THE WAY TO OLPAC:

System Changes in the Technical Department of an Academic Library, a Case Study

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In the large communication system, the library belongs to one of the information retrieval systems. It is a complicated system functioning between the information source and the destination of the information or the library patrons. Library's major purpose is the transmission of information, and the importance is the degree of access to it, not the method, that is, to provide the users the easy and prompt access to the adequate information they need. The basic functions of any library will be selection and acquisition, organization and storage, and retrieval and dissemination of information. These will remain as the true tasks of libraries and librarians in future however widely automation is introduced in its environment. To fulfill their true tasks libraries and librarians need to accept changes. In 1970's technology finally began to make big inroads into libraries where customs and techniques had remained almost unchanged for many years. Library was the last area where computerization came in, but it is moving towards the delivery of new and traditional services to patrons via electronic computers, home access to library catalogs, electronic encyclopedias and so forth.

It was just when the information explosion made it impossible to handle it manually to provide enough services to patrons that technolo-

gy contributing to the success of online services developed. The notion that any individual library unit can operate on an independent, self-sufficient basis has changed to substantial reliance of every library unit on the resources of services offered by Library of Congress, OCLC (Online Computer Library Center), or other bibliographic utilities. The schemes of interlibrary loan, cooperative storages, cooperative acquisition, and cooperative cataloging have been set up.

As C. R. Hildreth quotes, the years leading up to and including 1980 have been called the golden age of library cooperation and cooperative networking. During the period online networking systems were complex and costly for individual library to develop and operate. Non-traditional library organization like OCLC built expensive centralized bibliographic resousrce systems which libraries joined to share the high cost and risk of computerization. Most libraries' first experience with automation was joining OCLC or other major bibliographic utility to acquire online cataloging service and interlibrary loan service, which shows the major influence on the pattern of library automation and networking development into the early 1980. On today's networking and automated resource sharing environment in North America, Hildreth points out the fact that the following two grand notions are now completely gone.

1. the concept of a national bibliographic network proposed by the National Commission on Libraries and Information Science (1970) from the point of view that information is a national resource critical to the nation's well-being and security as any natural resource such as water or coal.
2. the dream of a network-based "total library system" developed

and operated centrally by one of the major bibliographic utilities In other words, a physically centralized national network is a fading dream and is being replaced by ideas for connecting networks and local systems to provide access to networks throughout the nation. The notion of "National network" has been replaced by "Nationwide networks" by the force of decentralization. The determining factors of the change are the availability of minicomputer-based "Turnkey systems" by commercial vendors within the budget range of all sizes of libraries, and librarians more interested in using the commercial system and soft ware to solve access and databaase sharing problems.

> "To understand the changing environment of computerized library networking and automation in North America, it is necessary to gain some insight into its dominant themes : decentralization and commercialization, a resurgence of regionalism and local initiative and the democratization of computer expertise in the application of new information technologies to library functions and activities. As these themes are being played-out, a new pluralistics, multilayered library networking environment is rapidly emerging."(1)

The system which is going to be discussed here is the Technical Service Department which used to be called (before 1985) Processing Department of a middle sized academic library in California. Its parent system CSUF (California Statae University, Fullerton) is in one of the larger universities in the California State University System with nineteen campuses in all parts of the State. The library serves 25,000 undergraduates and Master's degree students, and over 1,300 faculty members. Combined collection total is 900,000 volumes, repre-

sented by 700,000 titles, including government documents. It receives 4,200 periodicals ; contains 1,500,000 microforms, 30,000 audiotapes and phonorecords and 19,000 nonprint materials. (from the RFP,1987)

The Library housed in a six story building is now on the verge of moving into an online catalog environment. The writer has had a personal interest in the changes there nearly two decades : in the development at the Library toward OLPAC system, the changes in its organization, especially its technical service department, and in what the changes tell. As a drastic change in its organization was brought about after the introduction of OCLC online cataloging, a comparative study will be on their system before and after its introduction there.

To begin with, the brief chronological record of CSUF Library automation will be presented.

1973: The Library developed an in-house automated circulation system based on IBM punched cards and run in batch mode on the campus Cyber Computer. (These cards were dumped to tape later in preparation for an online circulation system).

1978: It began cataloging on OCLC.

1983: It began entering circulation and current cataloging data for the Extended Title Records into the CLSI database via tape. The Library implemented a CLSI LIBS 100 system to provide circulation services.

1985~1987: It had the mainshelf list retrospectively converted to OCLC / MARC.

OCLC is also used for interlibrary loans, pre-order, and reference searching.

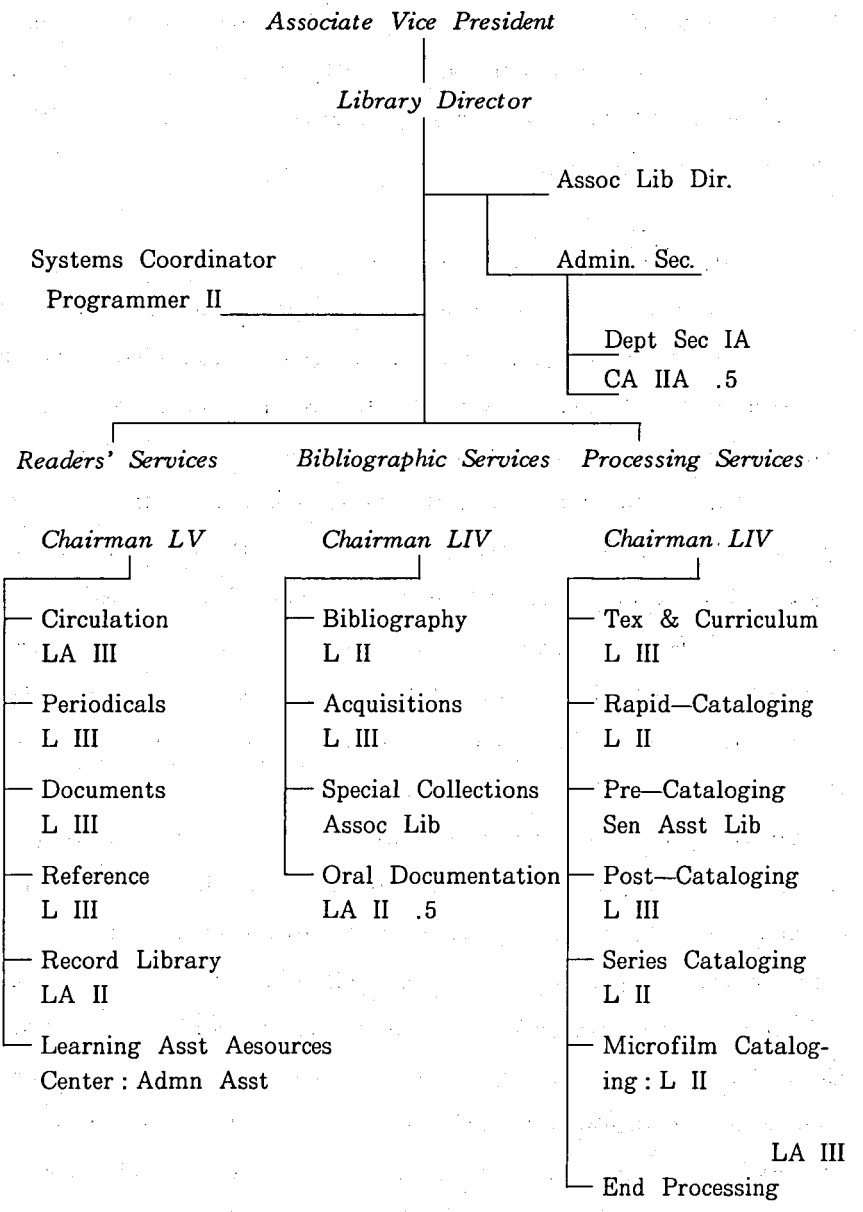
The Library uses INNOVACQ for acquisition and serial control and

does database search on BRS, DIALOG, MEDLINE, ORBIT. It subscribes to INFOTRAC and AeRIC, selects H. W. Wilson Indexes on CD-ROM, and is linked to the Campus Computer Center for such functions as accounting and student payroll. The Library uses WANG system for word processing, Apple II, Macintosh computers and IBM PCs for a variety of other functions.

As mentioned above library's main purpose is the transmission of information and it has common basic functions of selection and acquisition, organization and storage, and retrieval and dissemination of information. Library as a total system consists of its subsystems each of which has its own objectives to achieve and which are inter-related functionally to satisfy the requirement of their parent system. The subsystem cannot function independently or separately; so when we look a department as a system it must be considered in the context of the development of the total system. The following simplified organization charts figure no.1 to 4 represent the organization prior to the system reorganization in 1985: figure no.5 to 7 that of after the reorganization.

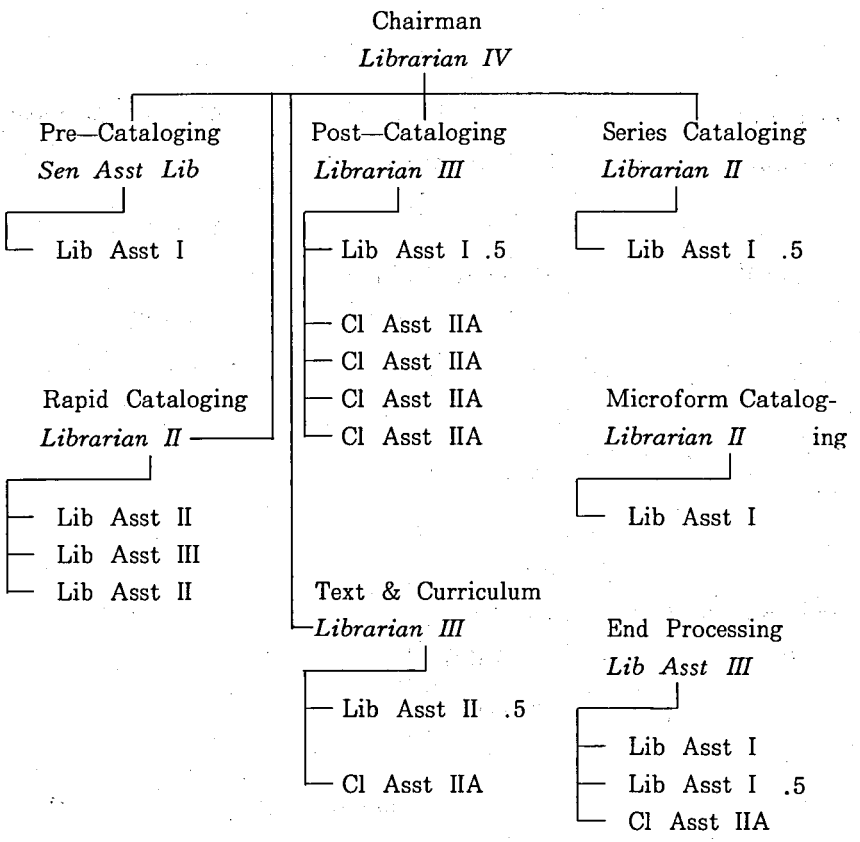
With renaming the keypunch-computer oriented Marking room, part of the Post-cataloging Section, "End-Processing" in earlier in 1973, the organization of the Processing department into section had been apparently worked out well for over a decade, allowing for clear division of functions and effective supervision, and necessary cooperation among them. Functionally the cataloging, or processing system lies between the point where the function of acquisition ends and where the information materials are shelved for the access by the patrons. The general

(figure 1) *LIBRAY*



(figure 2)

PROCESSING SERVICES

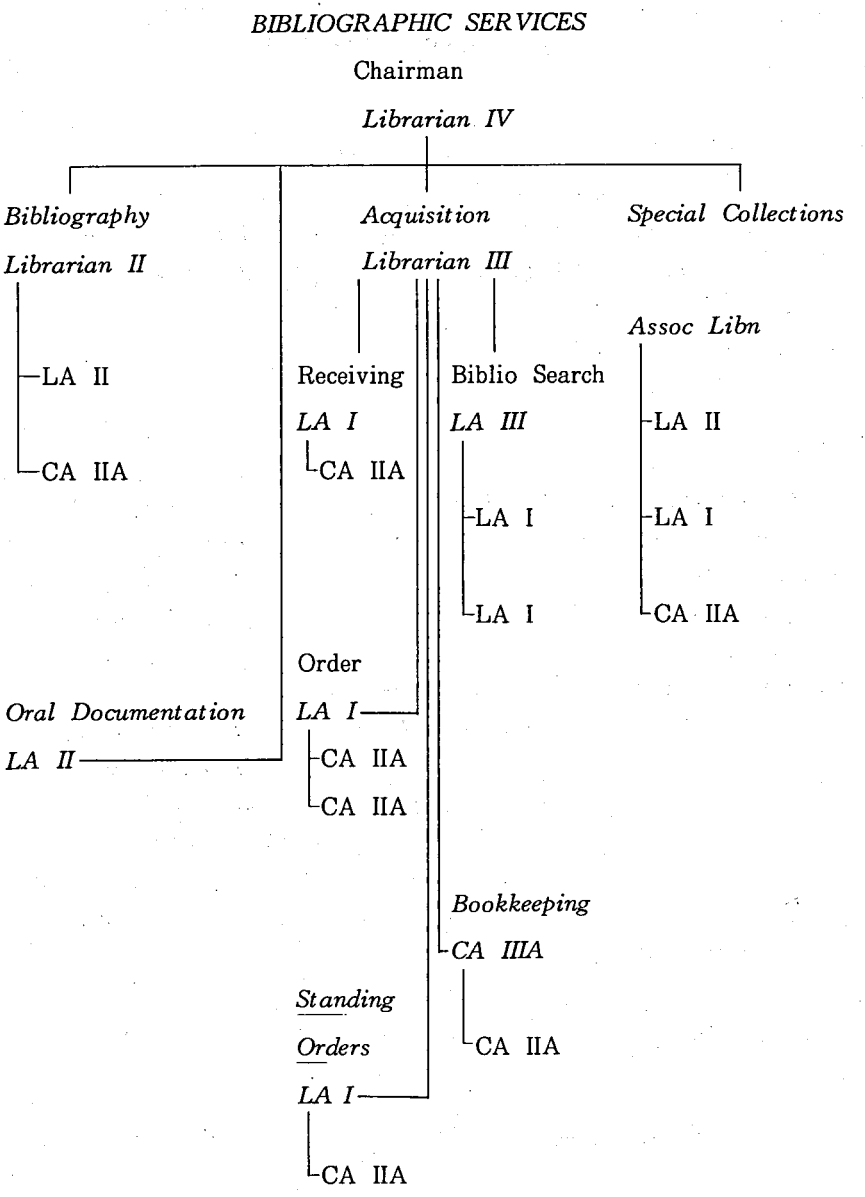


note : Temporary and Student assistant positions are not listed here.

Library Assistant (LA) is semi—professional position.

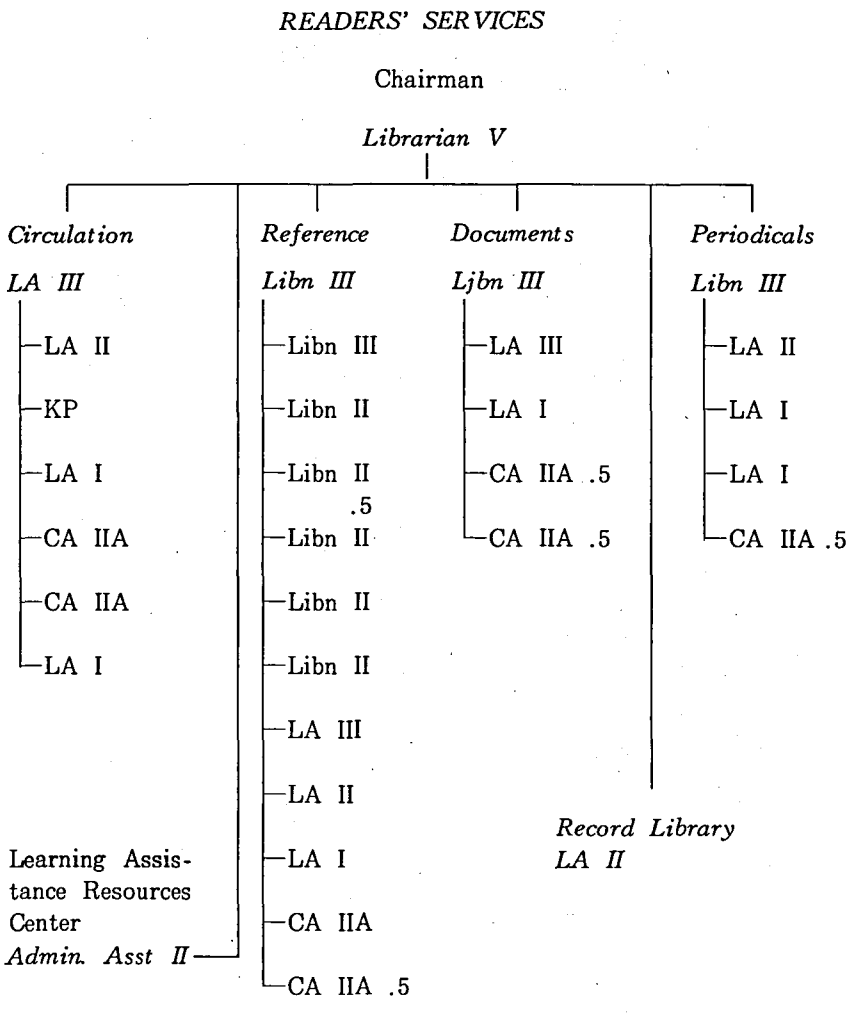
(1974)

(figure 3)



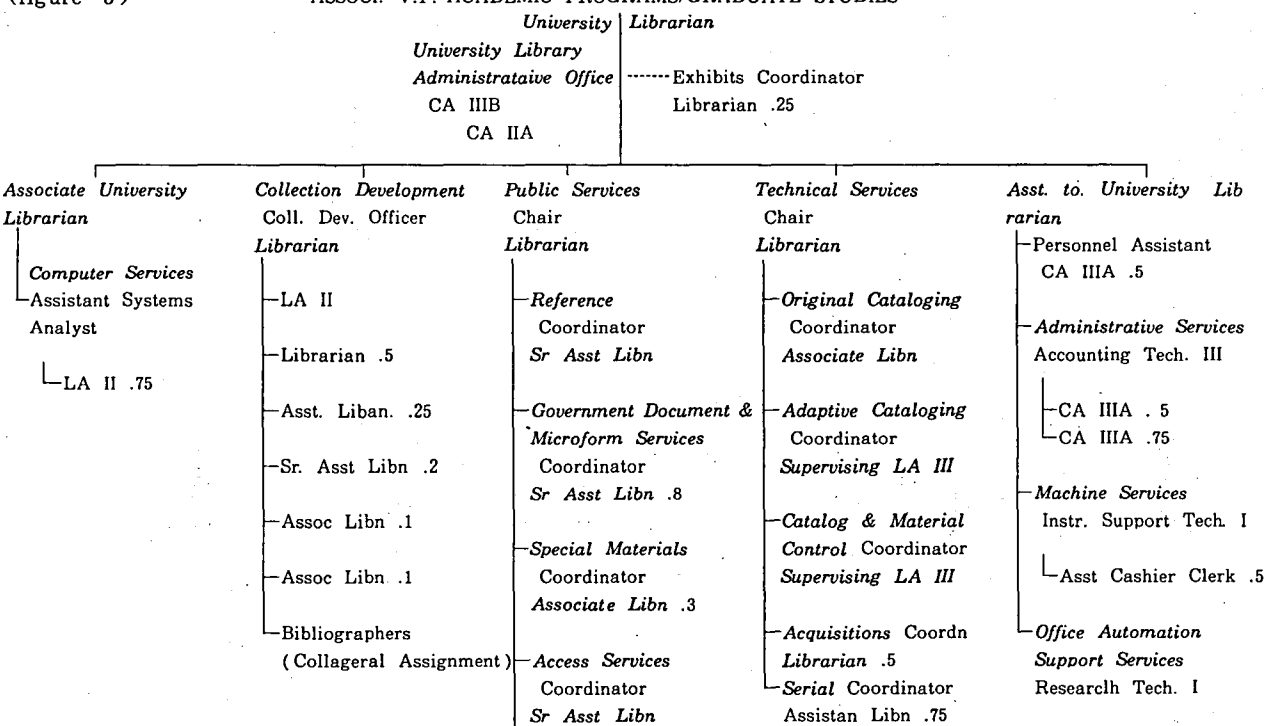
(1974)

(figure 4)



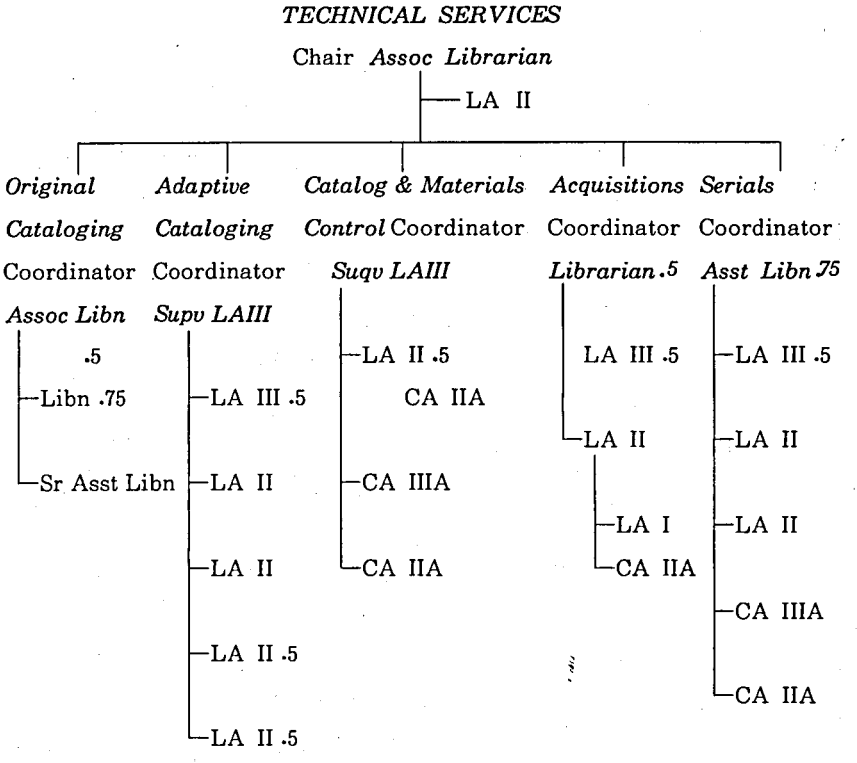
(1974)

(figure 5)



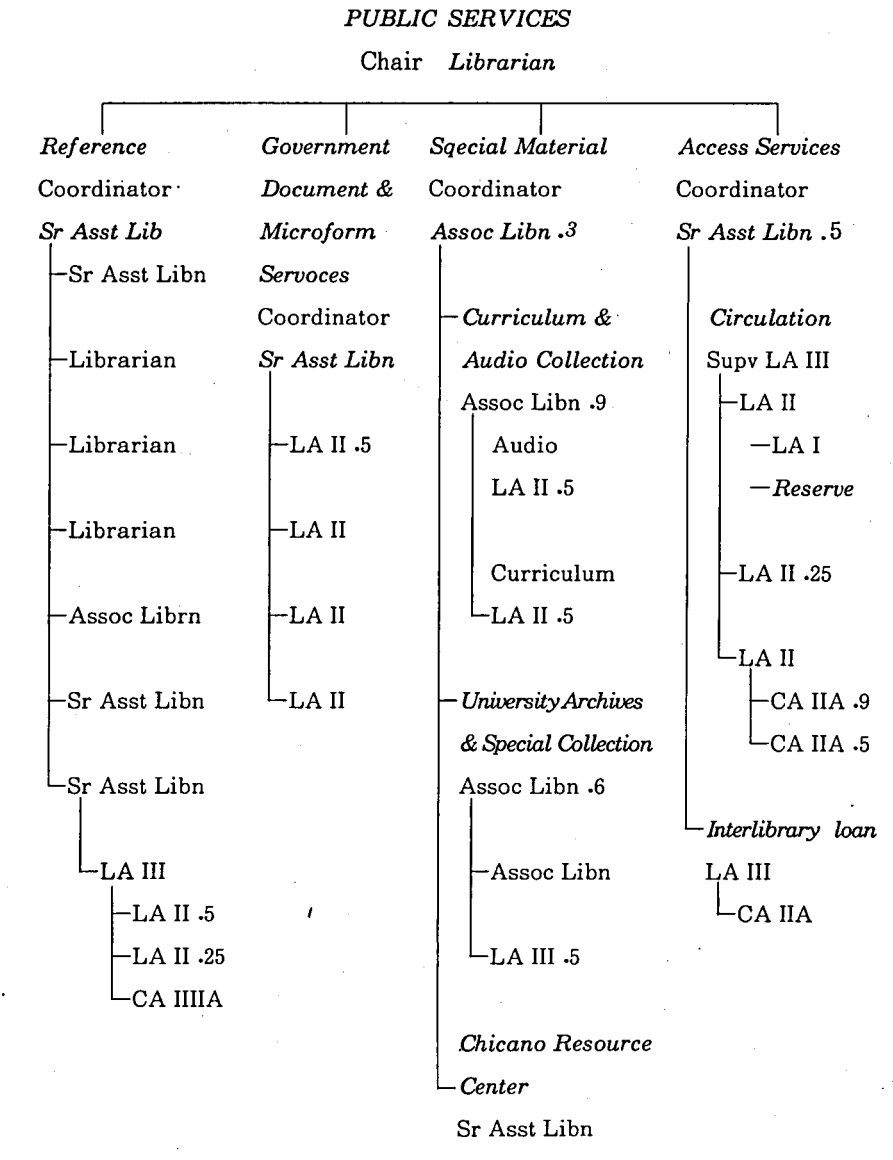
(1988)

(figure 6)



(1988)

(figure 7)



(1988)

objectives of the processing department is to process all the incoming informational material, so that the patrons can have the easy and speedy access to the specific piece of library material they need.. Its functional objectives can be specified as: Identification of informational material, Retrieval of the informational material, and Being user oriented. The characteristics of the system must be simple for the user to locate the material; the system must be efficient and economical in relation to the total library budget; and the time log in processing should be shortest as possible for the users' benefit. The requirements to be fulfilled by the processing department may be listed as follows. As for its primary, or functional requirements: 1. Providing cataloging information, 2. Physical or technical arrangement of the informational materials before storing, 3. Provision of physical access to the material, and managerial tools and statistics. As operational requirements of the processing department, the following should be considered : 1. Administration -- personnel ; budget ; systematic planning of performance flow ; 2. Standardized tools for processing ; and Space and Instruments.

Around 1974 (figure no.1 to 4) the Processing system was not automated. To keep up with the demand and pressure caused by increased production of publications combined with the broadening of study field and shortage of man power, the system was making use of the centralized services in processing and had started in the direaction to cooperation system in processing among libraries in CSU System. Because of heavy budget cut the system had departmental reorganization at the end of 1970 and the loss of several clerical positions was partially covered by subscribing to the Josten Card sets, commercial printed cards based on Library of Congress MARC data base. The

system obtained L. C. cataloging information as much as possible, using LC proof slips, National Union Catalog and LC Catalog for rapid cataloging and reproducing its own cards so that original cataloging could be minimized...The System decided to purchase microform MARC database to replace the Library of Congress proof slip service which turned out to be too uneconomical to maintain. The system was investigating several commercially available microdata services and comparing costs with the methods of bibliographic search and card production adopted by them. All of these services were based on L. C. MARC data and provided only information on books cataloged by Library of Congress since 1968. About 80 percent of the incoming books fell into the rapit cataloging, leaving 20 percent to be cataloged originally. (50 percent of received books could be provided with Josten Cards.) The catalogers of the CSU system libraries in southern California had been exploring the ways of sharing the original cataloging and eliminating duplication of efforts. The Chancellor's Office was in process of collecting titles for a data bank and was investigating the possibility of joining one of the larger computerized cataloging systems, that is, bibliographic utilities. In those days the emphasis was placed on cost reduction in the technical processing of library materials and the consequent reduction in personnel was experienced. They continued to reduce cost by further simplifying procedures and devising shortcuts, by cooperation with processing departments of other libraries, by investigating and applying commercial services found advantageous, and so forth.

The operation activities of the Processing Department were : pre-cataloging (sorting, bibliographic searching, distribution of materials) ;

obtaining and maintaining LC data by ordering printed card sets, and using proof slips ; add of copies or volumes ; cataloging with LC copy ; original cataloging without LC copy ; card production and processing ; End-processing (keypunching circulation card and pocket preparation, marking and labeling, mending and binding) ; and File maintenance. As the organization charts show, the Processing Department consists of seven sections to satisfy its requirements : sections of Pre-cataloging, Rapid cataloging, Series cataloging, Microform cataloging, Post-cataloging, End-processing, and Text and curriculum Center, which functionally speaking is rather out of place in this"behind the scene"department, because it is deeply involved in public services. The library reorganization in 1985 revised this inconsistency. The figure no. 8 will help with visualizing the work flow in the Processing Department. Analysis of the work performed is necessary for the assignment of duties to library staff. Time consuming original cataloging is considered professional job, that is librarians's, and cataloging with LC information data is supposed to be done by subprofessionals, this is, staff with position title Library Assistant (LA). In the diagram all the librarians were assigned specific fields for original cataloging. The main duties of the Rapid-cataloging Section supervised by a librarian were : processing all new books with Library of Congress cataloging information available, and adding copies and various editions to the existing library collection, which thus relieved time for the librarians to do more original cataloging and handle many special projects.

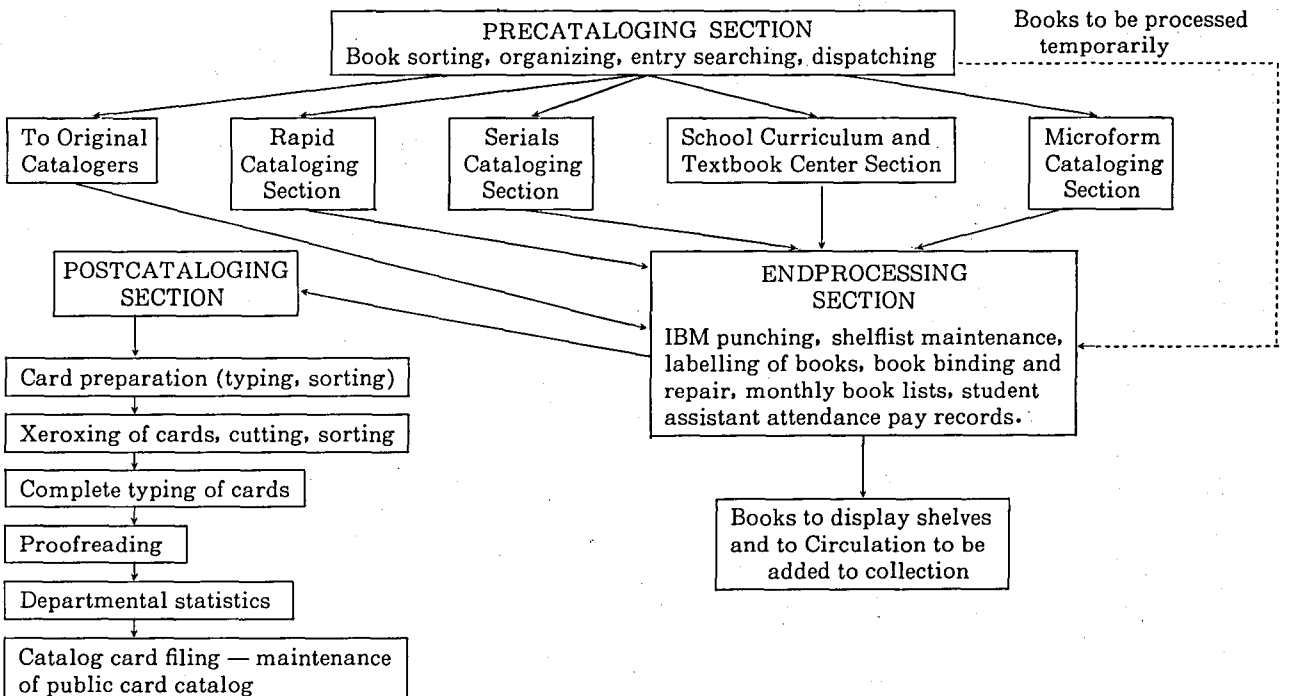
Automated cataloging, or computer aided cataloging, or cataloging through bibliographic utilities has been practiced since 1977 in the Department. The Library has been using OCLC (Online Computer

Library Center) online service for cataloging. They catalog everything except Document using OCLC online service. If there is a record on the OCLC system that they can use, they use it and *adapt* it to fit their book if necessary. They, that is, adaptive catalogers send anything they can't catalog on to the Original Cataloging section, which now consists of only two librarians. Adaptive catalogers do most of the series authority and name authority work, but don't do added copies and volumes. According to one of the Section staff all the changes that have occurred made things much easer for cataloging, though there is a lot of clean up necessary for computer problems.

What the brief comparatiave observation of the organization charts of before and after the reorganization in 1985 makes clear is that administration line is functionally one of the main three pillars of the Library as a total system, the other two of which are public services and technical services, and the associate university librarian who is a professional librarian and computer specialist bridges the administration line and the library proper line so to speak. Secondly, the collection development, that is, the selection function is the collateral assignment to all the librarians to share the responsibility for developing the quality of the library holdings, which seems more logical and better idea. Thirdly, apparently because of the introduction of automated system and increasingly difficult and comprehensive supervisory and management responsibilities, much more variety in position titles of the library staff can be seen in the comparative charts of the position titles and the salary range, which also indicates career progression for professionals on separate ladders : administrative or managerial and library proper specialist ones. Of course in the latter supervisory

(figure 8)

DEPARTMENT OF PROCESSING SERVICES
WORK FLOW DIAGRAM
1974



responsibilities have also been increasing. As for the position title it shoud be noticed that in the Technical Services Section, which is the scene of the main interest here, a new position title"Supervising Library Assistant III" has been created for section coordinators of Catalog and Material Control Section and Adaptive Cataloging Section, which used to be supervised by professional librarians. Lastly, concerning organization change, chages in the Technical Department will be pointed out. Because of introduccing the OCLC online cataloging services, Pre-cataloging Section and Rapid-cataloging Section have been combined into Adaptive Cataloging Section; and both Post-cataloging and End-processing Sections into Catalog and Materials Control Section. The portion of the library material processed in the Adaptive Cataloging Section is now nearly 95 percent of what received. As said before this section with six Library Assistants catalogs everything except Government Document using OCLC, 'adapting' to constant change brought about mainly by automation.

On newly set-up Technical Services Department an overview examination will follow. As seen in the chart, the department is made up of five separate sections: Acquisitions, Adaptive Cataloging, Catalog and Materials Control, Original Cataloging, and Serials. As written above, the fundamental tasks of the information retrieval system, and its subsystems will remain unchanged. However, joining the online cooperative cataloging services by a major bibliographic utility has added or stressed some requirement to the Technical Department.

"The mission of the Department is to acquire serial and monographic publications requested to support academic programs

(figure 9)

Position Title and Salary Range

A. Prir to reorganization (1974)

Position title	*Salary range*
Library Director 2911	2138 – 2599
Assoc Library Director 2910	1759 – 2138
Librarian 2918 (2900 LV)	1413 – 1717
Associate Librarian 2917 (2901 LIV)	1281 – 1558
Senior Assistant Librarian 2916 (2902 LIII)	980 – 1313
Assistant Librarian 2915 (2903, 4 LII, LI)	834 – 1174

Library Assistant III	2907	870 – 1058
Library Assistant II	2905	789 – 960
Library Assistant I	2906	682 – 829
Administrative Secretary	1131	829 – 1008
Clerical Assistant IV	1128	770 – 936
Clerical Assistant IIIA	1127	682 – 829
Clerical Assistant IIA	1126	561 – 682
Department Secretary III	1122	770 – 936
Department Secretary IIA	1123	682 – 829
Department Secretary IA	1124	619 – 752
Secretary B	1129	699 – 849
Programmer II	1907	1178 – 1432
Keypunch operator	1418	601 – 730

(figure 10)

B. After Reorganization (1988)

Position title	*salary range*
3300 Administrator IV.	41,592 (3,466) — 95,880 (7,990)
3306 Administrator III	31,200 (2,600) — 76,704 (6,392)
3312 Administrator II	25,992 (2,166) — 57,540 (4,795)
3318 Administrator I	15,600 (1,300) — 38,352 (3,196)
1902 Asst Systems Analyst	29,940 (2,495) — 36,072 (3,006)
1907 Programmer II	31,800 (2,650) — 38,316 (3,193)
1908 Programmer I	26,688 (2,224) — 32,088 (2,674)
1615 Instr. Suppot Technician I	25,140 (2,095) — 30,216 (2,518)
1740 Accounting Technician III	23,220 (1,935) — 27,804 (2,317)
5683 Research Technician I	23,508 (1,959) — 28,188 (2,234)
5341 Admin. Operation Analyst I	24,912 (2,076) — 29,940 (2,495)
5342 Admin. Operation Analyst II	29,532 (2,461) — 35,556 (2,963)
5343 Admin. Operation Analyst III	35,556 (2,963) — 42,876 (3,573)
2920-5 Librarian 12-months	50,544 (4,212) — 61,044 (5,087)
2919-5 Librarian 10-months	43,896 (3,658) — 52,968 (4,414)
2920-4 Associate Librarian 12-m	39,960 (3,330) — 55,548 (4,629)
2919-4 Associate Librarian 10-m	34,740 (2,894) — 48,204 (4,017)
2920-3 Sr. Asst Librarian 12-m	31,680 (2,640) — 43,896 (3,658)
2919-3 Sr. Asst Librarian 10-m	27,588 (2,299) — 38,136 (3,178)
2920-2 Assistant Librarian 12-m	28,884 (2,407) — 34,740 (2,895)
2919-2 Assistant Librarian 10-m	25,248 (2,104) — 30,252 (2,521)
2896 Supervising Library Asst	24,828 (2,069) — 29,772 (2,481)
2907 Library Assistant III	24,791 (2,066) — 29,808 (2,484)
2905 Library Assistant II	22,824 (1,902) — 27,312 (2,276)
2906 Library Assistant I	20,196 (1,683) — 23,928 (1,994)
1128 Clerical Assistant IVA	21,312 (1,776) — 25,368 (2,114)
1127 Clerical Assistant IIIA	19,284 (1,607) — 22,824 (1,902)
1127 Clerical Assistant IIIB	19,608 (1,634) — 23,220 (1,935)
1126 Clerical Assistant IIA	16,620 (1,385) — 19,608 (1,634)
1131 Administration Secretary	22,728 (1,894) — 27,180 (2,265)
1129 Secretary A	19,284 (1,607) — 22,824 (1,902)
1509 Stock Clerk	18,576 (1,548) — 21,960 (1,830)
1418 Data Entry Operator	16,836 (1,403) — 19,860 (1,655)
1693 Asst. Cashier/Clerk	17,112 (1,426) — 20,196 (1,683)
Student Assistant I	3.35 - 5.35 per hour
Student Assistant II	4.90 - 6.50 per hour
Student Assistant III	5.90 - 7.14 per hour

of the University, to catalog them according to international academic cataloging standards so that they may be accessed both by CSUF library users and by the thousands of libraries which use the OCLC database; and to maintain accurate holdings records in the card catalog, the serials kardex and the automated CLSI circulation system" (2)

Acquisitions Section is responsible for acquiring books and other library materials in a variety of physical formats. Its functional tasks include pre-order bibliographical checking, working with vendors, all necessary record-keeping connected with the acquisitions process, bar coding, stamping and sensitizing books on arrival in the Library. Serials Section orders, processes and catalogs periodicals in paper and microform formats, producing a local periodicals finding list for both public and in-house use. Adaptive Cataloging Section is responsible for cataloging library materials in all formats except government documents and phonorecords with OCLC records. The Original Cataloging Section catalogs materials unique to the Library's collection; formulates new authority records, complete or correct OCLC data and resolve cataloging problems referred to them by Adaptive Cataloging people. CMC (Catalog and Material Control Section) does the Department's clerical suppot whose functions includes maintenance of the card catalog, physical processing of materials to prepare them for circulation, material mending, and keeping withdrawal and transfer records.

Thare are several levels in automated cataloging. In some way, the use of MARC records to develop or improve in-house cataloging data, and the Cataloging in Publication (CIP) data can be some examples.

Cataloging through the bibliographic utilities is certainly the most significant development in automated cataloging. Brief description of online cataloging in the Adaptive Cataloging Section will be described. They load onto their disks a large number of search keys such as LC numbers, ISBN numbers, an author/ title code, etc., using the M300 OCLC terminals. Then they put the disk into the terminal and choose from a list on the screen what they want to do with those numbers. They want the machine to automatically search the OCLC data base for them. It is done overnight. They do not have to sit and wait for the search to go to OHIO and for the answer to come back to them for each record they search for. In the morning when they come, all records they have searched have been loaded onto the disk. These records are used for cataloging the materials. Then they have made all changes to the records, and hit a key to produce cards for each record, thus they batch process the record. The figure no.11 and 12 showing adaptive cataloging work flow should be compared with that of prior to the reorganization.

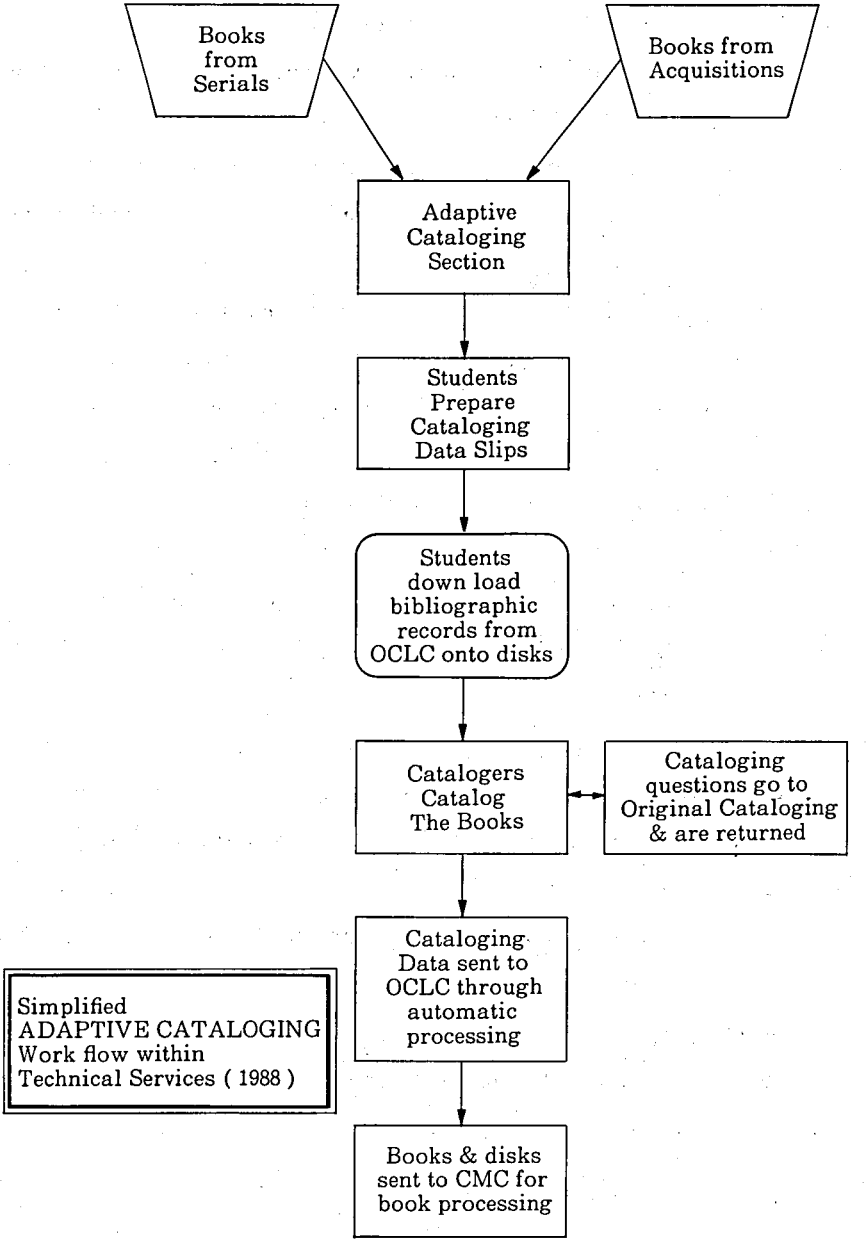
They order their catalog cards from OCLC; receive a magnetic tape of all the records that they have cataloged. That comes weekly with all the records they have used to catalog their books. The tape is loaded into their circulation system. Each book has a barcode on it, but no accession number. When they are cataloging, they put the bar code in the 049 field and that all go into their circulation system. Each operator, cataloger or searcher, has a unique number. When each person sits down at the terminal they must type in their number. OCLC knows how much of the system they can use. Some members can only search for records, but do not have the authority to produce

catalog cards. Some people have the ability to make changes in the data base and some do not. Each library sends in the names of its terminal operators and tells OCLC how much access each person should have. In CSUF Library catalogers have the ability to search and catalog and some can make changes in a name address directory. The Reference Department of CSUF only has the capability of searching.

There is no evidence of how much time and money this online cataloging system saves them. According to some people in the Adaptive Cataloging Department, the most advantage is the ease of cataloging and correcting and searching for things and the hope of an online public catalog someday. Logically online cataloging can shorten cataloging time, reduce work loads, and increase productivity. They can have catalog cards sets automatically produced and having them pre-sorted in alphabetical order so that they can eliminate card-filing step, for example. Therefore, the writer's assumption was that automation, or online cataloging can always be expected to save staff time and cost. However, it is said that they still have the same need for the staff. They just do different things in a different way. At any rate, they think they can do more than before. The figure no.15, a comparataive list of staff and assignments before and after the reorganization, may verify that point to some degree.

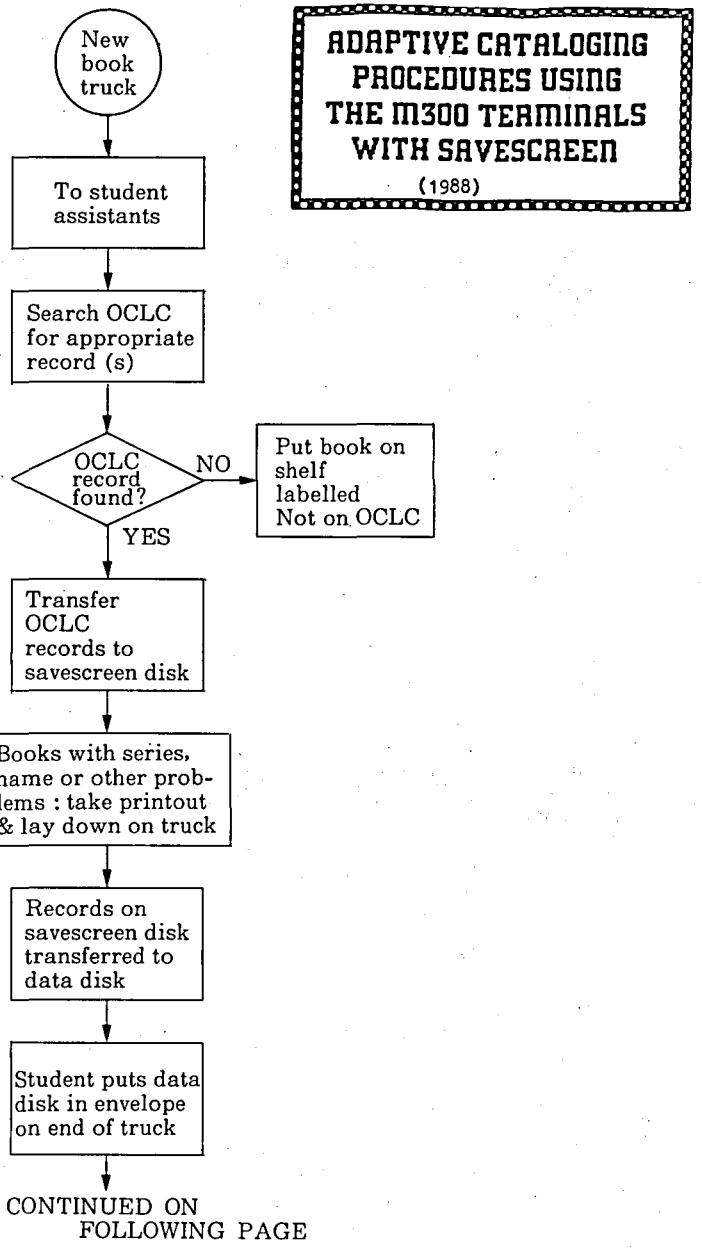
The simple statistical study by comparing the departmental organization charts of 1974 and 1988 seems to be of some assurance of the writer's innocent assumption.

(figure 11)



Simplified
ADAPTIVE CATALOGING
Work flow within
Technical Services (1988)

(figure 12)


ADAPTIVE CATALOGING PROCEDURES USING THE M300 TERMINALS WITH SAVESCREEN
(1988)
New book truck
To student assistants
Search OCLC for appropriate record (s)
OCLC record found?
NO
Put book on shelf labelled Not on OCLC
YES
Transfer OCLC records to savescreen disk
Books with series, name or other problems : take printout & lay down on truck
Records on savescreen disk transferred to data disk
Student puts data disk in envelope on end of truck
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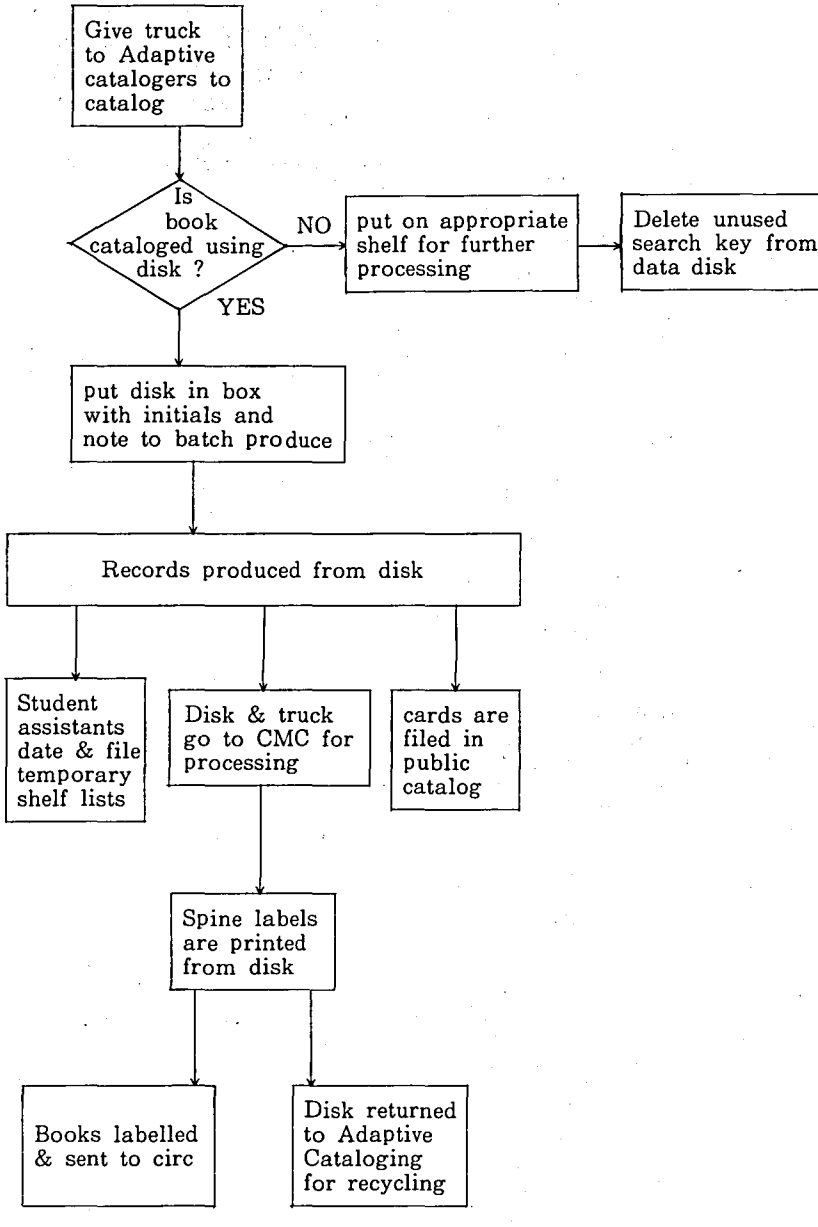
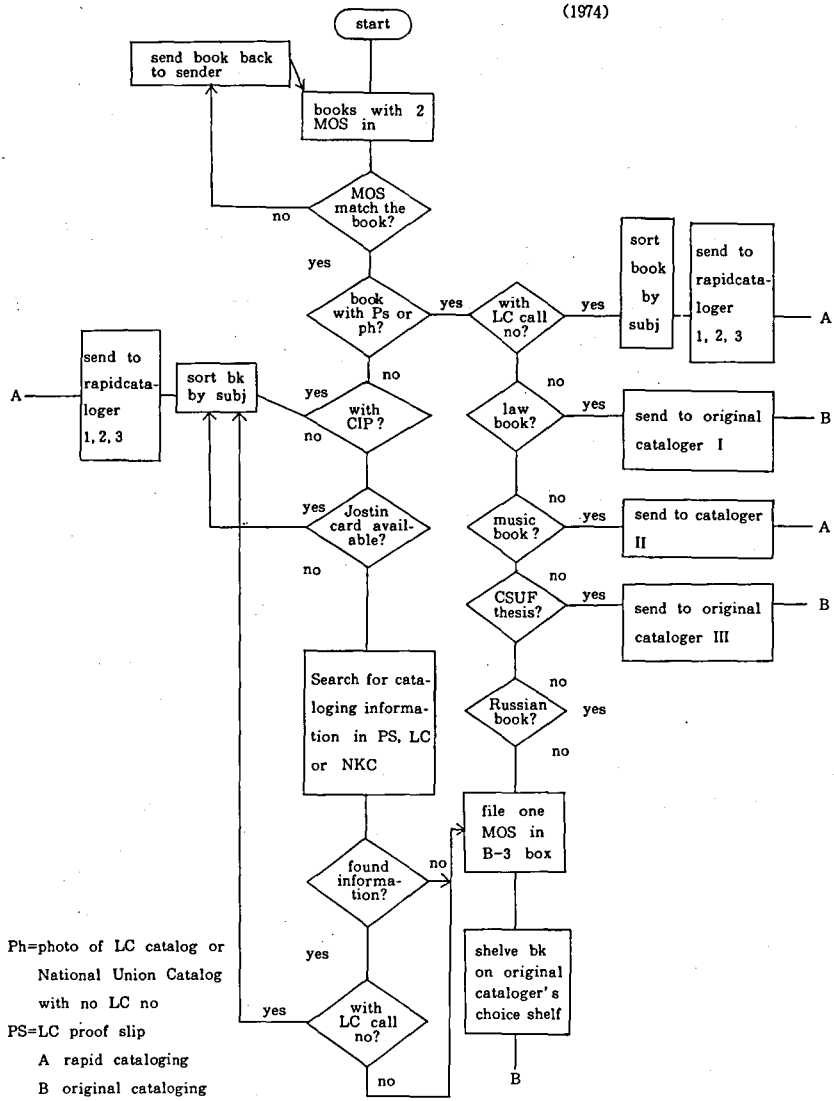
(figure 12)


Give truck to Adaptive catalogers to catalog
Is book cataloged using disk ?
NO
YES
put on appropriate shelf for further processing
Delete unused search key from data disk
put disk in box with initials and note to batch produce
Records produced from disk
Student assistants date & file temporary shelf lists
Disk & truck go to CMC for processing
cards are filed in public catalog
Spine labels are printed from disk
Books labelled & sent to circ
Disk returned to Adaptive Cataloging for recycling

FLOW CHART

[Pre—cataloging]

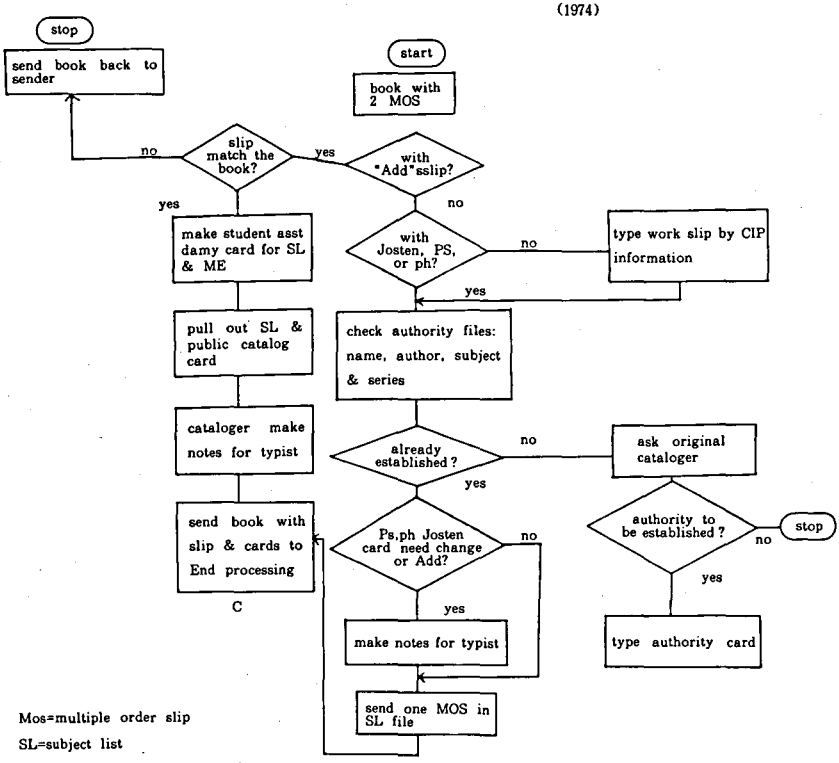
(1974)



FLOW CHART

[Rapid Cataloging]

(1974)



Mos=multiple order slip

SL=subject list

CIP=Cataloging in print

PS=proof slip

ph=photo

ME=main entry card

C=End processing

	1974	1988
Professional positions	8	4.5
Librarian (LV)		1.25
Associate Librarian (LIV)	1	.5
Senior Assistant Librarian (LIII)	4	1
Assistant Librarian (LII)	3	.75
Subprofessional positions	9	11
Supervising LAIII		2
Library Assistant III	2	1.5
Library Assistant II	2.5	6.5
Library Assistant I	4.5	1
Nonprofessional position (Clerical Assistant)	6	6

As only permanent and permanent-by-intent positions are included in the list above and not temporary positions nor student assistent positions, a hasty couclusion cannot be formed from the figures above. What is clear, however, is that professional people, librarians, have decreased in number during the period of years, probably as a logical result of automated cataloging. In most libraries, they say, instead of hiring librarians, they hire library assistants to catalog with so many records now on data base. As pointed before, ' copy-cataloging ' , automated cataloging, is not regarded professional task and paraprofessionals or fresh librarians do the job. The manual, or original cataloging used to be a professional job done proudly by cataloging librarians.

About the future of professional catalogers Takawashi lists four types of their situation : 1 . Becoming a cataloger in Library of Congress

(figure 15)

[Staff and assignments]

A. Rapid Cataloging prior to reorganization

	special assignment *	*collection cataloged*
LA II (full time)		Main collection
		Reference
LA III (full time)		Juvenile
		LAM
LA III (full time)	Special Collections	
	(5 sub — collections)	
Librarian (full time)	Original cataloging	
	Exhibits	
= 4. 00 positions	Coordinated Section	

B. Adaptive ICataloging aftrer reorganization

Adaptive catalogers	*Special Assignments* *	*Collections cataloged*
LA II (full time)	Section statistics	Main collection
		Reference
LA II (full time)	Student supervisor	Juvenile
		LAM
LA II (1 / 2 time)	Music scores	Microfilm
	RUSH book searching	microfiche
		Freedom Center
LA II (1 / 2 time)	Texts	CSUF thesis
	Curriculum	Non — circulating
	Instruct. materials	Technical Services
	AV materials for Curric	MRDF
	MRDF for Curric.	
LA III (1 / 2 time)	Serials	
Supv LA III (full t.)	Coordinates Section	
Sup LA III (full t.)	Series full anals.	*Other / new assign-*
= 4. 50 positions		*ments :*
		Name authority wk
		series authority work

* Assignments in addition to the other collections cataloged

(in this case no change will be required to librarian ' s attitude) ; 2. Becoming a cataloger in a big research library or special collection ; 3. To become managers with heavy management responsibilities rather than the catalogers ; 4. To experience functional reorganization in libraries. Takawashi further comments that future professional catalogers will be required high level of competency besides basic knowledge of library science, deep knowledge of some special subject areas ; and collatellal assignment of cataloger and manager may be only professional in most cataloging departments. However, the decrease in number of the librarians in the Technical Department can not be fully explained by the above trend. All the sections in the Department complain the understaffed situations in their annual report and stressed personnel need. Some section was provided with aid by an agency that supplies temporary library assistance on a contract basis ; some needs an experienced librarian to assume responsibility for original cataloging in Spanish and Portuguese, for original cataloging of non-book material, to take an active role in the work of the Cataloging Policy Committee, and assume professional duties in other important areas of the Department and Library. Due to the shortage of full time staff, some requests additional students and temporary help.

Adaptive Cataloging Section, according to the Section report, needs additional paraprofessional cataloging assistance, full time cataloger, to help reduce the backlog and keep it from growing. An increasingly complex and varied tasks are being taken on by the Section, and with their additional Periodicals cataloging and authority work, for example, the backlog seems to increase unless staffing is increased.

Such man power shortage or cut mainly comes from the inadequate

or insufficient funding. Since the Library's parent system belongs to Californis State University System, the Library is under the State's budget policies. About the critical budget situations the Library experienced, a Library document describes: in fiscal year 1983/84 the Library suffered permanent personnel funding cut and position reduction from which It will probably never recover. Department of Finance reviewed California State University Librarly funding formulas, which made the Librarly experience a massive personnel cut, that is, 20.0 budgeted faculty and staff line positions (equivalent of 23.3 percent of the positions) at a value of aproximately $ 400,000. Compensation for the loss was the increase in student assistant funding of $ 100,000 and temporary help funding of $ 7,400 ; that means the net loss to the Librarly $ 300,000 equivalent of 6.0 full time employed facultly (18 percent cut) plus 8.4 full time employed paraprofessional staff (16 percent cut). The document states that every time the State has provided systemwide funding for Librarly automation efforts, there has been a corresponding permanent reduction in positions through formula changes. Accordingly CSUF Librarly lost positions in Cataloging and Circulation services due to the formula changes based on automation of those functions. The Librarly is to implement an online catalog in 1989. It faces another 3.1 position loss in the year. What occurs in the political environment is said to be that the State uses the reduction in positions as a way of balancing the costs of the automated system. The assumption behind it is that automation saves staff time. On this basis the CSUF Librarly technical processing staffing formula has been eroded over several years as follows :

1966 The Librarly was budgeted one position for every *800 volumes*

purchased.

1987 It was budgeted one position for every *1240 volumes* purchased. That means a 55 percent decrease in stasffing.

1989 When the Librarly loses additional 3.1 position upon implementaion of an online catalog, the Librarly will be budgeted one position for every *1425 volumes* purchased.

In other words they experienced a total reduction in positions of 78 percent over twenty-two years.

As the main factors for their critical budget situations it indicates the following : the view that library automation means staff loss is a fallacious one ; Automation funding is only partial ; and Automation-related costs are escalating. The Librarly insists that automation results in enhanced service and/or better quality work by staff, but also tends to increase patron use of the service and can lead to need for increased staffing. They also say that Librarly loses positions approximately at the point of implementation of the new automated system. However, it receives no funds to pay for maintenance of the system at least for several years. Thus the Librarly loses personnel funds, it has to absorb major costs in its Operatiing Expence and Equipment funds, and also has to find a way to meet the additional service demands which automated system creates. The usual pattern in system funding for library automation is: the State partially funds the start-up cost and leaves some major up-front cost to the Librarly. Maintenancs costs of the system are then left entirely to the Librarly to absorb for several years. The CSUF Library has been using OCLC in the cataloging process since 1977. It received no funding for annual costs of the system until 1983. Even in 1986 the Librarly received 69 percent of needed

funds for annual OCLC costs. The problem of escalating costs is very serious for the Librarly, baecause It is very dependent on automation for major functions, and will be becoming more so as it moves towards online catalog environment.

While the direct effectiveness of computerization could be measured by money, the indirect effectiveness is impossible to be measured by money, but should be viewed from improvement in service to patrons and in management. Administration side tends to require the former, and patrons expect the latter. At any rate when the assumption based on the former view is applied to the funding formulas, it will have catastrophic effects and impede attempts to fulfill its mission to provide quality services to the patrons. Some strategies for success in improving funding levels are suggested by Library Committee.

> "The only way any effort to imporve funding levels for the CSU Libraries can be successful is by a combination of a) well-articulated and persuasive arguments and b) visibility in the political environment through the active support of various constituencies in the academic community. ...Leadership in articulating the arguments at the system level obviously must come from the Library Directors in cooperation with the Chancellor's staff." (4)

Initially, online catalogs were used almost entirely for internal catalog maintenance. In fact, OCLC and other biblioqraphic utilities, and MARC could be online public catalogs. Some are said to have been used in such a way, especially in reference services, but user-friendliness was not a primary consideration with early online catalogs usage. The objectives of their use was totally librarian-oriented. As online catalogs

continued to evolve, user access to them is having been considered more important. When library holdings are enormous, it is hard to find materials needed without help of online catalog. Online catalog is the ideal form of catalog in academic libraries environment. At CSUF Library," the card catalog has expanded and adapted for decades to handle increasing volumes and complexity of information. The task of providing access to library holdings has now grown beyond what a card catalog can reasonably be expected to offer. . .The Library expects that OLPAC will allow its users wider access to an even larger collection, as government documents, audiovisual materials, and computer software are added to the database."(*REP*, IV-4)

Retrospective conversoin project with OCLC began in August of 1985, when the Technical Services sent the first shipment of shelf list cards to OCLC in Ohio. OCLC searched the data for the matching record ; then they used an update key and the record went onto their tape to go eventually into their circulation slystem. This was done for records that they cataloged before they got OCLC in 1978. Besides the shelf list card, the periodicals printout was shipped for conversion to machine-readable form. The project took about two years. The Online Public Access Catalog Committee of CSUF reviewed systems that provide an online public catalog and support a library of their size. Committee members wrote a voluminous *Request for Proposal* for bids from the prospective vendors. The *RFP*, containing the Library's technical specifications and other requirements for an integrated online system, was delivered to the Chancellor's Office to be issued by the California Department of General Services in 1987. In the *Request* CSUF Library clears its intention of purchasing an off-the-shelf and turn-key integrated

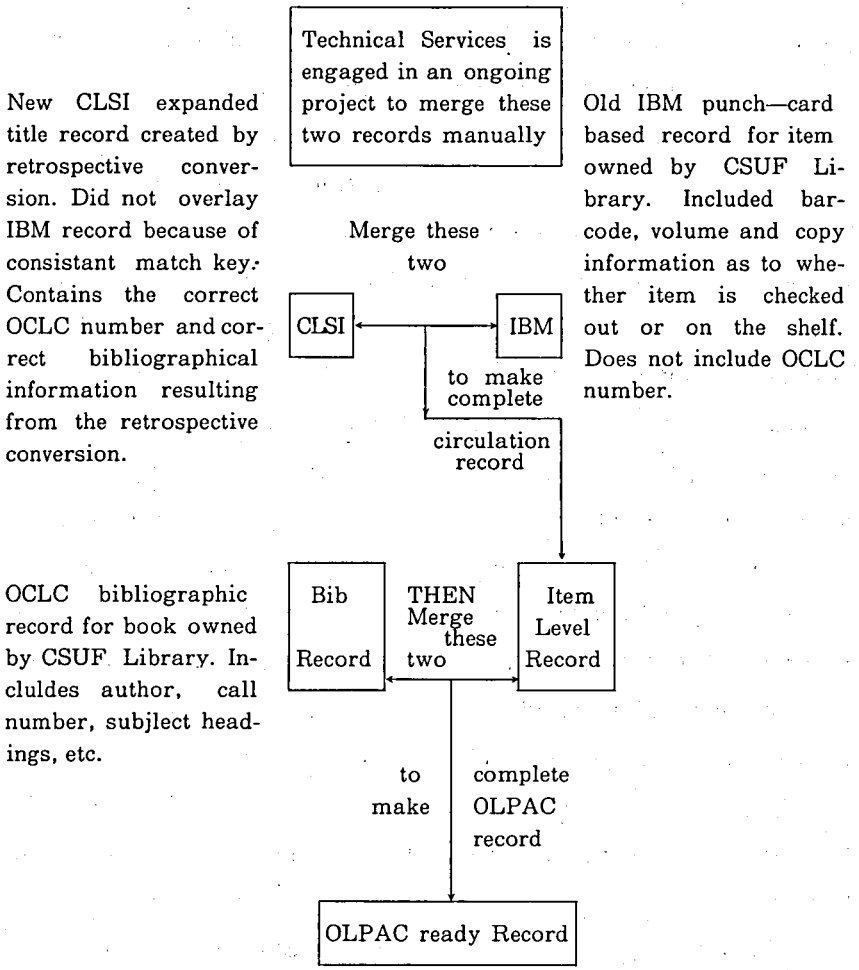
circulation and online public access catalog library system. Here off-the-shelf means that all hardware, software, and procedures constituting the integrated library system should not require custom tailoring to meet the *RFP* requirement. Turn-key system means that it constitutes all hardware, software, installation, training, documentation and any other components necessary to meet the requirement of the *REF*. The three functions : OLPAC, circulation, and database maintenance had to be integrated within single vendor-proposed system. The contract was to be awarded on or before June 30, 1988. The winner-vendor from the three bidders was Auto-Graphics. INNOPAC, its online catalog system, is supposed to be installed sometime early in 1989. The Library intends to replace its card catalogs with the OLPAC. The Libraary will continue to operate the present CLSI LIBS 100 system for circulation until the new system is fully installed, the various databases loaded, acceptance tests performed, the staff trained, and operational procedures put in place. The Library will furnish the vendor Auto-Graphics with *magnetic tapes containing bibliographic records, name and subject authority files, item file,* and *patron file*. INNOPAC (OLPAC) will form a central and integrating utility for the Library operations in technical processing, circulation, reference, and patron relations. The INNOPAC will interface with the OCLC and INNOVACQ automated systems currently employed by the Library. The staff in acquisitions, serials and cataloging will be able to perform their tasks more quickly and accurately by integrating files and eliminating multiple manual operations. When the system becomes fully operational, the Library will remove the public card catalog, the main shelf list catalog, the documents card catalog, authority catalog, the periodical printouts, and the current circulation systems; and number

of video terminals will be used by students, faculty, staff and the University community to perform all the functions currently done with those resources as they would at the card catalogs. Access will be provided to terminals within the Library, on the main Fullerton campus, at the proposed Branch campus (Which is going to open in near future), to other campuses through the State-wide data network. The goal is said to have the collection widely available all times, including nights, week-ends and holidays. It is desirable to have the system available for use by the public twenty-four hours a day, seven days a week. (*REP*)

Before the complete installation of the total system very complicated procedures involved. Auto-Graphics must remove the inevitable duplicate bibliographical records from the OCLC tapes ; and it also normalizes the bibliographical records to remove inconsistencies and ensure a higher number of matching records before loading onto INNOPAC or on data base. Auto-Graphics' matchmerge of OCLC and CLSI tapes is also necessary. The figure no. 16 simplifies the CLSI cleanup process required to load the OLPAC : it explains how they need to match and merge bibliographical information and item-level information for each monograph, serial, etc. the Library owns. They need to combine the bibliographic record which is present on their OCLC tapes with the 'item level' holdings, location and circulation status from their CLSI data base.

The CLSI cleanup is only a part of the process towards their total integrated library system, where all the systems taken together and considered one.

(figure 16)

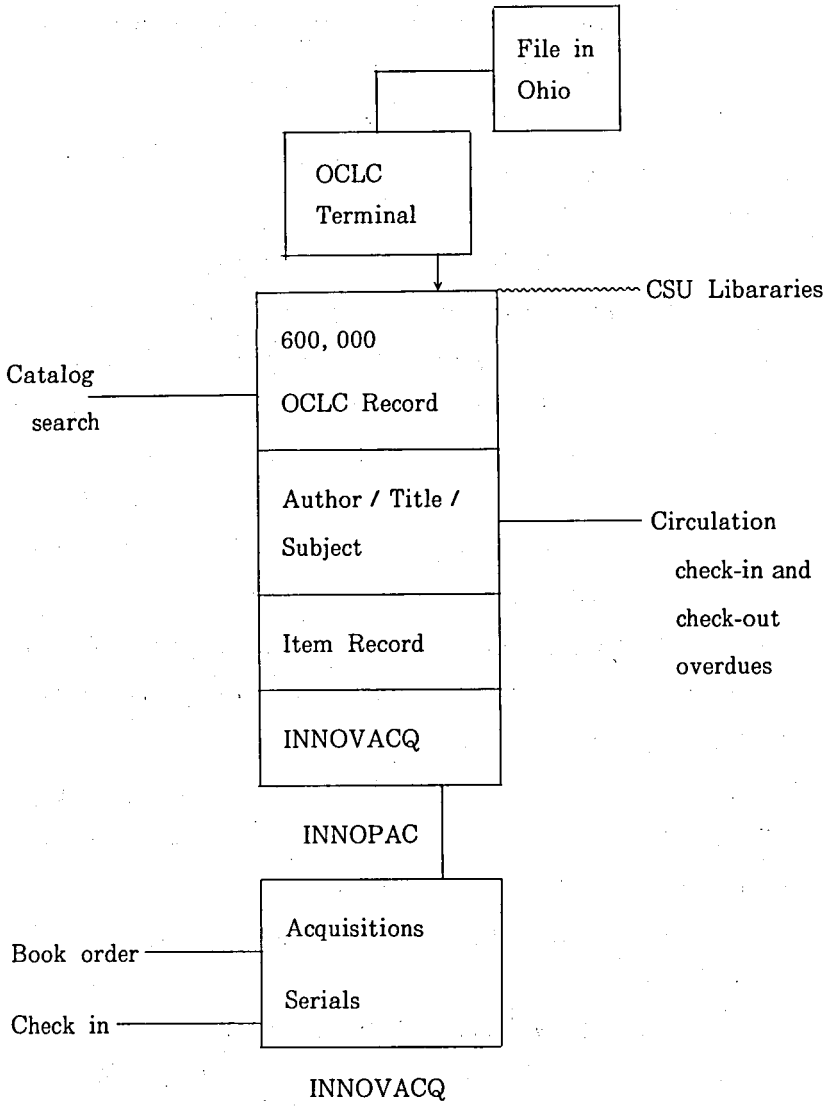


This record, ready to load into an OLPAC, combines the bibliographic information present on the OCLC record with the circulation information found in the cleanedup CLSI record.

(5)

In conclusion the writer will picturize in the simplified diagram below the total system, their ultimate goal. They are now well advanced on the way to the attainment of this long-sought goal.

(figure 17)



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