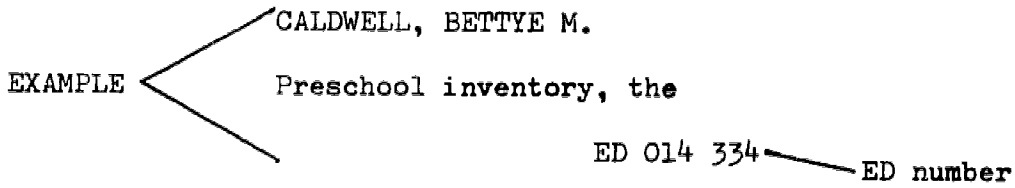
Three indexes follow both the Document Section and the Projects Section in each issue and cite the contents by:

SUBJECT
AUTHOR OR INVESTIGATOR
INSTITUTION

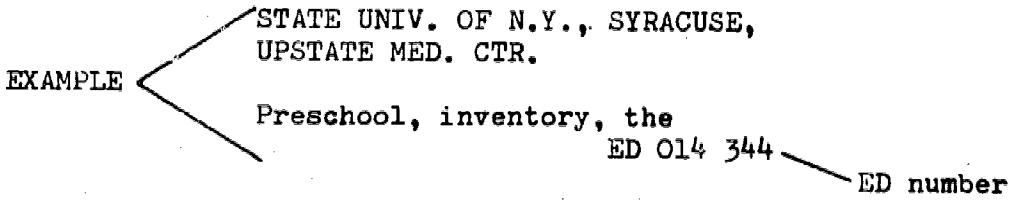
Subject Index -- This index lists titles of documents under the ERIC Descriptors that have been assigned to describe their contents. The ED number (for example ED 014 334) is displayed below and to the right of the title. Bibliographic information and an abstract of each report can be found under that ED number in the Document Resume section.



Author or Investigator Index -- This index lists documents under the name of their author. It is arranged in alphabetical order by the person's last name. The ED number (for example ED 014 334) is displayed below and to the right of the title. Bibliographic information and an abstract of the report can be found under that number in the Document Resume section.



Institution Index -- This index lists titles of documents under the institution responsible for them. The index is arranged in alphabetical sequence by the name of the university, agency, association, etc. The ED number (for example ED 014 334) is displayed below and to the right of the title. Bibliographic information and an abstract of the report can be found under that number in the Document Resume section.



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November 1969

EDUCATIONAL RESOURCES INFORMATION CENTER

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The ERIC Microfiche Collections and Their Indexes

Document Numbers and EDRS Price	The Collections	Indexes and Abstracts	Document Numbe and GPO Price
ED 001 001- ED 002 746 $.25 per microfiche or $230 for entire collection	Selected Documents on the Disadvantaged. 1746 documents (2,753 microfiche) dealing with special educational needs of the disadvantaged. Initial ERIC project, 1965-66. Not continued as a separate collection. Current reports on disadvantaged now indexed and abstracted in Research in Education.	ERIC Catalogs of Selected Documents on the Disadvantaged: Number and Author Index Subject Index	OE - 37001 at $.65 OE - 37002 at $3.00
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ED 002 747 ED 003 960 $.25 per microfiche or $280 for entire collection.	Office of Education Research Reports, 1956-1965. 1,214 research studies (3,350 microfiche) reporting projects sponsored by the USOE Bureau of Research before the start of Research in Education. Particularly strong in reports of Cooperative Research Projects.	Office of Education Research Reports, 1956-1965: Resumés Indexes (indexes reports by author, institution, subject, and report numbers)	OE -12029 at $1.75 OE - 12028 at $2.00

Document Numbers and EDRS Price	The Collections	Indexes and Abstracts	Document Number and GPO Price
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ES 000 076 -	Pacesetters In Innovation, Fiscal Year 1966 - Annual collection of approximately 1,000 approved planning and operational project proposals of Projects to Advance Creativity in Education (PACE), funded under Title III of the Elementary and Secondary Education Act.	Pacesetters In Innovation, Fiscal Year 1966- Indexes and Resumés (annual)	OE - 20103 at $2.50 (1966) OE - 20103-6 at $2.50 (1967)
MP 000 001 -	Manpower Research Inventory, 1966 and 1967- Annual collection of research reports pertaining to manpower, funded under programs of the Dept. of Health, Education, and Welfare, the Dept. of Labor, and the Office of Economic Opportunity.	Manpower Research Inventory, 1966 and 1967. (annual thereafter)	OE - 12036

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Washington, D.C. 20402

January 1970

Volume 4, Number 8

JUNIOR COLLEGE RESEARCH REVIEW

April 1970

Published by the American Association of Junior Colleges

PAYING FOR JUNIOR COLLEGES

For the past two decades, the American people have been paying more and more for education. During the 1950's, the increased cost was primarily for elementary schools, which were absorbing the enrollment increases resulting from the postwar baby boom. As the elementary schools clamored for more money, the people began to complain about their efficiency, and legislators expressed the belief that the elementary schools should be able to handle the enrollment increase without such increases in cost.

The enrollment increase during the 1960's hit the high schools, where the per pupil cost was somewhat greater than it was in the elementary schools. As high school enrollments skyrocketed, there was a corresponding demand for more classroom space and additional teachers. Criticism of the efficiency of the school system shifted from the elementary schools to the high schools, and people began demanding that the high schools be operated more efficiently.

In the 1970's, enrollment increases will affect the junior colleges and the four-year colleges as never before. The junior college enrollments are especially troublesome, since they reflect not only the increase due to more births but also the increased number of students who are staying in school for more years. Under these conditions, it is not surprising that much of the recent literature relating to junior college finance emphasizes efficient use of existing resources as well as the search for new funds. This issue of the *Junior College Research Review* examines a few of the reports on financing junior colleges that have been received and processed by the Clearinghouse.

A study in Florida investigated the use of federal funds for junior colleges (ED 012 591) and, in particular, asked whether the increased support from state and federal sources would provide additional funds for junior colleges or merely replace local funds. Whether state and federal grants would result in greater efficiency in junior colleges was also questioned. The study pointed out that Florida junior colleges have been affected by increased federal grants in the following ways: (1) each of the colleges has employed a person or persons whose full-time job is to work with the federal program; (2) vocational funds have stimulated program development in the occupational areas; (3) the student-aid program has enabled a number of students to attend who might not otherwise have had an opportunity — however, the availability of federal funds has diminished local effort in this area; (4) the availability of federal funds, accompanied by passage of the Civil Rights Bill, has meant a gradual elimination of colleges serving only members of one race, although federal legislation has also resulted in the perpetuation of some small, inefficient colleges for black students; and (5) the federal government's emphasis on the deprived portion of the population has enabled junior colleges to give more than lip service to their stated purposes of providing educational opportunity for all. The general conclusion of this study is that federal funds have been effective in improving the junior colleges in Florida.

A study investigating private funds for junior colleges (ED 011 764) based its findings on 294 replies to questionnaires sent to 376 public community colleges. It was reported that 131 colleges (or 44.5 percent) received no voluntary support and the remaining 55.5 percent received a total of $19 million for the three-year period from July 1960 through June 1963. This was an average annual amount of slightly over $6 million. The researchers pointed out that the largest amount of support was earmarked for buildings and equipment. The second largest category was scholarships, which amounted to 10 percent of all gifts during the three-year period. One hundred and twenty-nine colleges that were independent of public control fared substantially better than the public junior colleges in the receipt of donations from private sources.

For a study aimed at identifying educational fund-raising practices in selected private junior colleges in the United States (ED 020 722), a questionnaire was

ERIC JOURNAL ARTICLE RESUME

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OE FORM 6000, 2/69

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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ABSTRACT		

GPO 870-990

CURRENT ERIC CLEARINGHOUSES AND THEIR SCOPES, JANUARY 1971

(1) COUNSELING AND PERSONNEL SERVICES
611 Church Street
Ann Arbor, Michigan 48104

ERIC/CAPS focuses on information relevant to personnel work at all levels and in all settings, including college student personnel work, school psychology, school social work, elementary and secondary school counseling, school health work, school psychiatry, employment counseling, and personnel work research.

(2) THE URBAN DISADVANTAGED
Teachers College-Box 40
Columbia University
New York, New York 10027

ERIC/IRCD is responsible for research reports and other documents on the educational, psychological, social, and general development of urban children and youth who are socially or economically disadvantaged.

(3) EARLY CHILDHOOD EDUCATION
University of Illinois
805 W. Pennsylvania Avenue
Urbana, Illinois 61801

The Clearinghouse is responsible for research documents on the physiological, psychological, and cultural development of children from birth through primary grades.

(4) EDUCATIONAL ADMINISTRATION
320 Hendricks Hall
University of Oregon
Eugene, Oregon 97403

ERIC/CEA focuses on information concerned with leadership, management, and structure of public and private educational organizations at all levels. Such topics as the pre-service and in-service preparation of administrators, tasks, and processes of administration, methods and varieties of organization, organizational change, and social context of the organization are covered.

(5) EDUCATIONAL MEDIA AND TECHNOLOGY
Institute for Communication Research
Cypress Hall, Stanford University
Stanford, California 94305

ERIC at Stanford is responsible for information on application of new media and technological innovation to education, including such subjects as instructional television, computer-assisted instruction, and programmed learning.

(6) EXCEPTIONAL CHILDREN
The Council for Exceptional Children
Jefferson Plaza, Suite 900
1499 Jefferson Davis Highway
Arlington, Virginia 22202

ERIC/CEC is responsible for documents on educating children and youth who require special services--those who are gifted, mentally retarded, visually impaired, deaf, hard of hearing, physically handicapped, emotionally disturbed, or speech--and language-impared.

(7) HIGHER EDUCATION
George Washington University
Washington, D.C. 20036

ERIC/CHE is responsible for research documents on higher education, with the exception of reports on both teacher education and teaching English in higher education.

(8) JUNIOR COLLEGES
University of California, Los Angeles
405 Hilgard Avenue
Los Angeles, California 90024

The Clearinghouse is responsible for research documents about public and private community and junior colleges, including studies on students, staff, curricula, programs, libraries and community services.

(9) LIBRARY AND INFORMATION SCIENCES
ASIS Suite 804
1140 Connecticut Ave., N.W.
Washington, D.C. 20036

ERIC/CLIS is responsible for research documents on the operation of libraries and information centers, the technology used to improve their operations, and the education and training of library and information specialists.

(10) LINGUISTICS
Center for Applied Linguistics
1717 Massachusetts Ave., N.W.
Washington, D.C. 20036

CAL/ERIC is responsible for research reports on linguistics and all related language sciences, uncommonly taught languages, the teaching of English as a foreign or second language, and the teaching of English as a native language to speakers of non-standard dialects.

(11) READING
200 Pine Hall
School of Education
Indiana University
Bloomington, Indiana 47401

ERIC/CRIER focuses on information related to all aspects of reading behavior with emphasis on physiology, psychology, sociology, and the teaching of reading. Included are reports on the instructional materials, curricula tests and measurements, preparation of teachers, and methodology at all levels.

(12) RURAL EDUCATION AND SMALL SCHOOLS
New Mexico State University
Box 3AP, University Park Branch
Las Cruces, New Mexico 88001

ERIC/CRESS is responsible for research documents on organization, administration, curriculum, instruction, and other aspects of small schools and rural education in general, as well as migrant education, Indian education, and Mexican American education.

(13) SCIENCE AND MATHEMATICS EDUCATION
Ohio State University
1460 West Lane Avenue
Columbus, Ohio 43221

ERIC/SEIAC is responsible for reports on all levels of science and mathematics education, and on adult and continuing education in science and mathematics.

(14) SOCIAL SCIENCE EDUCATION
Social Science Building
University of Colorado
970 Aurora Avenue
Boulder, Colorado 80302

(15) TEACHER EDUCATION
1156 Fifteenth St., N.W.
Washington, D.C. 20005

The Clearinghouse focuses on materials relative to the preparation of school personnel (nursery, elementary, secondary, and supporting school personnel); the preparation and development of teacher educators; and the profession of teaching.

(16) TEACHING OF FOREIGN LANGUAGES
Modern Language Association of America
62 Fifth Avenue
New York, New York 10011

MLA/ERIC is responsible for research documents on teaching French, German, Italian, Russian, Spanish, Latin and classical Greek at all instructional levels.

(17) TESTS, MEASUREMENT, AND EVALUATION
Educational Testing Service
Princeton, New Jersey 08540

(18) VOCATIONAL AND TECHNICAL EDUCATION
Ohio State University
1900 Kenney Road
Columbus, Ohio 43212

The Clearinghouse focuses on research documents and related resources in vocational and technical education, new sub-professional fields, and the related fields of industrial arts education, manpower economics, occupational psychology, and occupational sociology.

EXERCISES FOR MANUAL SEARCH OF RESEARCH IN EDUCATION

Using the E/P Information Leaflet no. 6, carefully browse through this issue of Research in Education, noting, in particular, the organization of the index and its components. Research in Education (RIE) announces more than 1,000 new documents which are added to the ERIC collection each month. Each report is cross-indexed by the author, the institution where it was created, and the subjects which it covers. Abstracts or resumes highlight the contents of each report and each is numbered sequentially with either ED or Ep prefixes.

As a way of becoming further acquainted with RIE, please complete the following exercises. They will be used as one basis of the discussion on Tuesday.

EXERCISE I

Question: Is there any information of the relationship between class size and teaching load in the junior college?

Please give the document number and the descriptors which you used to find the answer to this question.

EXERCISE II

Question: Give the complete citation (including all of the descriptors of the dissertation written by W. Thomas Cottingham.

EXERCISE III

Question: A high school counselor has written that he would like a bibliography of research reports on the prediction of academic success beyond the high school.

Please cite the document numbers as well as the descriptors which you used in this search.

REFERENCE QUESTIONS FOR ERIC SEMINAR

1. The preparation of students for further study at the four-year college or university has consistently been the primary function of junior colleges. Is ther evidence as to how well these students adjust and perform academically in senior-level institutions?

2. How is the nature or type of occupational education programs offered in community junior colleges determined? Give examples.

3. Student unrest appears to be a characteristic of modern society. There are certain indications that, in part, this may be used in student-teacher relationships. Have any educators on the junior college level studied the relationship between student background and teacher attitudes and qualifications?

REFERENCE QUESTIONS FOR ERIC SEMINAR (Continued)

4. It is generally accepted that the establishment of new institutions of higher education should be preceded by extensive state and local planning. Cite any documents in the ERIC file which report such studies.

5. The articulation of junior college programs with those of four-year (senior) institutions has long been a serious problem, both for students and educators. A student panel from a local junior college is searching for research on this matter. Can ERIC help?

OUTLINE OF SESSIONS ON CHEMICAL ABSTRACTS SERVICE

1st Session

I. National and Professional Context

A. CAS as Publisher

1. Responsibility and reliability
2. Hard copy preparation
3. User groups

II. Input and Subject Authority

A. Tape Services Offered by CAS: Differences, Costs, and Coverages

B. CA & CT in Particular

1. Current awareness versus bibliographic control
2. Retrospective possibilities
3. File structure and type application

C. Subject Authority Guide

1. Generic and grammatical variations
2. Term truncation
3. Compound fragmentation
4. Coden
5. Word frequency and search guide lists

III. Data Elements

A. Search Fields

B. Logic and Parameters

C. Format of Output

D. Problems with Weighting

IV. Development of Search Strategy

A. Format of Input

B. Coding for Fields and Service

C. Querying User for Keyword Choice and Form

D. Final Revision

E. Keypunching and Statistics

V. Printout

A. Format

B. Data Identification

C. Uses of Data and Prior Verification

D. Costs and Accounting Procedures

VI. Discussion

Assignment (2 Hours)
Revise and code a profile. Keypunch and submit cards to _____. Bring punched cards, profile form and printout to class on Thursday.

2nd Session

I. Initial Evaluation

A. Possible Types of Errors

1. Relevancy-keyword error
2. Coding or keypunch error
3. Fragmentation or truncation error
4. Section or issue error

B. Analysis of Output

1. Type of error
2. Parameter problems
3. Weighting problems
4. What is retrieved versus what is retrievable?

C. Analysis of Input

1. What happened?
2. Why did it happen?

D. A Guide for the Initial Evaluation

1. Check all hits quickly and indicate only those whose relevance you question.
2. Check printout of profile for keypunch errors.

3. Underline words in each parameter which pulled your hit. Use different color, one, two, and/or three straight lines, or one wavy and one straight.
4. Look for words pulled by truncation mode. Use Search Guide.
5. Go to hard copy.
   Check forms of words used:
   fragmentation or abbreviations
   hyphen and/or other punctuation
   spelling
6. Check Search Guide again for other terms to be included.
7. Use Word Frequency List to help broaden or narrow the terms.

II. Secondary Evaluation

A. Questions, Problems and Discussions to Retrieve User Feedback.

1. Personal interview
   a. May be structured or unstructured. Early interviews are generally unstructured while the interviewer feels out what questions need to be asked.
   b. Highly individual. Perhaps one should attempt to become more structured as you both become more aware of the problem.
   c. Most time consuming
   d. Most productive
   e. Best for public relations
2. Indirect Studies
   a. Examination of the data itself
      (1) Number of hits received
      (2) Percentage of relevancy
      (3) Percentage of retrieval vs. amount to be retrieved.
      (4) Restudy of profile itself with structured questioning raised during initial evaluation.
   b. Sometimes such an analysis will lead to clear cut conclusions; in other cases it may be ambiguous and require further analysis or a combination of personal interview with already obtained analytic results.
3. Questionnaire
   a. Rather shallow form of feedback and least effective method.

b. No way of measuring the:
   (1) Clarity of questions
   (2) Receptivity of the questioner
   (3) Lower response through returns
   (4) Considerable variation in time and effort spent in reply.

c. If this method is used, keep several important things in mind:
   (1) What information are you seeking?
   (2) What is the logical sequence of questions?
   (3) Does the respondee have the necessary information to answer the questions?
   (4) Is the questionnaire form easy to respond to?
   (5) Recurring questionnaires designed to detect changes in attitude generally are not effective because most people will not report on typical behavior or will base on reply on the last.

Assignment

Analyze your input and output completely and return your analysis with one-half of your output sheet (citations are double-printed).

SEARCH PROFILE FORM

Return to: A-6
DIANE BENNETT
GENERAL LIBRARY, ROOM 204
UNIVERSITY OF CALIFORNIA
RIVERSIDE, CALIFORNIA

REQUESTOR: Fill in Name
DEPARTMENT: Fill in Department and/or Grant
CAMPUS: Fill in Campus
FUND: Fill in Department or Grant Fund

Indicate Service
CT
CA Or Both

HEADER CARD

QUESTION NUMBER	OUTPUT INDICATORS	QUESTION WEIGHT
1 3	8 11	12 17
LEAVE BLANK	1,0,0,0	

QUESTION:

Original Statement of Request

DETAIL CARD

DUPLICATE	PARAM NO.	NO. OF PARAM	MODE	TYPE	LOGIC	LOGIC	TERMS	TERM WEIGHT
	4 5	6 7	8	9	10	DO NOT KP	11 DO NOT KEYPUNCH ASTERISK 77	78 80
		DUPLICATE				Question	Weight - Fill in only if term weight is being used.	
						Parameter	- We suggest the use of not more than three parameters per question. Several more precise questions prove more successful.	
						Mode -	Term Truncation mode 1-4 (see attachment)	
						Type -	Five term types are applicable. Any combination of term types may be used in a single profile. (see attachment)	
						Logic -	"Or" logic is indicated by O, "Not" logic is indicated by N. "And" logic is implied for all parameters and is not coded for individual terms. All "Not" logic terms in a given profile must be in a single parameter.	
						Term Weight -	These may be positive or negative numerical values. Weighting factor is considered only after all parameters have been satisfied. The sum of the weights of the matched profile terms must exceed the question weight to be retrieved.	
						All High	Order Zeros must be coded. Alpha O is written Ø.	

SEVEN STEPS FOR CODING SEARCH PROFILES*

1. Complete the questioner identification information at the top of the profile form.

2. Write the question in sentence format on the profile form.

3. Determine the essential concepts.

4. Select appropriate search terms for all concepts, including all necessary synonomous and related terms. (Use the Search Guides prepared by CAS and other available reference sources to accomplish term expansion.)

5. Decide on the truncation strategy and the truncation modes for all terms and enter terms on form.

6. Determine the appropriate logic and weighting factors (if used) for all terms and enter codes.

7. Decide on output option and enter appropriate codes.

*Chemical Abstracts Service. Preparation of Search Profiles, Columbus, Ohio.

SEARCH SYSTEM TERMINOLOGY

For Use With Chemical Abstracts Services Magnetic Tapes*

PROFILE: A search profile is a list of terms which describe the interests of the requestor. The profile sets the specifications under which a search item will be regarded, and hence retrieved, as an answer to the search request.

PARAMETER: A parameter is a subset of terms within a single profile. A parameter may use either a single term or multiple alternative terms to represent a concept in the search profile.

"AND" LOGIC: "And" logic is implied for all parameters of a profile. The implied "And" logic requires that a file item must satisfy all parameters before that item is retrieved.

"OR" LOGIC: "Or" logic is applied to all terms within a parameter when it is desired that the presence of any one of these terms in a file item satisfy the parameter in question.

"NOT" LOGIC: The application of "Not" logic to profile terms will cause search items containing such terms to be rejected, regardless of the degree to which other logic is satisfied. All "Not" logic terms in a given profile must be in a single parameter.

WEIGHTING FACTORS: Weighting factors are positive or negative numerical values applies to search terms. The person formulating the profile should attempt to relate the magnitude of the weighting factor for a term to that term's capacity to retrieve relevant information. Negative weights may be employed to simulate "Not" logic when use of the latter would preclude retrieval of relevant file items.

Retrieved file items are sorted for output in order according to the sum of the weights of the profile terms matched in the item; the item with the highest sum is placed first and the others follow in decreasing order. This ordering tends to place the most relevant items at or near the beginning of the output listing.

SEARCH SYSTEM TERMINOLOGY (Continued)

QUESTION WEIGHT: When weighting factors are used, the sum of the weights of all profile terms matched in a search item is compared with a pre-selected threshold weight called the question weight. If the sum of the weights of the matched profile terms exceeds the question weight, the file item is retrieved. Weighting factors are considered only after all parameters have been satisfied.

TERM TRUNCATION: A technique called "term truncation" is used to facilitate retrieval of items containing word fragments which are common to two or more different forms of a word (e.g., between singular and plural forms, or different tenses of a verb). For example, the truncated term *POLYMER* would retrieve the terms POLYMER, POLYMERS, COPOLYMER, POLYMERIZE, POLYMERIZATION, COPOLYMERIZATION, etc. Terms may be searched in any one of four truncation modes.

*Chemical Abstracts Service. Preparation of Search Profiles, Columbus, Ohio.

MODE (Column 8)

SEARCH MODE	SYMBOLIC REPRESENTATION	EXPLANATION
1	*term	Accepts any combination of character preceding the term.
2	term*	Accepts any combination of character following the term.
3	term	Accepts term only if bounded by blank spaces or non-alphabetic characters.
4	*term*	Accepts the term with any string of characters either preceding or succeeding the term.

*The asterisk denotes that a blank space or any character may occupy the position so marked.

TYPE (Column 9)

Column 9 Code	Term Type
A	Authors
C	Coden
M	Molecular formula
R	CAS Registry Number
T	Title or text words

OUTLINE OF SESSIONS ON MEDLARS

1st Session

1. Background: operational since 1964; based at NLM; decentralized network, 12 MEDLARS Centers in US, each attached to a Regional Medical Library. Also overseas agencies (National Lending Library in Gt. Britain, etc.).

2. Main service of these stations is the retrospective one-time bibliography in response to a complex question which cannot be handled by traditional reference means. Also (recently) an on-line search of approx. 100 primary Eng. lang. medical journals (AIM-TWX).

3. Input. 2300 major biomedical journals (all langs.) indexed at NLM. Average depth is 10-15 terms, chosen from Medical Subject Headings (MeSH) the thesaurus for the system (3 headings usually cover the main concepts in an article).

4. MeSH. Contains c8000 terms. Has alphabetic and classified listing (arranged hierarchically). Examples of its use.

5. Output. (i) Index Medicus - major American index to biomedical literature (monthly, cumulates annually) (ii) MeSH published annually (iii) Abridged Index Medicus (iv) Bibliography of Medical Reviews (v) specialized recurring bibliographies, e.g. Index to Dental Literature (vi) topical literature searches -- mass-produced, edited searches of the MEDLARS files upon topics of wide current interest (vii) individual MEDLARS searches.
Distribute exercise.

2nd Session

1. Demonstration of the Abridged Index Medicus Telex search service (AIM-TWX) from SDC, Santa Monica.

2. Analysis of exercise

3. System evaluation. Study by F. W. Lancaster. Recall and Precision findings.

Factors Associated With Deafness in Young Children

PHILIP W. JOHNSTON, Ph.D.

IN THE LITERATURE are a moderate number of references relating to the etiology of deafness in the young child. These references have resulted in identifying several conditions as probable causes of this impairment. Much research needs to be done on several undetermined factors, however, if a satisfactory understanding of the origins of hearing loss is to be attained. The literature states explicitly that the cause of deafness in young children is unknown in at least 40 percent of all cases (*1a*).

The classic work on the etiology of deafness in the young child was done indirectly by Gregg, an ophthalmologist. In 1941 [illegible] the marked increase of cataract [illegible]s in children whose mothers had [illegible]uring the first trimester of pregnancy concurrent with a pandemic in Australia in 1939 and 1940 (*2*). Subsequently, numerous articles reporting cardiac lesions and deafness as important sequelae to maternal rubella were published in Australia. Maternal rubella is now established as a leading prenatal cause of deafness.

In addition to rubella, Wedenberg designated prematurity, asphyxia, brain damage, and blood incompatibility as likely causes of severe hearing loss (*1b*). Crabtree and Gerrard reported detection of 16 cases of perceptive deafness associated with kernicterus (*3*). Perlstein also reported deafness was a common sequel of kernicterus (*4*). Windle showed that anoxia was a major cause of neurological and sensory disorders and stressed that even brief periods of anoxia can induce profound and permanent changes in the health of an infant (*5*).

Bordley listed immunization of the mother during pregnancy as a factor in congenital deafness (*6*). Diabetes and cretinism were investigated by Keleman, who was first to describe abnormalities in the ears of a 6-month fetus delivered by hysterectomy of a diabetic mother (*7*). Altmann reviewed congenital atresia of the external auditory canal and its relation to hearing loss (*8*).

Wilson stated that meningitis was the leading postnatal cause of severe deafness in infants and young children (*9*). Similarly, Shambaugh listed meningitis, especially the meningococcic (or cerebral) type, as the most common postnatal cause of deafness in 1,192 children in schools for the deaf (*10*).

Zonderman referred to numerous studies on the effects of streptomycin, dihydrostreptomycin, and neomycin. He pointed out that the use of drugs for control of bacterial infection may result in nerve deafness (*11a*). Walker reported on 93 patients with tuberculous otitis media. Most of these patients were children whose median age was 7 years and who had been treated with streptomycin and dihydrostreptomycin (*12*).

Zonderman pointed out that the incidence of

Dr. Johnston is head of the Child Growth and Development Service, Massachusetts Department of Public Health, Boston. He prepared this paper while he was project director for the Boston School for the Deaf, Randolph, Mass.

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P - non-std. pagination				

AUTHOR DATA *(print)* Johnston, PW

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TITLE *(English or English Translation)*

Factors associated with deafness in young children

TITLE *(Vernacular or Transliterated Vernacular)*

IM	NIM	MAIN HEADING *subheading	NO.	ENTRY VOCABULARY
		REVIEW (References)	1	
		ENGLISH ABSTRACT	2	
			3	
		DEAFNESS *etiology	4	
			5	
X		INFANT, NEWBORN, DISEASES *compl	6	
			7	
		BIRTH WEIGHT	8	
			9	
		DELIVERY	10	
		LABOR COMPLICATIONS	11	
			12	
		DEAFNESS *diagnosis	13	
			14	
X		PREGNANCY COMPL., INFECTIOUS	15	
			16	
		RUBELLA *complications	17	INPUT TYPIST: DISREGARD TERMS BELOW
		MEASLES *complications	18	
			19	
X		DEAFNESS *familial & genetic	20	
			21	
		ANTIBIOTICS *adverse effects	22	
			23	
		MASSACHUSETTS	24	
			25	

IM	NIM	CHECK TAGS	NIM	CHECK TAGS	NIM	CHECK TAGS	NIM	CHECK TAGS
	X	PREGNANCY		CATS		HISTORICAL BIOGRAPHY		CURRENT BIO-OBIT
	X	INFANT, NEWBORN (to 1 month)		CATTLE		HISTORICAL ARTICLE		ANIMAL EXPERIMENTS
	X	INFANT 1-23 months)		CHICK EMBRYO		ANCIENT	X	HUMAN
	X	CHILD, PRESCHOOL (2-5 years)		DOGS		MEDIEVAL		MALE
		CHILD (6-12 years)		FROGS		MODERN	X	FEMALE
		ADOLESCENCE (13-18 years)		GUINEA PIGS		15th CENT.		IN VITRO
		ADULT (19-44 years)		HAMSTERS		16th CENT.		CASE REPORT
		MIDDLE AGE (45-64 years)		MICE		17th CENT.		CLINICAL RESEARCH
		AGED (65- years)		MONKEYS		18th CENT.		COMPARATIVE STUDY
				RABBITS		19th CENT.	CITATION NO.	
				RATS		20th CENT.		

1416
. 3-69

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GPO : 1969 O—350-778

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Biomedical Library
University of California
Center for the Health Sciences
Los Angeles, California 90024
(213) 825-5341

MEDLARS SEARCH REQUEST

DATE: 3-27-69

Is this your first request to MEDLARS? ☐ YES ☐ NO

1. INDIVIDUAL WHO WILL ACTUALLY USE THIS BIBLIOGRAPHY

First	Middle	Last Name	TELEPHONE NO.
Charles	X.	Smythe	543-5530

2. TITLE: Post Doctoral Fellow

3. ORGANIZATION *(Department, Bureau, Branch, Division, etc.)*

4. ORGANIZATION *(University, Corporation, Company, etc.)*

5. STREET ADDRESS AND CITY

6. STATE AND ZIP CODE

7. REQUEST SUBMITTED BY *(If different from above)*

TELEPHONE NO.

8. SEARCH ANALYST *(Leave Blank)*

ALL OF THE QUESTIONS THAT FOLLOW ARE DESIGNED TO PROVIDE INFORMATION NEEDED TO DEVELOP A BIBLIOGRAPHY THAT IS RESPONSIVE TO YOUR NEEDS. YOUR CARE IN PROVIDING FULL INFORMATION WILL AFFECT THE USEFULNESS OF THE CITATIONS THAT YOU WILL RECEIVE.

9. DETAILED STATEMENT OF REQUIREMENTS: Please describe, in your own words, the subject matter for which the search is to be conducted. Be as specific as possible. Define any terms that may have special meaning in your request. Also if there are points NOT to be included, please state these.

I am interested in reviewing effects (congenital disorders) to the child whose mother experienced rubella during pregnancy. I am especially interested in obtaining references to articles wherein hearing disorders are noted as rubella caused. The pathology and treatment programs for hearing loss arising from maternal rubella are both of interest.

NOTE: In conversation, Dr. Smythe indicated that he was interested in all cases of hearing disorders which resulted from rubella not just those in which the mother's pregnancy was involved.

DEADLINE: (Allow 4 weeks)

10. SEARCH PURPOSE: Please indicate the purpose for which this search will be used (e.g., preparation of a book, book chapter, journal article, or review article; for immediate clinical application; ongoing research; prospective research; grant application; paper presented at symposium, etc.). Give specific details that will put your request into context.

Research project.

11. SEARCH LIMITATIONS: Please check all boxes that are appropriate to the scope of your request. State your needs as specifically as possible, even though we may not be able to meet these precise needs in some cases. Your replies will allow the search analyst to design a strategy that, as far as possible, will avoid types of literature that are of no interest to you.

☐ NO RESTRICTIONS

☒ HUMAN SUBJECTS

☐ VETERINARY MEDICINE: If only certain animals or animal groups are of interest, please list these:

☐ ANIMAL EXPERIMENTS: If only certain animals or animal groups are of interest, please list these:

☒ MALE

☒ FEMALE

☐ NORMAL STATE

☐ CLINICAL RESEARCH *(testing of drugs or technics in humans only)*

☒ DISEASED STATE

☐ IN VITRO STUDIES *(of animal or human tissues or fluids only)*

☐ CASE HISTORIES

LANGUAGE RESTRICTIONS:

☒ ACCEPT ALL LANGUAGES

☐ ACCEPT ONLY ENGLISH

☐ ACCEPT CERTAIN LANGUAGES ONLY *(please specify)*

AGE GROUPS: If only certain age groups are of interest, please indicate which ones:

____ to 1 month	____ 6-12 years	____ 45-64 years
____ 1-23 months	____ 13-18 years	____ 65- years
____ 2- 5 years	____ 19-44 years	

GEOGRAPHIC RESTRICTIONS: If only certain regions are of interest, please list these:

12. KNOWN RELEVANT PAPERS: Please carry out a preliminary literature search of your own before submitting this request to MEDLARS, and supply full bibliographic citations below for relevant articles you have found. Wherever possible, they should be journal articles published since January 1966. These citations will be used as a guide in retrieving similar citations related to your needs. They will also be used in a later appraisal of the results of this search. If no relevant papers have been found, please state "none found".

a. Karmody, DS. Subclinical maternal rubella and congenital deafness. New Eng J Med 278:809-14, 11 Apr 68.

b. Marshall, RJ, Jacobs, WH. Late manifestations of the rubella syndrome in the adult. Dis Chest 53:332-9, Mar 68.

c. Ward, PH, Honrubia, V, Moore, BS. Inner ear pathology in deafness due to maternal rubella. Arch Otolaryng (Chicago) 87:22-8, Jan. 68.

d.

e.

If you used INDEX MEDICUS for your preliminary search please list the subject headings under which you sought citations:

13. SEARCH REQUIREMENTS: Please check one of the boxes below to indicate the type of search that you would prefer:

☒ A broad search designed to retrieve as many as possible of the relevant citations, but which might also retrieve many irrelevant citations.

☐ A narrow search designed to retrieve some only of the relevant citations, but with few accompanying irrelevant citations.

NUMBER OF CITATIONS EXPECTED: Please check the appropriate box to indicate the number of journal articles dealing with the subject of your request that you consider likely to have been published since January 1966.

☐ 0	☒ 10 - 50	☐ 101 - 200
☐ 1 - 9	☐ 51 - 100	☐ 201 - 500
		☐ OVER 500

14. PRINT ON:

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ELEMENTS A, J, I, N, Y, X, AND SUMMATIONS

SECT. 7 3-	ELEM. SYMBOL 11-14	33-36	37-40	41-44	45-48	49-56	SECT. 7 3-	ELEM. SYMBOL 11-14	33-36	37-40	41-44	45-48	49-56

REQUEST STATEMENTS

SECT. 7	ELEM. SYMBOL 9-10	11-80 COLUMNS	FOUND

BATCH NO.	DS MODULE	COMMENTS	RG MODULE	COMMENTS

SEARCH FORMULATION

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10000 2 01RUBELLA AND HEARING DISORDERS
10000 2 02SMYTHE, CHARLES X., M.D.
10000 2 03UCLA SCHOOL OF MEDICINE, LOS ANGELES, CALIF. 90024
10000 2 04REQUEST SUBMITTED BY MARY SMITH, REF. LIBRARIAN, BIOMED. LIBRARY
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1000003   M1                    HUMAN
10000 3   M2                    RUBELLA
10000 3   M3                    RUBELLA VIRUS
10000 3   M4                    RUBELLA VACCINE
1000003   M12                   HEARING
10000 3   M13   E               HEARING DISORDERS
10000 3   M15   E               EAR DISEASES
10000 3   M16   E               EAR
1000003   S1                    ADVERSE EFFECTS
10000 3   S2                    FAMILIAL ( GENETIC
1000003   S3                    COMPLICATIONS
10000 3   M25                   SUM M2  M3
1000003   M30                   SUM M12 M16
1000003   M35                   SUM M13 M15
1000003   X1                    M4  S1
10000 3   X2                    M35 S2
1000003   X3                    M2  S3
10000 3   X4                    M35 S3
1000004 01M1*M30*(M25+X1).
10000 5 01X2+X3*X4.
1000006 01X2.
10000 F1 ALL  CXSA
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SEARCH FORMULATION

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10000 2 01RUBELLA AND HEARING DISORDERS
10000 2 02SMYTHE, CHARLES X., M.D.
10000 2 03UCLA SCHOOL OF MEDICINE, LOS ANGELES, CALIF. 90024
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10000 3   M4                    RUBELLA VACCINE
1000003   M12                   HEARING
10000 3   M13   E               HEARING DISORDERS
10000 3   M15   E               EAR DISEASES
10000 3   M16   E               EAR
1000003   S1                    ADVERSE EFFECTS
10000 3   S2                    FAMILIAL ( GENETIC
1000003   S3                    COMPLICATIONS
10000 3   M25                   SUM M2  M3
1000003   M30                   SUM M12 M16
1000003   M35                   SUM M13 M15
1000003   X1                    M4  S1
10000 3   X2                    M35 S2
10000 3   X3                    M2  S3
10000 3   X4                    M35 S3
1000004 01M1*M30*(M25+X1).
10000 5 01X2+X3*X4.
1000006 01X2.
10000 F1 ALL  CXSA
 FOUND
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SAMPLE OUTPUT

ALTMANN F
HISTOLOGICAL FINDINGS IN CONGENITAL DEAFNESS.
ACTA OTOLARYNG (STOCKHOLM), 65,115-9, JAN-FEB 68
DEAFNESS/ETIOLOGY, DEAFNESS/FAMILIAL AND GENETIC, *DEAFNESS/CONGENITAL, HUMAN, *LABYRINTH/PATHOLOGY, LABYRINTH DISEASES/PATHOLOGY, LABYRINTHINE FLUIDS, PREGNANCY, PREGNANCY COMPLICATIONS, INFECTIOUS, RUBELLA/COMPLICATIONS

DABUSG HM, LEVITAN M
CHANGING ASPECTS OF DEAFNESS IN SCHOOL-AGE CHILDREN.
ARCH OTOLARYNG (CHICAGO), 86,166-71, AUG 67
ABO FACTORS, ABORTION, THERAPEUTIC, CHILD, DEAFNESS/CONGENITAL, DEAFNESS/ETIOLOGY, DEAFNESS/FAMILIAL AND GENETIC, *DEAFNESS/OCCURRENCE, FEMALE, HUMAN, INFANT, NEWBORN, INFANT, PREMATURE, DISEASES/COMPLICATIONS, MALE, PREGNANCY, PREGNANCY COMPLICATIONS, INFECTIOUS, RH FACTORS, RUBELLA

FURUICHI N, KO H, OFUJI K, ET AL
RUBELLA INFECTION DURING PREGNANCY AND THE OCCURRENCE OF CONGENITAL DEAFNESS AMONG SIBLINGS (JAP
OTOLARYNGOLOGY (TOKYO), 40,875-84, NOV 68
CHILD, PRESCHOOL, DEAFNESS/FAMILIAL AND GENETIC, *DEAFNESS/CONGENITAL, FAR EAST, FEMALE, HEARING DISORDERS/OCCURRENCE, HUMAN, MALE, PREGNANCY, *PREGNANCY COMPLICATIONS, INFECTIOUS, *RUBELLA, VISION DISORDERS/OCCURRENCE

INGRAM TT
THE NEW APPROACH TO EARLY DIAGNOSIS OF HANDICAPS IN CHILDHOOD.
DEVELOP MED CHILD NEUROL, 11,279-90, JUN 69
ABNORMALITIES/DIAGNOSIS, ADULT, BIRTH INJURY/COMPLICATIONS, BRAIN DAMAGE, CHRONIC, CHILD, CHILD BEHAVIOR DISORDERS/DIAGNOSIS, *CHILD DEVELOPMENT DEVIATIONS/DIAGNOSIS, CHILD, PRESCHOOL, DEAFNESS/FAMILIAL AND GENETIC, FEMALE, FETAL DISEASES/COMPLICATIONS, HEREDITARY DISEASES/DIAGNOSIS, HUMAN, INFANT, INFANT, NEWBORN, INFANT, NEWBORN, DISEASES/DIAGNOSIS, LABOR COMPLICATIONS, MALE, MATERNAL-FETAL EXCHANGE, PREGNANCY, PREGNANCY COMPLICATIONS, INFECTIOUS, REVIEW, RUBELLA/COMPLICATIONS, VISION DISORDERS/FAMILIAL AND GENETIC

JOHNSTON PW
FACTORS ASSOCIATED WITH DEAFNESS IN YOUNG CHILDREN.
PUBLIC HEALTH REP, 82,1019-24, NOV 67
ANTIBIOTICS/ADVERSE EFFECTS, BIRTH WEIGHT, CHILD, PRESCHOOL, DEAFNESS/DIAGNOSIS, DEAFNESS/FAMILIAL AND GENETIC, *DEAFNESS/ETIOLOGY, DELIVERY, FEMALE, HUMAN, INFANT, INFANT, NEWBORN, *INFANT, NEWBORN, DISEASES/COMPLICATIONS, LABOR COMPLICATIONS, MASSACHUSETTS, MEASLES/COMPLICATIONS, PREGNANCY, *PREGNANCY COMPLICATIONS, INFECTIOUS, RUBELLA/COMPLICATIONS

NATIONAL LIBRARY OF MEDICINE

fact*sheet

Bethesda, Maryland 20014

AIM-TWX

The Lister Hill National Center for Biomedical Communications, in conjunction with the Library Operations staff of the National Library of Medicine, is initiating a new experimental service providing rapid, responsive searching of the medical literature. The bibliographic information for the last five years on over one hundred journals in clinical medicine will be stored in a large, time-sharing computer in Santa Monica, California, run by the System Development Corporation. The journals covered include those in the new Abridged Index Medicus. This computer can be called from either TWX terminals or Teletype terminals connected to the telephone network. After placing a call to the computer and signing in with his number, the terminal user will have instructions provided to him from the computer explaining how to search in a simple, conversational way the bibliographic information in the computer. He will be able to search the vocabulary to find appropriate search terms or enter directly subjects, subheadings, dates, authors' names, language, or other search terms. The computer will respond by informing him of the number of documents for each term. He will be able to combine terms using "or," "and," and "not" to pinpoint his interest. And, finally, he will be able to print out his bibliography at his terminal or have it mailed to him. Five users at once can be guaranteed access to the system. Generally, several more users can also use it at the same time. This service will be offered from 8:00 a.m. to 12:00 noon Pacific Time (or 11:00 a.m. to 3:00 p.m. Eastern Time) Monday-Friday starting in May 1970. The computer costs for this service are being paid by the Lister Hill Center; the costs of terminals and toll calls will have to be paid for by the users. Most users of the system would start with available terminals for which there would be no additional cost. Communication costs would run from $.20 to $.60 per minute for TWX and from local call costs to $.45 per minute for phone-system teletypes. An average search runs near 15 minutes and may cost up to $9.00 to the user.

The service is being offered to identify the need for and usefulness of such services to help medical practitioners in isolated areas, to assist in undergraduate, graduate, and continuing medical education, and to provide information at the time it is needed for health care. A selected, restricted group of practitioners, students, and librarians is being allowed to use the system so that it will not be overloaded and rejected because of busy signals, and so that a variety of user groups can try out the system. For further information on this service contact:

The Lister Hill National Center for Biomedical Communications
National Library of Medicine
8600 Rockville Pike
Bethesda, Maryland 20014

OUTLINE OF SESSIONS ON MARC

1st Session

1. Grew out of recommendation in King Report (1963) on Automation in the Library of Congress, that methods of making the LC catalog machine-readable be investigated.

2. Two primary benefits (a) as a part of the move to automated processing techniques atLC, and (b) as an aid to other libs. which look at LC for leadership in cataloging. Development of an authoritative specification by LC would assist standardization.

3. Brief Chronology

1963	- King report
1964	- preliminary study of possible methods of converting the information on LC catalog cards to machine-readable form.
1965 (Jan.)	- First Conference on Machine-Readable Catalog Copy convened at LC to consider the results of the preliminary study. Two main conclusions:

a) machine-readable catalog data from LC was essential to library automation efforts, and

b) a standard format was needed to allow other libraries to catalog their own works in a compatible mode.

1965 (Nov.)	- 2nd Conference on Machine-Readable Catalog Copy. Discussed the fields to be represented in a machine-readable catalog record and the possible magnetic tape format.

1966 (Feb.) - 3rd Conference on M-R C.C. Active planning for a pilot project. Initial coverage to be current English-language monographs, U.S. imprint; 16 libraries selected to participate, based on type of library, geographic location, and ability to process the tapes and evaluate the results.

1966 (Oct.) - Beginning of MARC Pilot Project, to last through June 1967.

1967 (Mar.) - MARC staff initiated review of MARC I format and began design of MARC II.

1967 (June) - At ALA meeting, a preliminary MARC II format was presented. LC announced that a Pilot Project would be extended through June '68, and a full-scale, operational MARC Distribution Service would follow.

1969 (June) - MARC Distribution Service begun: coverage extended to all current English-language monographs received by LC.

1970 - Project RECON (REtrospective CONversion of LC catalog records to MARC II format) begun.

4. MARC Pilot Project (Final Report). Scope and significance of Pilot Project. Results.

2nd Session

5. MARC II Format. (MARC Manuals Used by LC; MARC II Format).

   (i) Tape structure
   (ii) Record structure; directory; fixed fields; variable fields; subfields.

6. The MARC Distribution Service

7. On-line demonstration using sample MARC records.

Variable Field Tags
(From MARC Manuals Used by the Library of Congress, 2nd edn., Chicago, ALA, 1970.)

Variable Field Tags

Control Numbers
*0 1 0 LC Card Number
*0 1 1 Linking LC Card Number
0 1 5 National Bibliography Number
*0 1 6 Linking NBN
*0 1 7 U.S. Copyright Number
0 2 0 Standard Book Number
*0 2 1 Linking SBN
0 2 5 Overseas Acquisitions Number
*0 2 6 Linking OAN Number
*0 3 5 Local System Number
*0 3 6 Linking Local Number
0 4 0 Cataloging Source
0 4 1 Languages
*0 4 2 Search Code
*0 4 3 Geographic Area Code

Knowledge Numbers
0 5 0 LC Call Number
0 5 1 Copy Statement
0 6 0 NLM Call Number
0 7 0 NAL Call Number
*0 7 1 NAL Copy Statement
*0 7 2 NAL Subject Category Number
*0 8 0 UDC Number
*0 8 1 BNB Classification Number
0 8 2 Dewey Decimal Classification No.
*0 8 6 Supt. of Documents Classification
*0 9 0 Local Call Number

Main Entry
1 0 0 Personal Name
1 1 0 Corporate Name
1 1 1 Conference or Meeting
1 3 0 Uniform Title Heading

Supplied Titles
2 4 0 Uniform Title
2 4 1 Romanized Title
*2 4 2 Translated Title

Title Paragraph
2 4 5 Title
2 5 0 Edition Statement
2 6 0 Imprint

Collation
3 0 0 Collation
3 5 0 Bibliographic Price
*3 6 0 Converted Price

*The Library of Congress will not supply data for these fields at present and, therefore, they are not described on the following pages.

Series Notes
4 0 0 Personal Name-Title (Traced Same)
4 1 0 Corporate Name-Title (Traced Same)
4 1 1 Conference-Title (Traced Same)
4 4 0 Title (Traced Same)
4 9 0 Series Untraced or Traced Differently

Bibliographic Notes
5 0 0 General Notes
5 0 1 "Bound With" Note
5 0 2 Dissertation Note
*5 0 3 Bibliographic History Note
5 0 4 Bibliography Note
5 0 5 Contents Note (Formatted)
*5 0 6 "Limited Use" Note
5 2 0 Abstract or Annotation

Subject Added Entries
6 0 0 Personal Name
6 1 0 Corporate Name (excluding political jurisdiction alone)
6 1 1 Conference or Meeting
6 3 0 Uniform Title Heading

LC Subject Headings
6 5 0 Topical
6 5 1 Geographic Names

Other Subject Headings
*6 6 0 NLM Subject Headings (MESH)
*6 7 0 NAL Subject Headings
*6 9 0 Local Subject Heading Systems

Other Added Entries
7 0 0 Personal Name
7 1 0 Corporate Name
7 1 1 Conference or Meeting
7 3 0 Uniform Title Heading
7 4 0 Title Traced Differently

Series Added Entries
8 0 0 Personal Name-Title
8 1 0 Corporate Name- Title
8 1 1 Conference or Meeting-Title
8 4 0 Title

OUTLINE OF SESSION ON THE 1970 CENSUS

1st Session

1. Context

   a. Growing and Varied Use of Census Statistics by Government, Business, Academia

   b. Changing Character of Census-Taking Process

      (1) Not only published returns but also small-area records on magnetic tapes and public use samples of individual returns
      (2) Not only 100% tallies but 5%, 15%, and 20% sample surveys
      (3) Shift from patronage to professional workers to self-enumerators
      (4) Shift from hand tallies to UNIVAC, FOSDIC and BCD materials
      (5) From address-listing and mapping to mail out-mail back methods
      (6) From address-coding to DIME (Dual Independent Map Encoding) methods to complex Geographic Base File possibilities

   c. Systematic Concern with User Needs and Problems

      (1) New Haven Census Use Study, c 1967
      (2) SCRIS Cooperative Metro User Project, c 1969
      (3) Workshops, seminars and summary tape centers
      (4) Problem-specific 'inverted file' plans
      (5) City of Los Angeles: Community Service Bureau

   d. Changing Demands on University Research Libraries

      (1) More complex documentation materials are involved
      (2) More complicated requests for reference information are possible
      (3) Reference libraries may be asked to do computational services
      (4) Libraries may expect to provide users with duplicate datasets
      (5) Modern data-management systems are readily usable by library staff

From: 1970 Census User Guide

Table 1. 1970 Census Items Compared With 1960 Content

Population items	Complete-count or sample percentage	
	1960	1970
Relationship to head of household	100	100
Color or race	100	100
Age (month and year of birth)	100	100
Sex	100	100
Marital Status	100	100
State or country of birth	25	20
Years of school completed	25	20
Number of children ever born	25	20
Activity 5 years ago	-	20
Employment Status	25	20
Hours worked last week	25	20
Weeks worked last year	25	20
Last year in which worked	25	20
Occupation, industry, and class of worker	25	20
Income last year:		
Wage and salary income	25	20
Self-employment income	25	[1]20
Other income	25	[2]20
Country of birth of parents	25	15
Mother tongue	25	15
Year moved into this house	25	15
Place of residence 5 years ago	25	[3]15
School or college enrollment (public or private)	25	15
Veteran status	25	15
Place of work	25	[4]15
Means of transportation to work	25	15
Mexican or Spanish origin or descent	-	5
Citizenship	-	5
Year of immigration	-	5
Marital history	25	[5]5
Vocational training completed	-	5
Presence and duration of disability	-	5
Occupation-industry 5 years ago	-	5

[1]Single item in 1960; two-way separation in 1970 by farm and nonfarm income.
[2]Single item in 1960; three-way separation in 1970 by social security, public assistance, and all other receipts..
[3]This item is also in the 5-percent sample but limited to State of residence 5 years ago.
[4]Street address included for 1970.
[5]In 1960, whether married more than once and date of first marriage; in 1970 also includes whether first marriage ended by death of spouse.

From: 1970 Census User Guide

1970 Census Items Compared With 1960 Content--Continued

Housing items	Complete-count or sample percentage	
	1960	1970
Number of units at this address	-	[6]100
Telephone available	25	[7]100
Access to unit	100	100
Kitchen or cooking facilities	100	-
Complete kitchen facilities	-	100
Condition of housing unit	100	-
Rooms	100	100
Water supply	100	100
Flush toilet	100	100
Bathtub or shower	100	100
Basement	20	100
Tenure	100	100
Commercial establishment on property	[8]100	100
Value	[8]100	100
Contract rent	[8]100	100
Vacancy status	100	100
Months vacant	25	100
Heating equipment	25	20
Components of gross rent	25	20
Year structure built	25	20
Number of units in structure and whether a trailer	20	20
Farm residence (acreage and sales of farm products)	[9]25	20
Land used for farming	[10]25	-
Source of water	[9]20	15
Sewage disposal	[9]20	15
Bathrooms	20	15
Air conditioning	5	15
Automobiles	[11]20	15
Stories, elevator in structure	[12]20	5
Fuel--heating, cooking, water heating	5	5
Bedrooms	5	5
Clothes washing machine	5	5
Clothes dryer	5	5
Dishwasher	-	5
Home food freezer	5	5
Television	5	5
Radio	5	5
Second home	-	5

[6]Collected primarily for coverage check purposes.
[7]Required on 100-percent basis for field follow-up purposes in mail areas.
[8]100-percent in places of 50,000 or more inhabitants, 25-percent elsewhere.
[9]Omitted in places of 50,000 or more inhabitants..
[10]For renter-occupied and vacant-for-rent units outside places of 50,000 or more inhabitants.
[11]20-percent in places of 50,000 or more inhabitants, 5-percent elsewhere.
[12]Collected only in places of 50,000 or more inhabitants.

Chart A. Public Use Summary Computer Tape Files of the 1970 Population and Housing Censuses

Name of file	Coverage (1)	Smallest geographic area: In file (2)	Smallest geographic area: Average population size (3)	Smallest geographic area: Approximate number in U.S. (4)	Approximate number of data cells for each geographic area (5)	Tentative timing (6)	File subdivisions (7)	Approximate reels for U.S. (IBM 7-channel 556 CPI [2]) (8)
1st Count..	100%	Blockgroup/ ED	820	235,000 ED's and Blockgroups	400	Sep.-Dec. 1970	File A: BG or ED Summaries	125
							File B: State, County, MCD(CCD), MCD-Place, Place, Congressional District	62
2nd Count..	100%	Tract/ MCD(CCD)	Tract: 4,000 MCD's: 200- to one million+	Tracts 34,600 MCD's (CCD's) 35,000	3,500	Oct. 1970 to Apr. 1971	File A: Tract Summaries	112
							File B: State, County, MCD(CCD), Places, SMSA, and Component Areas	167
3rd Count..	100%	Block	90	1,500,000	250	Jan.-July 1971	Not applicable	266
4th Count..	20% 15% 5%	Tract/ MCD(CCD)	Tract: 4,000 MCD's: 200- to one million+	Tracts 34,600 MCD's (CCD's) 35,000	13,000 (File A & B, and Places) 30,000 File C (except Places)	Jan.-Oct. 1971	File A: Tract Summaries	pop. -162 hous.-214
							File B: MCD(CCD) Summaries	pop. -176 hous.-236
							File C: State, County, Places, SMSA, and Component Areas	pop. -104 hous.-102
5th Count..	20% 15% 5%	3- or 5- digit ZIP area	260,000 (3-digit areas) 10,000 (5-digit areas in SMSA's	788 (3-digit areas) 12,500[3] (5-digit areas in SMSA's)	800	July 1971	File A: 3-digit ZIP area	1
							File B: 5-digit ZIP areas in SMSA's	12
6th Count..	20% 15% 5%	Pop.-Cities of 100,000+ Hous.-Cities of 50,000+	500,000	132(100,000+) 333 (50,000+)	Pop. 150,000 Hous. 110,000	Mar.-Oct. 1971	Pop.-Metr.Counties, Non-Metr. Counties 50,000+, Cities 100,000+, Central Cities, SMSA's.	pop. -184
							Hous.-State, Metr. Counties, Non-Metr. Counties 50,000+, Cities 50,000+, Central Cities, SMSA's.	hous.-131

[1] Additional summary tape files will be developed subsequently.
[2] Summary tape files will also be available in 7- or 9-channel 800 CPI.
[3] Data will be tabulated for the population in 5-digit areas that fall within SMSA's. There is a total of 39,000 5-digit areas in the U.S.

2. Files

   a. Size of 1970 Census Files Alone--2054 Reels for US, 122 Reels for California

   b. First Count: Population and Housing Data Tallied for about 280,000 ED's; About 400 Data Items per Area Unit, all 100% Coverage Items

   c. Second Count: Complete-Count Data--Sex, Race, Age, Marital and Household Status plus 16 Housing-Characteristic Items--for about 33,000 Tracts; About 3600 Data Items per Area Unit

   d. Third Count: Complete-Count Data for City Blocks (About 1,500,000 Area Units, about 250 Data Items per Block)

   e. Fourth Count: Sample-Count Data (5%, 15%, and 20% Samples) After Weighting to Provide 100% Estimates--About 13,000 Items for About 33,000 Tracts and Civil Divisions--About 30,000 Items for SMSAs, Counties, States.

   f. Fifth Count: About 800 Items of Data for ZIP Code Areas Only

   g. Sixth Count: Like Fourth Count Records, but Even More Detailed . . . Not Yet Specified by Official Memoranda

3. Tools

   a. Documentation Services: Small Area Data Notes, Data Access Descriptions, Census Use Studies, Census Users' Guide

   b. Mapping Services: Metropolitan Map Series; Block Maps; Tract Maps, MCD Maps, Counties

   c. Address Coding Guides: Print-Outs or Tape Files Specifying an 'Address Range' on a Street that is Part of a Block Within a Census Tract as a Means of Identifying and Locating Each Specific Address

   d. Geographic Base Files: ACGs to which have been added DIME Specifications that Code all 'Street Segments' and all 'Nodes' or Street Intersections and Knit together Sets of Addresses that Constitute Areal Units, and/or ACGs to which have been added Grid Coordinates for all Nodes.

4. Uses

   a. Reference Information: Lookup; Computed; Supplemented; Juxtaposed

   b. Analyses: Correlational and Post-Correlational; Longitudinal; Concerted

   c. Performance Evaluations: Graphics; Modeling; Simulation

2nd Session

1. Does the library really care that the Census is coming on tape? Printed volumes still available. Is there a strong case for the Library to take responsibility for providing access to tapes?

2. Three advantages of the Census in tape form:

   a. Tapes will be available sooner than printed volumes.
   b. Tape files are machine-manipulable--can be used to find answers to hosts of problems not adequately answerable from the standard printed tabulations (Bureau will do this for you, for a fee).
   c. Most important--tapes contain vast amounts of data not found in print; most estimates suggest almost 30 times as much.

3. Could the Library obtain the data in print-out form? Not realistic--totally unmanageable quantities of paper, and cost would be approximately 60¢ per ED, for 280,000 ED's just for 1st Count. Microfilm? Possibly, but the ratio is approximately 3 to 1 (Bureau format).

4. Cost of tapes--from Bureau, approximately $123,000. Would need ACG, DIME, MEDlist, etc. Also maps (5000 metromaps come with printed Census, but over 3100 others do not).

5. Public Use Samples will probably be heavily in demand (could amount to over 200 reels).

6. Tape versions of subsequent Censuses are a virtual certainty--longitudinal studies.

7. How is the Library to face the question of programs by which to extract data?

8. What are the service implications for the Public Affairs Service (or government documents libraries anywhere)?

9. What data to acquire? Just LA? Just California? Certain subject-orineted tabulations? Complete national data?

10. Need for data compression. Census Bureau version costs so much because reels are 'states separate' and records are heavily padded (long strings of zeros and blanks). Data compression and merging of states on one reel could reduce number of necessary reels from c2054 to c200.

11. Outline of tentative plan for UCLA. (i) We buy compressed reels (extent not yet decided). (ii) Master-copy kept in library and copied on demand for clients (costs and possible charges not yet decided). (iii) Second set of the data kept at Campus Computing Network: CIS project to ensure that any processing capability we have is made available under controlled conditions.

OUTLINE OF SESSIONS ON ACQUISITIONS

1st Session

1. Review of Past 6 Weeks

(a) Nature of data bases. 3 main types. (i) bibliographic reference, (ii) textual and (iii) numerical. Binary emphasis in CIS is sci-tech. info., and mainly bibliographic files at the moment.

(b) Availability. Well over 100 files that an operating CIS could purchase right now (ref. Inventory). Potentially many more (e.g. totally new data sets from the US Census files--by 1981, longitudinal studies on 1960, 1970, 1980 Census).

(c) Long-term prospect that data bases will become as crucial a part of the information network as have scientific periodicals in the last 50 years.

(d) Question is not whether the university shall have access, but only how.

(e) Is the library the appropriate agency? Ref. ISSUES. Is the library to be the campus information resource, or just a place that handles books?

2. A Library-Based CIS: Problems in Acquisition

Problems almost all occur as a consequence of the form in which the data is being transmitted. By and large, the information content is fairly known and conventional--librarians can deal with bibliographic citations, Census tabulations, etc. The whole problem is the medium:

(a) dynamic storage: files can be merged onto one reel, or split, or transferred to another machine-readable medium (disc, drum, etc.). This means that the medium is not necessarily the permanent container of the information: therefore, can it be 'labelled', or should we concentrate on naming the file of data? In contrast to the book and its contents, the electronic medium is therefore almost trivial.

(b) inaccessibility: crucial problem is 'how is the library to know it has received what it ordered?' Checking procedure? Library or CCN? Can take a week of work for a skilled programmer to 'open' a new file. How to ensure adequate and prompt documentation.

(c) Size of the files: one 2400-foot reel of tape can store contents of 30-35 average-sized books.

(d) Costs: examples; Psych. Abs., CA-Condensates, AIP-SPIN, COMPENDEX, IEEE, all c $3-6,000 for a year's subscription. ISI tapes can go above $30,000 per annum. ERIC and MARC are approx. $800, being govt. produced. U.S. Census as sold by the Bureau will be over $120,000. Always the threat of hidden costs, e.g. a DIME file to use with the Census, etc.

(e) Copyright and ownership: see sample lease and purchase agreements. Is library leasing, renting, subscribing, purchasing? Some systems specify return of the entire back-file to them if the subscription is not renewed.

2nd Session

1. CIS and Library Services

(a) if CIS is really this big, does the library want, and have the means, to do it? (Implication is that millions of dollars in funds are being spent to establish the capability which will then need millions more to operate--a large part being for acquisitions.)

(b) benefits are potentially enormous:

- exponential increase in lib. service (e.g. scanning several years' issues of thousands of journals within hours).

- information is manipulable by us to produce new data sets (Census, etc.).

- by broadening the capacity for research many times over, computerized info. services will broaden human knowledge.

2. Areas of Immediate Concern

(a) Selection: how? is it strictly a library problem? Will probably be a matter of co-operative funding, so may be out of lib's. control. Question of ownership. Possible sources

of funds--grants, permanent (new) lib. funds, departmental, etc. In immediate picture, lib. does not have to worry about selection, as the first few data bases will select themselves.

(b) Ordering: (i) Legal requirement of signed, official purchase order. (ii) Must be able to order what is requested and what we know can be used. (iii) Must be able to charge it against the right fund. (iv) Must have record of what is on order.

(c) Receiving: (i) Must identify the material as being what was ordered. (ii) Must ensure that it gets to its proper destination. (iii) Must ensure that the documentation goes physically with it or (for serials) is already where it should be. (iv) Must ensure that any 'special handling' instructions are present with the tape. (v) Must have a record of what has been received, which must be maintained until item is cataloged or (if not cataloged) indefinitely.

3. Group Discussion

ERIC tape ordering
Lease agreements
Reports on assignments

LEASE AGREEMENT

THIS AGREEMENT made between the AMERICAN CHEMICAL SOCIETY, a nonprofit corporation with offices at The Ohio State University, Columbus, Ohio 43210, U.S.A. (sometimes hereinafter called "Owner") and

_____

Name

_____

Country or State of Incorporation, if a Corporation

_____

Business Address for All Purposes Related to This Agreement

_____

Date of Agreement

(sometimes hereinafter called "User").

The Owner and the User hereby agree as follows:

1. Subject to all the terms and restrictions hereinafter set forth, the Owner hereby leases to the User and the User hereby rents from the Owner the following file(s): _____

_____

_____

2. The User is licensed for the limited period of this Agreement to copy material selected from the hereinabove specified Owner's files in the copy form of full-size printed pages or directly recorded computer-readable segments of the file(s). The use of any such copies for the purpose of replacing all or any part of any of the file(s), or as a substitute for lease or purchase of any such copies of units through regular channels, or for the purpose of loan, resale, or gift to any third person, organization, or corporation is strictly forbidden and in violation of this Agreement.

3. Upon receipt by the Owner of the lease fee(s) defined in the current version of the Owner's Catalog of Information Systems (hereinafter called the "Catalog") and promptly following the execution of this Agreement, the Owner will furnish the hereinabove specified file(s) in the form described in the Catalog. The file(s) will be updated in the form and on the schedule specified in the current version of the Catalog. The following form of the file(s) and/or the updating form and/or schedule will be substituted for those described in the Catalog: _____

_____

_____

4. At all times material under this Agreement, except as stated in Paragraph 11, the copyright to the entire property interest in all files furnished by the Owner and all other articles of personal property furnished to the User by the Owner under the terms of this Agreement shall be and remain with the Owner and upon the termination of this Agreement, whether pursuant to the terms of this Agreement or by operation of law, the User shall at the Owner's option destroy or return all such files, shipping costs prepaid by the User, to the Owner at: The American Chemical Society, Chemical Abstracts Service, The Ohio State University, Columbus, Ohio 43210, U.S.A.

5. The files furnished by the Owner under this Agreement and copies prepared in accordance with Paragraph 2 hereinabove may be used only by the User and employees of the User located at the User's address stated hereinabove and/or at: _____

_____

_____

6. Microform copies furnished by the Owner to the User under the terms of this Agreement which wear out in normal use will be replaced promptly by Owner without cost to User upon receipt of written notification by User of the code number or other identification of any unit or units; provided, however, that Owner shall have the right to inspect any such microforms before replacement and Owner may retain in its possession and destroy any such replaced microform. The cost of returning to the Owner and/or of replacing any microform furnished under the terms of this Agreement which is damaged or destroyed as a result of any other cause than ordinary wear and tear after receipt in good condition shall be paid by User.

7. The term of this Agreement shall be a period of one year beginning each year on the Contract Date of this Agreement as defined in Paragraph 12A and/or 12B and terminating at midnight on the day preceding the next succeeding anniversary of this Contract Date; provided, however, that this Agreement shall be renewed automatically for successive periods of one year unless User or Owner elects to terminate this Agreement and gives the other party hereto notice thereof in writing by registered mail addressed to the respective business address hereinabove stated and mailed not less than thirty (30) days prior to the anniversary of the Contract Date of this Agreement.

8. The User assumes full responsibility for all costs associated with the use of computer-readable and/or microform files furnished by the Owner.

9. No computer software is delivered as a part of this lease and the lease is not conditional upon the User's ability to provide its own software or to use the files provided under this lease. All computer software provided by the Owner is for the purpose of illustration. No separate warranty is given or implied for any software provided by the Owner.

10. The Owner reserves the right to change the forms and formats of computer-readable files provided under this lease. The Owner will notify the User at least six (6) months in advance of any such changes planned for the files delivered under this lease. Should such changes occur during the lease period, the User shall have the right to cancel the lease at the time the change is instituted and the Owner will return the unused prorated portion of the lease fee.

11. In supplying computer-readable files, the Owner will record the information on standard commercial recording media. These media will be selected and purchased by the Owner and the User will be billed on a yearly basis, in advance, at the rates quoted in the Owner's Catalog. These media become the property of the User upon receipt of the files in good condition.

12-A. In the case of computer-readable files, the Owner will furnish the User with a sample file for the User to use in developing his ability to use the files. When provided with a written notification by the User, the Owner will start to regularly provide the files in the form and on the schedule specified in the current Catalog. The date upon which the first delivery of computer-readable files is made by the Owner following this notification will be considered the Contract Date for the purpose of setting the fee defined hereinafter in Paragraph 12 C.

B. In the case of microform files, the Contract Date will be the date upon which the files are received by the User in good condition.

C. On or before the anniversary of the Contract Date of this Agreement, the User agrees to pay the Owner at the effective rates quoted in the Owner's Catalog at the time of the anniversary of the Contract Date, in advance, for the hereinabove identified privileges for a period of twelve (12) months. This payment will be adjusted in subsequent years in accordance with fee schedules established by the American Chemical Society's Board of Directors.

D. In the event that User shall not make the required annual payment as required in Paragraph 12C of this Agreement, Owner shall have the option to cancel the Agreement effective thirty (30) days next following the date on which Owner mails, by registered mail, written notice of such cancellation to User at the business address stated hereinabove.

E. Except as specified in Paragraph 10, the payment referred to in Paragraph 12C of this Agreement shall be non-refundable and User shall have no right to proration of said payment for periods or use less than one year in duration.

13. This Agreement in combination with the information included in the Owner's Catalog and the documents described in Paragraph 12C establishing the Contract Date constitutes the entire understanding between Owner and User and no modification or amendment thereof shall be binding upon either party unless it shall be in writing and signed by persons authorized to bind the parties to this Agreement.

14. This Agreement shall be binding upon the heirs, successors, and assigns of the parties hereto.

IN WITNESS WHEREOF, OWNER and USER have caused this Agreement to be executed this _____ day of _____, 19____.

AMERICAN CHEMICAL SOCIETY

WITNESS:

_____ By_____
Owner

WITNESS:

_____ By_____
User

Application Form

Date:

TO: John C. Olney
System Development Corporation
2500 Colorado Avenue
Santa Monica, California

I. Please send me (a) the following items of the SDC Lexicographic Project documentation (use the numbers given in Enclosure 4): _____; (b) a copy of the data indicated by X's in the boxes below (see Enclosure 1, section I)

1. Unparsed transcripts	MPD	☐	7-channel	☐	9-channel	☐
	W7	☐	"	☐	"	☐
2. Parsed transcripts	MPD	☐	"	☐	"	☐
	W7	☐	"	☐	"	☐
3. Concordance index*	MPD	☐	"	☐	"	☐
	W7	☐	"	☐	"	☐
4. Semantically reliable suffixes	MPD	☐	"	☐	"	☐
	W7	☐	"	☐	"	☐
5. Base and inflected forms*	MPD	☐	"	☐	"	☐
	W7	☐	"	☐	"	☐

II. Please send the tape(s) via: Surface transport prepaid ☐

Air freight collect ☐

to the following address: _____

_____

_____

*If you want to wait for the edited version of these data (see Enclosure 1), write an E next to each box that you mark with an X.

III. I enclose ___ magnetic tapes, ___-channel, on to which the data is to be copied according to the following plan (attach an extra sheet if necessary):

_____

_____

IV. I enclose a check in the amount of $_____ payable to SDC to cover the copying costs.

V. I agree to the following conditions:

a) No copy of the tapes except for one backup will be made without the written permission of G. & C. Merriam Company, copyright owners of Webster's Seventh New Collegiate Dictionary and The New Merriam-Webster Pocket Dictionary, nor will either the masters or backup copies be lent or otherwise distributed to any person other than the undersigned requester.

b) The tapes themselves and print-outs which may be made therefrom will be used only in scholarly research. No part of the text of the tapes will be reproduced in any other form without the written permission of the copyright owners.

c) Papers or memoranda describing results of research involving these tapes will be made available to G. & C. Merriam Company, Springfield, Mass. 01101.

Signature_____

Print or type name_____

Position_____

For_____
name of institution or project

Approved: _____
G. & C. Merriam Company

Date: _____

FORM BC-1887
(1-6-69)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

OFFICIAL ORDER FORM FOR
DANE COUNTY, WISCONSIN FIRST COUNT SUMMARY TAPE TEST REEL

TAPE DESCRIPTION

One 7-channel IBM compatible tape containing complete-count first count tallies of data for Dane County, Wisconsin based on the 1968 Madison, Wisconsin SMSA dress rehearsal for the 1970 Census. This tape has some data distributions suppressed to insure conformance with the confidentiality provisions of Title 13 of the U.S. Code. For further details concerning suppression conventions refer to the User Guide appendix section on confidentiality and data suppression in Complete-Count Technical Document No. 2, dated December 1968 (will be sent on receipt of order).

In 1970 the First-Count Tape Will Consist of Two Data Files as follows:

FILE A The file is composed of ED, and block group summary records. The sequence of the file is ED and/or block group, within county, within State. Block groups split by MCD boundaries are shown separately for each part. (Block groups can be summed to tract totals by the user.)

FILE B The file consists of summary records for the State, each county, each MCD, each MCD place total, and each Congressional District. The records are presented in four segments:

1. State Total Summary – Note: Because Dane County is the largest geographic unit for which data are tabulated, summary totals for Dane County are substituted for all Wisconsin State summaries.
2. County Component Summary Records – County by MCD by MCD place within State (Note: Only Dane County components are tabulated for Wisconsin. State totals agree with Dane County totals.)
3. Place Total Summary Records
4. Congressional District Summary Records – (Only one CD in Dane County.)

NOTE: For the test tape only, the two files are merged onto a single reel.

Special Technical Conditions Affecting Use of Tape:

Tape Width .... 1/2 inch.

Reel Size ..... 10-1/2 inch diameter: maximum 2400 feet.

Recording Density (CPI) ... 556

Logical Record Size ... 3,840 characters (Four 960 character blocks) per record for each block group, ED, or other summary area.

Block Size .... 960 character blocks subdivided into 8 sub-blocks of 120 characters each.

Size of Data Field ... Generally 8 characters. Some 16 character fields exist and are identified.

File Size..... (For the test reel these files are contained on a single reel.):

File A – Approximately 400 to 600 logical records per tape.

File B – Approximately 80 logical records per tape.

Language ..... BCD characters in 8 character groups. A limited set is used. See User Guide appendix "1107 Programming, Section 10-B-2, Character Set for Information Exchange."

Block Spacing . 3/4 inch inter-block spacing. Tape label conventions – See User Guide Appendix "1107 Programming Section 10-B-3, Conventions for 1970 Summary Tapes."

TAPE COST: The cost of one reel of tape is $70.00. This fee includes the cost of physical tape reel itself plus the cost of copying, handling, postage, and technical documentation printing costs.

If you wish to purchase this test reel and documentation, please fill out the reverse side of this form.

USCOMM-DC

FORM BC-1687
(1-6-69)

ORDER FORM

(Please type)

File reference	Project number

1a. TAPE REEL TO BE SENT TO:

Name

Title

Affiliation

Address — number and street

City State ZIP code

1b. If someone other than yourself will have primary responsibility for using or analyzing the tape, please indicate this in the space provided below.

Name

Title

Affiliation

Address -- number and street

City State ZIP code

2. Major activity in which your organization is involved (i.e., transportation, planning study, automobile manufacturing, market research, etc.) *Please indicate organization's major activity.* If you are in a research branch of a business organization, indicate organization's major activity not your branch's or your own.

3. Data processing facilities (if any)

Make and model of computer(s)

Tape unit(s) and model(s)

4. Approximate size of organization

Number of employees _____

5. Are you listed with the Bureau as a summary tape user?

☐ Yes ☐ No

If someone else in your organization is listed with the Bureau, please include him here so that we may advise him also when tape is shipped.

Name

Title

6. After completing this order form, sign and date below and return with required funds to:

BUREAU OF THE CENSUS
WASHINGTON, D.C. 20233

The Bureau will then advise you concerning anticipated shipping and delivery dates.

Please read shipping information below.

Signature

Date

Amount enclosed $_____

☐ Check ☐ Money order

PLEASE NOTE

SHIPPING INFORMATION

Shipping form BC-1452 (Request for Computer Tape Shipment) will be included with the tape when it is shipped. One copy should be signed by you and returned to the Bureau as indicated. The other copy may be retained for your files.

Form BC-1452 will show the following information: shipment number; number of tapes shipped; project number; name, building and telephone exchange of Bureau employee whom you may contact on questions concerning the tape; a record of other information to be included with the tape, e.g., documentation; and tape identification including for each tape such items as tabulation title, file identification, reel No., tape and servo type, etc.

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

Basic Agreement

This is an agreement made between the Institute of Electrical and Electronics Engineers, Inc., a not-for-profit, New York corporation located at 345 E. 47th St., New York, New York 10017, U. S. A. hereinafter called "Supplier" and

_____
Name

_____
Address

_____
Date of Agreement

hereinafter called "Subscriber."

The Supplier and Subscriber hereby agree as follows:

1. Subject to all the terms and conditions hereinafter set forth, the Supplier will provide to the Subscriber, and the Subscriber accept from the Supplier, the magnetic tape information service designated "IEEE REFLECS Tapes" in the attached descriptive document "IEEE Magnetic Tape Services," for the service period _____. At the end of the service period specified above, the magnetic tape files supplied under this service shall remain with the Subscriber for his use without additional charge; all conditions on use of the magnetic tape files specified in this agreement remain in effect indefinitely, unless explicitly agreed otherwise.

2. The subject coverage of the IEEE REFLECS tape service to be provided to the Subscriber by the Supplier under this agreement comprises those selected portions of the IEEE data base designated in the aforementioned document "IEEE Magnetic Tape Services" as Subject Areas _____, and (does/does not) include the text of the abstract of each information item supplied.

3. The options to be provided to the Subscriber by the Supplier shall be those specified by the Subscriber on the form designated "Customer Format Requirements", and attachments thereto, as signed for the Subscriber by _____ on date _____, accepted for the Supplier by _____ on date _____, and attached to this agreement. Specified options that are therein designated "Custom" are subject to an additional charge over and above the standard charge.

4. The Subscriber agrees to pay the Supplier $_____ for the IEEE REFLECS tape service as specified and supplied in accordance with this agreement. Of the amount specified, $_____ comprises the charge for standard options specified, and $_____ comprises the extra charge for the custom options specified.

5. The Subscriber agrees that the files furnished by the Supplier on magnetic tape under this agreement will be used only by the Subscriber and its employees and bonafide consultants of the Subscriber's at the address stated hereinabove and/or at:

_____

_____

_____

unless approval for other usage of the files has been obtained from the Supplier, in the form of a satisfactory License Agreement which may provide for an additional charge.

6. The Subscriber agrees that none of the information items from the files furnished by the Supplier on magnetic tape will be resold, or otherwise distributed or disseminated in printed form, or in any other form or medium, outside of the organizations and/or locations specified in the preceding paragraph, unless approval for such resale, distribution, or dissemination has been obtained from the Supplier, in the form of a satisfactory License Agreement which may provide for additional charge; provided, however, that approval is hereby granted without additional charge for the inclusion of information items from the files as reference citations adjunct to an article or paper prepared for publication by employees or bonafide consultants of the Subscriber at the locations specified in the preceding paragraph.

7. The Subscriber agrees that it shall not make additional machine readable copies of the files furnished by the Supplier on magnetic tape under this agreement for any purpose, other than that transient copying within the computer which ensues from the normal processing and manipulation of the files contained therein, without the approval of the Supplier, it being understood that the Supplier shall not be obligated to approve any additional copying and that if the Supplier does approve additional copying, it will do so only upon negotiation of a satisfactory License Agreement which may provide for an additional charge.

8. This Agreement shall be binding upon the heirs, successors, and assigns of the parties hereto.

In witness whereof, Supplier and Purchaser have caused this contract to be executed this _____ day of _____, 19____.

Witness:

_____ By _____
Supplier

Witness:

_____ By _____
Purchaser

C.I.S. Seminar

Acquisitions Module

1. Examine in detail the feasibility of using

    a) the existing ordering routines (10-part order form, etc.)
    b) a modification of the existing routines
    c) completely new routines

for C.I.S. order preparation and order clearing. Are authority cards necessary? Are they even possible? If so, what data elements have to be displayed on them for magnetic tape files? Is the 3 x 5 inch 10-part order form adequate 'as is'?

2. Selection mechanisms: examine in detail the ways by which any prospective purchaser (e.g., ILR) at present learns of the existence of saleable data bases. (Formal bibliographic structure is lacking; the usual means are personal letters, publishers' announcements, brief paragraphs in professional journals, word of mouth (at conferences, etc.), and technical bulletins which acquisitions librarians may never see.) Suggest procedures for the acquisitions department (or whoever is designated) to receive these announcements systematically.

3. Based on present policies and procedures, examine the possibility of placing the main emphasis upon dealers (e.g., CCM Information Services, etc.).

4. Bearing in mind that academic Departments may be called upon to share the cost of acquisition, and that the interest in a data base like the U.S. Census will extend to many departments, specify how to arrange for continuing faculty participation in selection. (Existing library committees? C.I.S. User Committees to be made permanent? Joint meetings between 2 or more Departmental committees and the library?)

5. Serial acquisitions. Examine the alternative ways of acquiring serial data bases, (centralized acquisitions; through URL Serials; through a C.I.S. Acquisitions unit, etc.) with particular emphasis on contractual aspects (are we purchasing a serial subscription?; are we leasing the information?; are we purchasing service by remote access?; how will we handle the problem of claims for either missing or damaged tapes or defaulted service?).

6. After surveying present methods of checking, develop procedures for checking incoming tapes so that the funds can be disbursed. What procedures might we employ where the maker demands payment in advance? Are we always bound to pay the cost of the physical reel(s), or could we maintain a stock of blank tapes to send? How might we accomplish--and pay for--remote copying of all or parts of a file?

7. Specify procedures for maintaining control of the tape documentation (both the manufacturer's and later, our own) and suggest means by which C.I.S. might work to foster standardized forms for documentation.

8. Is it true that <u>any</u> separate acquisitions files need to be maintained for C.I.S.?
If <u>not</u>, specify how C.I.S. records are to be integrated with the main acquisitions files.
If <u>so</u>, is the outline (p. 33) of the items such files might contain a feasible one? If not, amend it.
What further plans should be made towards developing automated record-keeping for C.I.S.?

9. A) What steps might be taken now--e.g., by the library as a whole, or the C.I.S. project, or a multi-campus body--to compile an inventory of data bases already on this campus? Is this even worth attempting?
B) Survey the existing procedures for announcing to the UCLA community (and beyond) the library's acquisition of materials (all types). Specify procedures for announcing the availability of data bases (either their presence on campus or through remote access agreement.)

10. Examine the acquisitions procedures as reflected by the FORMS--their design, their actual usage, their destinations, etc.--and specify forms for C.I.S. acquisitions; show examples if possible.

OUTLINE OF SESSIONS ON CATALOGING

1st Session

1. Survey of the AA Rules to assess their possible applicability. Rules 1; 6B; 22; 33A,G,H; 60; 62A(1&2); 138-140; 142; 144B (4,6&7) and 144C; 149; 162; 164; 165; 167; 170; 191; Introductory notes to Chapter 12.

2. Basic problem once again is the medium: AA Rules for treating the work (the informational content) should have wide application, since the information is in most cases the counterpart of, or similar to, information found in printed works. But there are few, if any, parts of the Rules that can help with describing the medium. Hence existence of an ALA Subcommittee on Rules for Cataloging Machine Readable Data Files.

3. Acronyms and data set names seem to be shaping up as a particular problem. Acronyms which are conventionally used (MARC, MEDLARS, COMPENDEX, ERIC) can refer to the file itself, or to the system (taken to mean file plus programs plus documentation, etc.). Data set names not infrequently allude in an obvious way to the contents, but they are a technical convention only, to provide a designation for the machine: ERIC Resume Master file (RESUMAST) might as easily have been called RMF01234, or GEORGE.

4. Subject cataloging for the public catalog record can be no more sophisticated for large, diverse or serial files on tape than it can for the same types of file in print. Any machine-indexing, concordance generation, etc. will have to be regarded as a special task (i.e. a CIS service).

2nd Session

Discussion.

1. Reports on assignments.

2. Presentation of some trial catalog cards for discussion (ERIC, MARC, CENSUS) done by Elizabeth Herman of the UCLA Library.

C.I.S. Seminar, April-June 1970

Cataloging Module

The following from the AA Rules may be of interest:
Rules 1; 6B; 22; 33A, G and H; 60; 62A (1 and 2); 138-140; 142; 144B (4, 6 and 7) and C; 149; 162; 164; 165; 167; 170.
Introductory notes to Chapter 12.

---

1. Find out what ALA has done on the problem of cataloging machine-readable data. Is any other authoritative body (e.g., LC) developing standards for this task?

2. Examine the needs in descriptive cataloging of machine-readable data files. Which of the above rules seem specially important; how might they be applied? Are new rules or new forms of rules called for? Comment on the working paper.

3. Examine the problem of cataloging data files which are almost exclusively known by an acronym or abbreviation. What if the acronym covers an entire system of files (e.g. MEDLARS)? Or has no expanded form (PANDEX)? How would you connect "ASPEN System 50" with State Constitutions and Statutes? What other problems do you foresee? Comment on the working paper.

4. Examine the problems of classification and subject cataloging of data bases. How do you envisage the LC scheme and the LC subject heading list being applied? Comment on the working paper's suggestions relating to call numbers.

5. Formulate a possible procedure for the classification (if necessary) and cataloging of data bases at UCLA. Show the types of public records you think will be necessary (e.g., what should appear in the card catalog).

December 1, 1970

QUESTIONS FOR THE C.I.S. SEMINAR ON CATALOGING

Please study the Troutman paper on "Standards for Cataloging of Magnetic Tape Material". Then divide into small groups and discuss the questions listed below. Appoint one of the members of your group to report on your decisions at the December 3 session.

This is more than a theoretical exercise on the cataloging of data files. The conclusions you reach will be very helpful to the UCLA Library in its search for the best methods of cataloging magnetic tape material. Beyond that, we expect that your deliberations will assist the newly appointed ALA Subcommittee on Rules for Cataloging Machine Readable Data Files in isolating the requisite points of description in order to recommend standard methods of descriptive cataloging of these materials.

1. List the items you think are necessary for the cataloging record of a magnetic tape file, e.g., author, title, imprint data, descriptive notes, subject entries, bit density, file size, etc. Be as specific and complete as possible.

2. Where do you think the above items should be recorded?

a. On conventional 3x5 catalog cards in the public catalog?

b. On 8 1/2x11 sheets kept at the service point?

c. On 8 1/2x11 sheets kept in the Systems Department (or Computing Facility)?

OR

d. Should some of the data be recorded in the public catalog, some at the service point, and some in the Systems Department?

e. Should all of the data be recorded in all three places?

3. If your answer to the above question is "d", please indicate which items you think should be recorded in the public catalog, which at the service point, and which in the Systems Department. Be specific and complete.

4. How should serial tapes (those received monthly, weekly, etc.) be recorded? Should an attempt be made to keep the record current in the public catalog, at the service point, and in Systems Department? Or should the record be kept current at only one or two places, and if so, where?

5. What kind of classification number should be used?

   a. A complete LC call number?

   b. A partial LC call number (e.g., the classification letter or letters plus an accession number)?

   c. An accession number only?

   d. An acronym or other distinctive combination of letters plus an accession number (e.g., MARC 12)?

e. Other?

6. The Systems Department (or Computing Facility) will assign its own series of accession or identification numbers to the reels as they are received, and will store the reels by these numbers. Suggest a way of "translating" the classification number and any particular part of a serial tape as recorded on the catalog card or at the service point into the identification number used by the Systems Department so that the patron receives the reel he wants.

CompuTape
Z
881
A1M1

MARC distribution service.
v. 1- Mar. 27, 1969-
Washington, MARC Editorial Office.
For further information and service consult reference desk.
Updated weekly.
Coverage, Mar. 27-July 14, 1969, American imprints currently cataloged at the Library of Congress; July 21, 1969-
English language monographs currently cataloged.

See Next Card
ESh

CompuTape
Z
881
A1M1

MARC distribution service. 1969-
(Card 2)

Tapes include corrections and deletions of material covered.
MARC II format.

1. Library catalogs. I. MARC project. II. U.S. Library of Congress. MARC Editorial Office.

CompuTape
Z
881
A1M1

MARC distribution service. Mar. 27, 1969-
(card 3)

SPECIFICATIONS:
File name: MARC quarterly/weekly
Tracks: 9
Bit density: 800 bpi
Recording mode: ASCII
Record length (maximum): 2048 characters per physical record; logical record may be one or more physical records.

CompuTape
Z
881
A1M1

MARC distribution service. Mar. 27, 1969-
(card 4)

on reel:

Library has those checked:

vol.	I. D.	coverage	Systems no.
1	v. 1, no. 1-13	to 6/19/70	
2	v.1, no.14-26	9/22/70	
3	v.1, no.27-39	12/8/69	
4	v.1, no.40-54[sic]	4/7/70	
5	v.2, no. 1	4/9/70	
6	etc.		
7			
8			

Public Affairs Service

CompuTape
HA
717
D19A5
1970

U.S. Bureau of the Census.
Test reel for 1970 census first count summary tapes. 2d ed. Washington, Bureau of the Census, 1970.
1 reel.
For further information and service consult reference desk.
Title from Catalog of United States census publications.
"The new test reel presents data from File A of the first count only ... changes

See Next Card

ESH

Public Affairs Service

CompuTape
HA
717
D19A5
1970

U.S. Bureau of the Census. Test reel for 1970 census first count summary tapes. 1970. (Card 2)

... have necessitated imputation of certain data."
Data source: 1968 Madison SMSA (Dane County, Wisconsin) dress rehearsal for 1970 census.

1. Dane County, Wis. - Census. I. Title.

See Next Card

Public Affairs Service

CompuTape
HA
717
D19A5
1970

U. S. Bureau of the Census. Test reel for 1970 census first count summary tapes. 1970. (card 3)

SPECIFICATIONS:
File name: ST35x1st
Tracks: 9
Bit density: 800 bpi.
Recording mode: EBCDIC
Record length (maximum): 1800 fixed length physical record block, 2 per logical record.

Ed./Psych.
Library

CompuTape
Z
5811
R31

RESUMAST.
Nov. 1966-
[Washington] ERIC, 1970-
reels
For further information and service consult reference desk.
Report resume files portion of the ERIC master files.
All ED numbered documents announced in Research in education (RIE) and other ERIC

ESH

See Next Card

Ed./Psych.
Library

CompuTape RESUMAST. Nov. 1966- (card 3)
Z
5811
R31

SPECIFICATIONS:
File name: RESUMAST.
Tracks: 9
Bit density: 800 bpi
Recording mode: EBCDIC
Record length (maximum): 6996

See Next Card

Ed./Psych.
Library

CompuTape RESUMAST. Nov. 1966- (Card 2)
Z
5811
R31

publications will be found on the files.
Updated quarterly, 1970-

1. Educational research - Bibl. 2. Education - Bibl. I. U.S. Educational Resources Information Center. II. Research in education. III. RIE. IV. Title: Report resume files. V. Series: ERIC master files.

See Next Card

Ed./Psych.
Library

CompuTape RESUMAST. Nov. 1966- (card 4)
Z
5811
R31

Library has those checked:

vol.	I. D.	coverage	Systems no.
1	RDØØ18		
2	ERICØ3	July-Sept.'70	28
3			
4			
5			
6			
7			
8			

171

Ed. & Psych. Lib.
Computer
Tape
Z
5811
R31

Report resumes.
Nov. 1966-
[Washington] ERIC, 1970-

For further information and service consult reference desk.
Report resume files portion of the ERIC master files.
All ED numbered documents announced in Research in education (RIE) and other ERIC

ESH

See Next Card

Ed./Psych.
Library
Computer
Tape
Z
5811
R31

Research in education. Nov. 1966-
[Washington] ERIC, 1970-
reels.
For further information and service consult reference desk.
Report resumes portion of the ERIC master files.
All ED numbered documents announced in Research in education (RIE) and from other ERIC

See Next Card

ESH

THOUGHTS ON CATALOGING COMPUTER TAPES

If it is contemplated that all incoming data bases be cataloged, then documentation should be assembled in one place, even though copies must go to service points, etc. Materials useful for cataloging include announcements or advertisements from which files have been ordered, correspondence with issuing organization (it might even be realistic to have a standard question inserted in this exchange, "What is the title of this file?"!), and a printout of the tape label(s). A transcription of the exterior label should be included also.

Suggest obtaining the following:

Stamp reading "for further information and service consult reference desk" to be used with an arrow pointing to location stamp on main entry.

Stamp reading "CompuTape" for call number position.

Form cards for Specifications and for Holdings.

In the matter of holdings, it might be advisable with tapes received as frequently as weekly or monthly to plan to write on the main card "Library has v.1- to date" or "1969-to date" or some comparable note, and to keep up-to-date a holdings card only at point of receipt, presumably Systems.

As to distribution of cards: suggest full sets to p.c. and branch (if involved); main entry, specifications and holdings card to Systems, where actual checking in of serial tapes and assignment of Systems storage number can be recorded, and to Continuations, if a serial record is to be kept there. If Systems has such a file, a branch can order fresh copies from entry and reel number (consecutive) and Systems can ascertain the corresponding storage number of the master tape. Communicating that storage number (which I understand is possibly subject to change from time to time) to branch, Continuations and p.c. is too involved to be practicable.

I understand property I.D. and labelling of replacement tapes for circulation pose problems. If our needs are sufficient to make it commercially practical, perhaps reels could be ordered with "U.C.L.A. Library" as an integral part of the reel. A clear-plastic covered bracket to hold a label could possibly be added also if it is deemed impractical to have standard adhesive labels produced at the time of the request for a copy of the tape. (This could be accomplished by sending IBM card with request)

OUTLINE OF SESSIONS ON PUBLIC SERVICE

1st Session

1. Recapitulate (a) Nature of data bases, (b) Availability, (c) Question of whether the library is--or wishes to be--the appropriate agency. (ISSUES).

2. Crucial question is 'what level of service are we expecting the reference librarian to provide?' If we speculate on adding 1 FTE to a reference department to handle the demand, should it be split among existing staff, say, one or two hrs./day; or should it be one full-time 'data base librarian', an information specialist attached to the department to whom all questions are referred?

3. Typical patterns of access -- retrospective searches; selective dissemination of information (SDI) services for current awareness; special processing.

4. Thesauri: to be kept at desk? Librarians to accept statements, or lists of terms, or fully formed queries? Librarians to spend some time each day formulating searches and/or analyzing output?

5. Who will have responsibility for the intellectual quality of a product such as a subject bibliography? Are librarians going to let this entire task of mediating information pass out of their control?

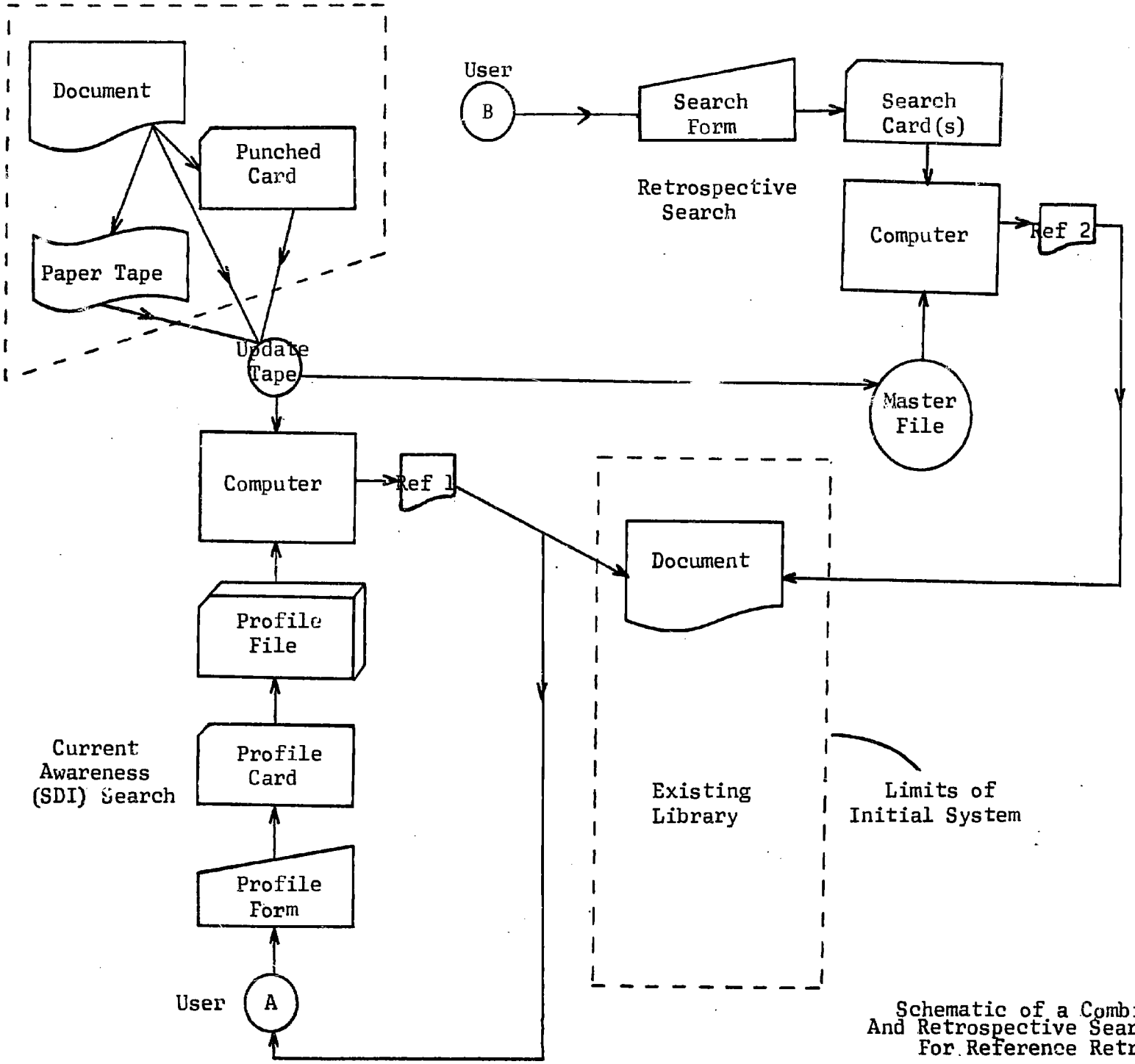
2nd Session

6. Levels of usage: (a) on-campus. (i) Faculty; (ii) Graduate students; (iii) Undergraduates. If we postulate that present information patterns will operate for tapes, then widely divergent types of need are foreseeable. (Professor could request a machine-readable file for his class reading list, or for assignments using the computer, etc.).

   (b) Off-campus. (i) Other UC; (ii) Other academic institutions; (iii) local business and industry. What are the parameters for meeting demand from these groups? Are the existing principles and policies of inter-library lending workable? Is the existing fee for a library-card for (iii) going to include any tape processing they may desire?

7. Quality control:--how much is within the librarian's ability to control? (a) Tape files; library cannot guarantee the authenticity of the data. Can check incoming tapes and periodically clean and test reels. (b) Output (printed, screened, on tape or on cards). Cannot control the printing style of the computer; can format the output, within reasonable limits, according to the client's needs (some standard formatting will be invoked if no special features are requested). Upper and lower case printing, possibly. Any upper bound on how <u>much</u> output a client is entitled to in response to a given request?

8. What changing schemes, if any, would you recommend? --fixed sum? computer time only? payment by the hit? etc.



Schematic of a Combined Current And Retrospective Search Operation For Reference Retrieval

TENTATIVE LISTING OF SOME EXISTING
(or soon-to-be-existing)

DATA BASES SUITABLE FOR

GENERAL REFERENCE AND BIBLIOGRAPHY

March 1970

New York Times Index (since 1 Jan 1968)
New York Times Index plus list of Descriptors

Dissertation Abstracts (DATRIX Service)
(DA are now doing market research with a view to selling the tapes, they have recently compiled a set of programs to permit subject retrieval, and are in process of creating a cumulative index to volumes 1-29.)

LC MARC Tapes.

BNB

Books in Print
Paperback Books in Print

Biological Abstracts (plus their Bioresearch and Biosystematic Indexes and a new service called BA Previews--a quick listing in advance of the main file)

Chemical Abstracts (several services are now being tested at UC Riverside)

Psychological Abstracts (should be available on tape by the end of this year, with a thesaurus to follow in 1971)

U. S. Census of 1970

County and City Data Book (from U. S. Bureau of the Census)

Statistical Abstract of the U.S. (from U. S. Bureau of the Census)

Research Centers Directory

Human Relations Area Files

College Blue Book

Encyclopedia of Organizations.

Christian Science Monitor Index

H. W. Wilson Publications (various)

University of California Union Catalog Supplement (UCUCS-now nearing completion at the Institute of Library Research, Berkeley)

Webster's 7th Collegiate Dictionary

Random House Dictionary

LITE SEARCH STATEMENT

(Type or print plainly)

NAME OF REQUESTER	RANK
ORGANIZATION *(Include full office symbol(s), etc.)*	
STREET OR MAILING ADDRESS	
CITY, STATE & ZIP CODE	
AUTOVON / FTS	
COMMERCIAL TELEPHONE *(Area Code & Number)* / EXTENSIONS	

FOR LITE USE ONLY

RECEIVED BY *(Check applicable block)*: ☐ TELEPHONE ☐ MESSAGE ☐ LETTER ☐ IN PERSON

ATTORNEY *(Initials)*

☐ FRAMED BY USER ☐ FRAMER ☐ REVIEWER

SEARCH NO.

DATE & TIME IN / DATE & TIME OUT

REMARKS

FORMAT OF OUTPUT DESIRED. *(Check applicable block)*

☐ CITE _____ *(Citations only)* _____ *(Digests for Published CG Decisions only)* ☐ KWIC *(Key word displayed in context)*

☐ PRINT *(Full text of document - Do not request if source material is available to you)* ☐ OTHER

PROCESS AGAINST *(Check applicable blocks)*

☐	U. S. CODE	☐	ASPR	☐	COURTS MARTIAL REPORTS	☐	AFR *(Specify)*
☐	CG DECISIONS *(Unpublished)*	☐	DCAA MANUAL	☐	COMA	☐	AFM *(Specify)*
☐	CG DECISIONS PUBLISHED SINCE 1939 ONLY	☐	DOD DIRECTIVES & INSTRUCTIONS	☐	BOARDS OF REVIEW	☐	OTHER *(Specify)*
☐	ALL PUBLISHED CG DECISIONS						

Fold Here

RESEARCH PROBLEM *(State briefly)*

KEY WORDS AND PHRASES *(If possible, indicate desired relationship between words or groups of words; i.e., in one phrase, same sentence or document)*

Fold Here

MAIL TO:

AFAFC (SJA)
3800 YORK ST
DENVER CO 80205

(In case you are framing the search, use AFAFC Form 2013A for framing.)

Submit original & two copies to AFAFC.

AFAFC FORM 2013 JUN 68 PREVIOUS EDITION MAY BE USED.

LITE SEARCH STATEMENT (*Continued*) (*Please type or print clearly*)	REQUESTED BY (*Name, Organization, & Address*)

COL. 1	COL. 2	COL. 3	COL. 4

FORM JUN 68 2013A (REVISED)

LITE * * Automated Abstracting, Indexing and Distribution System

Profile Interest Words

Word Groups	Definitive Interest Words
WORD 1	
WORD 2a	
WORD 2b	
WORD 3a	
WORD 3b	
WORD 3c	
WORD 4a	
WORD 4b	
WORD 4c	
WORD 4d	

AFAFC FORM JAN 68 T-7

DATRIX

Direct Access To Reference Information: a Xerox service

Be sure you have read the Special Instructions on the reverse side of this form.

DATE _____

PLEASE PROCESS MY ORDER FOR A DATRIX SEARCH BASED ON THE FOLLOWING KEY WORDS: (please print)

PUBLICATION DATES FROM _____ TO _____

KEY WORDS	AND	AND	AND	EXCLUDED KEY WORDS
OR				
OR				
OR				
OR				
OR				
OR				
OR				
OR				
OR				
OR				
OR				

UNIVERSITY PREFERENCES: If search is to be limited to dissertations written at specific schools, print schools below. Otherwise, search will be made of all schools in program.

_____

_____

_____

_____

_____

WHICH KEY WORD LIST DID YOU USE?

- ☐ Chemistry/Life Sciences
- ☐ Engineering/Physical Sciences
- ☐ Humanities/Social Sciences

BRIEFLY PARAPHRASE YOUR DATRIX SEARCH GOAL.

_____

_____

_____

_____

MAILING INFORMATION

Name / Title _____

Organization _____

Address _____

City _____ State _____ Zip _____

TELEPHONE ___ area code _____ ___ number _____

BILLING ADDRESS (if different)

_____

_____

_____

After completing this form, mail it to University Microfilms, Xerox Corporation, Ann Arbor, Michigan 48106. Telephone 313-761-4700

IMPORTANT
Please read these instructions completely before filling out the order form.

1. Use *one* order form for each DATRIX inquiry; do not attempt to use one order form for two or more inquiries. If you do, the search will be incomplete for all inquiries.

2. Use key words from only *one* Key Word List for your inquiry: Subject Headings (page 7 in Key Word List) *and* words from titles are key words. Remember, many subject areas are included in two or more Key Word Lists to facilitate interdisciplinary searching (e.g., key words used to describe dissertations in the field of Statistics are duplicated in all three Key Word Lists).

3. To broaden your search place alternate key words (or key word synonyms) VERTICALLY in a column on the order form. To restrict your search place key words HORIZONTALLY in rows.
   a. For example, assume that you wanted to identify those dissertations dealing with compensation of supermarket employees. Since research on this subject could be expected in the fields of Economics, Business Administration, and/or Law, the Humanities/Social Sciences Key Word List would be selected. You could then fill out the form like this:

KEY WORDS	AND	AND	AND	EXCLUDED KEY WORDS
OR COMPENSATION	SUPERMARKET	EMPLOYEE		

   b. Now, suppose that you wanted to broaden your search to cover dissertations dealing with the compensation or training of supermarket employees or managers. You could then select alternate key words or synonyms as shown in this example:

KEY WORDS	AND	AND	AND	EXCLUDED KEY WORDS
OR COMPENSATION	SUPERMARKET	EMPLOYEE		
OR TRAIN*		MANAG*		
OR		PERSONNEL		

   The asterisk after the words TRAIN and MANAG will retrieve all variations of these root words. TRAIN* will retrieve every reference in the Humanities/Social Sciences Key Word List (but not the other two lists) that contains a word beginning with TRAIN (e.g., TRAIN, TRAINEE, TRAINABLE, or TRAINABILITY). MANAG* will retrieve all dissertation titles containing the reference words MANAGE, MANAGER, MANAGERIAL, or MANAGEMENT. PERSONNEL was added because this is a synonym of EMPLOYEE and probably would be used in titles of relevant dissertations. Note that it is necessary to enter each key word or root word only *once* in order to order a complete search.

4. CAUTION: Too many key words entered across the columns may unnecessarily restrict your search. Use as your guide the frequency count shown for each word in the Key Word Lists. For example, if you are seeking dissertations that concern the training of supermarket personnel for advancement, the order form could be filled out like this:

KEY WORDS	AND	AND	AND	EXCLUDED KEY WORDS
OR TRAIN* (2374)	SUPERMARKET (14)	EMPLOYEE (80)	ADVANCE* (64)	
OR		MANAG* (521)	PROMOT* (86)	
OR		PERSONNEL (396)		
OR (2374)	(14)	(997)	(150)	

   The maximum number of references that can be retrieved for any inquiry is the *smallest* sum of the frequency counts in any one column (14 in the above example). In the above example, the cost of the search if 14 references are found ($5.40) is only slightly more than the cost if 10 or fewer references are found ($5.00). In situations like this, where a low frequency count key word (e.g., SUPERMARKET) used alone will retrieve only slightly more references than if used with modifiers, it is recommended that modifiers be omitted. (In the above example, TRAIN is also a modifier as well as the words in columns III and IV.)

   It is not necessary to enter frequency counts on your order; those above are shown for example only.

5. For maximum effectiveness of the search, subjects commonly titled or described with compound words such as DATA PROCESSING, NORTH AMERICA, AUDIO VISUAL should be listed on the order form in separate horizontal columns; that is, DATA and PROCESSING, NORTH and AMERICA, AUDIO and VISUAL.

Refer to the general instructions in the front of the Key Word Lists if necessary.

OUTLINE OF CONCLUSION

I. Analysis and Refinement

1. Profile Refinement: Some Guidelines

a. Check for error in translation (error in syntax).
b. Check for typographical error.
c. Check search logic--too broad? too narrow?
d. Check choice of descriptors.
e. Check size of file (is question too complex for an update file, too broad for a good retrospective search?). Check descriptor frequencies where possible.

2. Recall and Precision

a. In analyzing output, question is not "did we get what we asked for?" but "should we have asked for what we got?"
b. Concepts of recall and precision as ratios, rather than absolutes. (Ref. Lancaster, F. W. Information Retrieval Systems). Examples of recall and precision ratios.

3. When is a Machine Search Appropriate? Some Guidelines

a. Multi-dimensional searches (too complex for a traditional manual search).
b. Large files, esp. bibliographic files, or Census, etc.
c. Science and technology: at present, most information available in machine-readable format concerns science and technology, broadly defined.
d. Knowledge in new patterns: computer permits extraction and analysis of information in ways never before possible. In addition to doing conventional-type searches a great deal faster, therefore, it will lead to fresh types of search.
e. Multiple searches: literally scores of different requests for a search of the same file can be done at one time ("at one pass" of the tape). Costs come down when requests are batched.

II. Network Possibilities

Based on the fact that digital data can be transmitted (e.g. over phone lines) the prospect of remote file-sharing comes onto the horizon. UC-wide; nation's universities (EDUCOM); international. UCLA as a 'node'.

III. Administrative Issues

Assuming that the CIS is technically feasible and can be funded, is the library able to accept the responsibility? Library's prime intellectual task is to mediate information--format considerations should be secondary. Library has the best administrative and public service structure to do this. Computerized services ought to be a big part of the library's future.