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Corporation Library Statistics . . . Medical Libraries in Japan . . . Survey of Automatic Indexing Methods . . . Book Catalogs . . . Ampex Corporation Library

Part 2: ANNUAL INDEX

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INDEXED IN *Business Periodicals Index, Public Affairs Information Service, Library Literature, Business Methods Index* and *Library Science Abstracts.*

A Library Survey of 117 Corporations

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TO STUDY library organization and cooperation within large industrial corporations requires an analysis of the current situation in those corporations. If a study is restricted to a single corporation, the inferences and conclusions reached likely will not have very wide applicability. On the other hand, a survey of the whole population of corporation libraries will provide a background of information to steer a researcher to *real* needs, to *real* problems. It will give "consensus" solutions and will serve to indicate the range and diversity of organization and development.

It must be kept in mind, however, that "consensus" solutions are not necessarily "ideal" solutions. Because most corporations adopt a certain type of organization to meet their library needs does *not* mean that this is necessarily the *best* type of organization. Among industrial libraries, as among other types of organizations, there are leaders and followers, pacesetters and laggards, and a survey is not likely to distinguish clearly between them. For this reason a survey does not furnish a "standard" in the form of a qualitative measure of value. The primary use of a survey of libraries should be for research analysis, both descriptive and interpretive, not for setting up goals or standards. Secondly, a survey can enlighten a librarian concerning how his library stands in relation to other libraries having a similar environment and thus, perhaps, furnish needed support in connection with requests for additional staff, materials, or facilities.

Taken from the author's "Library Systems in Large Industrial Corporations," unpublished Ph.D. dissertation, University of Michigan, 1961. Microfilm or photocopy of entire work (540 pages) available from University Microfilms Inc., Ann Arbor, Michigan.

Previous Surveys of Industrial Libraries

There is no record in the literature of a comprehensive survey of industrial libraries where the *corporation* was the focus of interest, but there have been several surveys that contain much pertinent information.[1-9]

Directly applicable to the present study was a questionnaire survey conducted by Gibson in 1956. While this survey was not comprehensive or detailed enough to fully meet the needs of the present study, the focus was on the *corporation,* and the description of techniques used is quite pertinent. From among the industrial corporations of the United States whose 1954 sales were between 100 and 300 million dollars, 27 corporations were selected, and 21 of these participated in the survey. In terms of 1954 sales rank, the corporations surveyed were within the ranks of 102 to 291. At least seven of the corporations had more than one library, these seven having from two to five libraries each. The statistics of the survey were reported in good detail.[10]

A year later Sharp made a similar survey for the electronics industry but from the standpoint of the individual library rather than the corporation. Replies were received from 20 out of 25 librarians to whom the questionnaire was sent.[11]

Specific Objectives of Survey

A new survey was planned in the hope that it would provide answers to the following questions needed for the present study:

1. How many libraries do the large industrial corporations of the United States have at present?
2. What are the library characteristics of these corporations?
3. What are the similarities and differences between various industries regarding library development?
4. What types of library organization exist within corporations?

5. What are the differences between libraries of the various library organizational types?
6. How are branch libraries utilized in industrial corporations?
7. What areas of cooperation and assistance exist between the various libraries of a corporation?
8. What areas of cooperation and assistance exist between libraries in different corporations?

It was realized that the survey might not give clear-cut answers to all these questions, but it should at least clarify them for further study.

The *population* to be surveyed was defined as follows: all of the 500 largest industrial corporations of the United States that have at least one laboratory in which 100 or more engineers and scientists engaged in research and development type activities are employed. Such a laboratory almost certainly needs a library of its own to meet user demand for library service as well as to reap the financial benefits of efficient literature utilization, which is definitely possible for an operation of this scale.

The selection of the individual corporations to be included in the survey was accomplished primarily by comparing the *Fortune* listing of the 500 largest industrial corporations of the United States[12] with the excellent listing *Industrial Research Laboratories of the United States*[13] and then determining whether or not the listed corporations met the survey criteria.

Only 117 corporations were found to meet the survey criteria, and all of these were chosen for inclusion in the survey. An effort was made to include any corporation that may have been omitted from either of the two source listings only because of irrelevant considerations, and a few of the 117 corporations meeting the survey criteria fall into this category. There are undoubtedly a few other industrial corporations not among the 500 largest in size but which, nevertheless, have very extensive library needs due to the nature of their operations, but none of these was included in the survey. In spite of these qualifications, however, the group of 117 corporations selected is believed to comprise nearly the whole population of industrial corporations having very extensive needs for library service.

Libraries Surveyed

It was decided to conduct the survey by sending printed questionnaires to all ascertainable libraries in the 117 corporations. Sending the request for information to the librarian or administrator directly in charge of the individual library seemed likely to elicit a better response than sending it to upper level management. It was decided to use the entire library population of the virtually complete corporation population rather than to use samples because of the unpredictable nature of response to a lengthy questionnaire and the desirability of subgroup analyses, which require adequate subgroup response as well as adequate over-all response. For the sake of clarity and completeness, a response was desired from every separate library unit whether administratively independent or not, i.e., separate returns were sought from branch libraries. The plan was to obtain a questionnaire return for each geographically separate library or technical information unit that included a library as one part of its operation.

To qualify as a "library," as conceived in this survey, a unit had to have at least one staff member who is employed full time as "librarian" or "library clerk" and must have a collection of books and periodicals. Collections containing reports or documentary material but not containing books and periodicals were not considered to be "libraries."

Of course, many "libraries" contain report collections, laboratory notebook collections, and correspondence files as integral parts of their operations, and the questionnaire provided for the indication of these by the responding "library." Similarly, office collections and laboratory collections receiving minimum supervision have been considered only in relation to the "libraries" surveyed.

A list of questions thought to be pertinent for inclusion in the questionnaire was prepared, and these were then compared with those of other surveys. A four-page questionnaire was then prepared, and a pilot study run in which nine librarians in three corpora-

tions filled out the questionnaire for their respective libraries and made suggestions concerning possible improvements.

All readily available address lists of special libraries were searched to obtain as complete an initial listing of all libraries of the 117 corporations as possible. The initial mailing was made to 584 addresses on May 18, 1959. On July 18 another copy of the questionnaire was mailed to all nonrespondents (from the original mailing list), and an initial mailing was made to all newly discovered addresses. Most of these new addresses had been obtained from the returned questionnaires, where the person filling out the questionnaire was asked to list all of the other libraries within his corporation. On September 4, a final letter with an enclosed postcard was sent to all known addresses for which a completed questionnaire had not been returned. The primary purpose of the postcard was to obtain information as to whether or not the address in question actually represented a bona fide library as defined and if so, the level of staffing. Upon completion of the survey, after adding new addresses and purging addresses found not to belong to the population, there remained 672 addresses believed to represent bona fide industrial libraries as defined.

Response to Survey

Returns of questionnaires and postcards were received during the period May 18 to December 31, 1959. Questionnaires were sent to 612 of the 672 libraries, and a usable return was received from 350 libraries for a 57 per cent return for the questionnaire alone. In addition to these 350 libraries for which questionnaires were received, there were 134 other libraries that furnished partial information by filling out the postcard form and sending it in lieu of a questionnaire. Considering both types of responses a reply was received from 484 libraries, so that at least partial information was obtained from 74 per cent of all the libraries surveyed.

All postcard and questionnaire returns for which the library unit was identifiable were included in the calculations. Incomplete postcards and incomplete questionnaires were included if the number of staff was indicated thereon, since the incomplete returns contained much valuable information about the reporting libraries. For computational purposes each item of the questionnaire was considered separately, and the response for each individual item noted. Of the 350 questionnaire returns used in the computations, the statistical item receiving the lowest response (rate of completion) was the item "Number of R & D Personnel Served," which was filled out by 223 respondents (64 per cent).

The first section of Table 1 gives the basic statistics for the total group of 484 responding libraries. The mean, median, high, and low figures were calculated using the number of item responses indicated in the last column of each section of the table. Zero, naturally, was considered to be a valid response, whereas a blank space was not so considered.

A comparison of the mean and median for each of the items listed in Table 1 discloses that in every case the mean is considerably greater. This phenomenon is observable in most of the other tables of the survey as well and usually indicated a distribution skewed to the right (on a numerical scale from left to right) and show the effect of some responses which are very large in relation to the majority of responses. The over-all range of the responses in each case is well indicated by the high and low values. For use as an "average" or "most indicative" figure, the median statistic would appear to be preferable to the mean in most cases.

The first section of Table 2 gives the percentages of libraries performing the various functions listed on the questionnaire. In the case of branch libraries, and many other libraries too, some of the functions, in line with the instructions given, were not checked because they are done for the library by an outside unit, i.e., a branch library that had its cataloging done for it by the main library of the company was instructed not to check the cataloging functions but to check only functions actually carried out at the branch library.

The last five sections of Tables 1 and 2 present statistics and functions performed for libraries of various size according to the number of employees on library staff: 1, 2 to 3, 4 to 7, 8 to 15, and 16 or more.

Table 1: Basic Statistical Characteristics of 484 Libraries of Large Industrial Corporations

Item		Grand Totals (484 Libraries)					One Person on Library Staff (135 Libraries)					2 or 3 Persons on Library Staff (153 Libraries)				
		Mean	Median	High	Low	Item Resp.	Mean	Median	High	Low	Item Resp.	Mean	Median	High	Low	Item Resp.
Number on library staff	(A)	5.1	3	67	1	484	1.1	1	1.5	1	135	2.5	2	3.5	2	153
Professional librarians		1.7	1	13	0	473	0.7	1	1	0	127	1.0	1	3	0	151
Per cent of usage due to R & D		—	85	100	0	342	—	90	100	0	98	—	85	100	5	94
Per cent of direct usage		—	65	100	5	334	—	80	100	5	94	—	75	100	5	93
Seating places in library		16.2	12	242	0	346	9.7	8	45	1	100	12.1	10	40	0	95
Library area (sq. ft.)	(B)	2,163.9	1,242	30,700	100	307	779.3	650	4,000	100	84	1,350.4	884	15,726	240	84
Year library founded		—	1948	1959	1888	339	—	1952	1959	1904	99	—	1951	1959	1900	94
Periodical titles		246.1	180	2,400	4	340	123.8	105	720	4	96	169.8	150	510	20	96
Periodical subscriptions		313.0	201	2,860	4	333	126.7	105	400	4	94	209.5	177	800	18	96
Books purchased in 1958		441.5	217	5,000	3	308	139.2	96	800	3	84	234.3	165	1,575	10	84
Volumes in collection		6,457.4	4,000	50,000	70	332	2,705.1	2,050	13,500	70	94	3,817.4	3,005	32,000	100	94
Items borrowed from libs. outside company, 1958		334.6	80	10,000	0	315	48.2	20	360	0	88	148.5	60	2,080	0	83
Items borrowed from other libs. in company, 1958		234.8	40	11,000	0	289	132.2	25	4,800	0	82	221.7	40	4,000	0	77
Items lent to libs. outside company, 1958		56.7	10	3,000	0	306	8.5	4	100	0	84	26.5	10	300	0	80
Items lent to other libs. in company, 1958		308.9	35	21,665	0	291	33.6	9	500	0	82	134.4	30	2,000	0	78
Lib. area/lib. empl.	(B/A)	548.4	383	7,863	58	307	721.3	600	4,000	100	84	585.6	384	7,863	80	84
Total personnel served	(C)	1,579.7	448	25,000	14	240	671.0	160	10,200	14	65	1,232.0	329	24,000	22	65
R & D personnel served	(D)	483.5	235	4,320	1	223	194.4	95	1,120	9	59	311.8	120	3,050	1	61
Total per./lib. empl.	(C/A)	411.4	135	10,200	4.2	240	629.3	160	10,200	14	65	487.4	150	8,000	9.3	65
R & D per./lib. empl.	(D/A)	122.4	57	1,525	0.3	223	179.3	90	1,120	6	59	129.2	50	1,525	0.3	61

Table 1: Basic Statistical Characteristics of 484 Libraries of Large Industrial Corporations (Continued)

Item		4 to 7 Persons on Library Staff (114 Libraries)					8 to 15 Persons on Library Staff (53 Libraries)					More than 15 Persons on Library Staff (29 Libraries)				
		Mean	Median	High	Low	Item Resp.	Mean	Median	High	Low	Item Resp.	Mean	Median	High	Low	Item Resp.
Number on library staff	(A)	5.5	5	7.5	4	114	10.5	10	15	8	53	25.9	22	67	16	29
Professional librarians		1.8	2	5	0	113	3.0	3	7	0	53	6.6	6	13	2	29
Per cent of usage due to R & D		—	85	100	0	89	—	85	100	12	39	—	80	100	5	22
Per cent of direct usage		—	50	100	5	87	—	50	100	10	39	—	40	80	5	21
Seating places in library		21.1	16	242	2	90	22.5	20	60	5	39	32.9	36	70	8	22
Library area (sq. ft.)	(B)	2,611.6	1,834	30,700	348	80	3,586.0	3,300	10,000	1,350	37	6,537.3	6,325	16,000	1,500	22
Year library founded		—	1944	1959	1900	86	—	1947	1958	1889	38	—	1947	1956	1888	22
Periodical titles		309.4	300	2,400	45	87	388.7	362	800	62	39	609.5	500	1,600	250	22
Periodical subscriptions		341.4	300	1,265	60	83	613.4	550	1,800	151	38	934.5	725	2,860	400	22
Books purchased in 1958		469.2	305	3,640	50	83	845.9	600	2,800	219	35	1,639.3	1,462	5,000	200	22
Volumes in collection		7,446.7	5,935	26,000	209	84	12,950.5	10,000	50,000	1,129	38	18,777.8	14,884	47,000	3,068	22
Items borrowed from libs. outside company, 1958		477.3	148	10,000	0	85	750.4	500	3,486	20	37	931.0	535	4,000	4	22
Items borrowed from other libs. in company, 1958		367.2	50	11,000	0	75	178.5	50	1,500	0	36	314.0	25	2,000	0	19
Items lent to libs. outside company, 1958		54.7	23	900	0	85	90.9	25	1,000	0	36	314.7	50	3,000	0	21
Items lent to other libs. in company, 1958		232.7	71	2,478	0	78	550.5	100	7,000	0	35	2,179.4	425	21,665	0	18
Lib. area/lib. empl.	(B/A)	492.0	317	5,117	58	80	363.4	300	1,250	101	37	261.5	230	625	68	22
Total personnel served	(C)	977.0	635	5,100	31	61	3,025.4	1,688	19,045	63	31	5,669.6	4,050	25,000	300	18
R & D personnel served	(D)	395.1	285	3,031	17	57	963.2	560	4,320	167	29	1,580.4	755	3,500	203	17
Total per./lib. empl.	(C/A)	185.0	101	1,020	4.2	61	289.2	188	1,731	7.9	31	328.2	142	2,069	14	18
R & D per./lib. empl.	(D/A)	72.8	52	433	3.1	57	93.2	62	393	17	29	116.6	29	1,035	9.4	17

Table 2: Functions Performed

Area	Activity
Order Work	Send orders to sources outside corporation to obtain books Check in periodicals for collection, claim missing issues Receive technical reports prepared by government laboratories Make requests for technical reports of outside companies Send requests to ASTIA
Cataloging	Assign classification numbers to books Prepare main entry and subject entry catalog cards Order printed catalog cards for books Perform subject cataloging for periodical articles Prepare abstract cards for a subject file Prepare edge-notched cards for a subject file Prepare the input for a machine retrieval system
Circulation	File catalog cards Route new issues of periodicals to research personnel Circulate security-classified technical reports File and circulate laboratory notebooks File and circulate patent specifications Maintain an extensive file of technical correspondence File and circulate technical reports prepared in own company File and circulate blueprints
Control	Distribute the incoming mail for company at location Control most of "registered" mail coming to location Control "classified" documents mailed to location Distribute (initially) research reports produced locally
Reference	Maintain reference collection of books (3 shelves or more) Prepare translations of technical articles on occasion Answer reference questions of "information" type Prepare bibliographies for research workers Perform comprehensive literature searches upon request
Publications	Prepare annotated/abstract list of select accessions Prepare and distribute plain list of select accessions Prepare "tables of contents" publications for periodicals Help in the editing of company produced research reports Help prepare an employee publication or company bulletin Prepare other type of publication not included above

By Large Industrial Libraries

Percentage of Libraries Doing Work					
Total for 344 Libraries	101 Libraries with One Person on Staff	93 Libraries with 2 or 3 Persons on Staff	90 Libraries with 4 to 7 Persons on Staff	39 Libraries with 8 to 15 Persons on Staff	21 Libraries with More than 15 Persons on Staff
88.1	85.2	87.1	86.7	94.9	100.0
93.3	88.1	91.4	98.9	97.4	95.2
76.2	66.3	73.1	83.3	82.1	95.2
79.4	69.3	83.9	83.3	87.2	76.2
52.3	31.7	51.6	62.2	71.8	76.2
84.3	75.3	80.7	91.1	94.9	95.2
86.1	79.2	82.8	90.0	94.9	100.0
64.8	47.5	67.7	68.9	79.5	90.5
34.9	33.7	35.5	36.7	30.8	38.1
32.6	23.8	29.0	34.4	41.0	66.7
7.3	4.0	7.5	7.8	7.7	19.1
6.4	1.0	6.5	7.8	15.4	9.5
97.1	93.1	97.9	98.9	100.0	100.0
79.9	83.2	81.7	77.8	71.8	81.0
40.7	28.7	41.9	34.4	66.7	71.4
33.1	27.7	23.7	44.4	28.2	61.9
32.3	32.7	35.5	33.3	18.0	38.1
23.0	18.8	23.7	26.7	20.5	28.6
69.2	62.4	60.2	76.7	82.1	85.7
3.8	2.0	2.2	2.2	5.1	23.8
6.7	6.9	6.5	4.4	7.7	14.3
8.7	1.0	5.4	15.6	15.4	19.1
25.6	7.9	22.6	35.6	46.2	42.9
23.3	15.8	20.4	26.7	28.2	47.6
95.9	94.1	91.4	100.0	100.0	100.0
31.1	15.8	29.0	40.0	35.9	66.7
93.6	82.2	96.8	98.9	100.0	100.0
74.1	54.5	74.2	86.7	87.2	90.5
66.6	52.5	68.8	73.3	74.4	81.0
38.7	37.6	32.3	42.2	35.9	61.9
61.9	50.5	57.0	62.2	84.6	95.2
21.2	16.8	19.4	25.6	20.5	33.3
15.1	16.8	17.2	11.1	7.7	28.6
8.1	6.9	8.6	6.7	7.7	19.1
20.1	17.8	18.3	17.8	35.9	19.1

Only a small part of the statistics collected can be presented here. Separate analyses of libraries were made using the following bases for division: by industry, by size of library staff, by type of library (central or main library, independent library, and branch library), and by year of founding. In addition an analysis by corporation was made using all of these subdivisions.

Conclusions will not be given here but will be left to the reader.

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13. NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL. *Industrial Research Laboratories of the United States,* 10th ed. Washington: 1956.

SPOTTED

● The federal government is now using 1,250 computers for data processing applications, exclusive of those used for classified purposes, and a work force of 10,000 people is engaged in computer work. ● What better source of support for libraries than a paper company? From an International Paper Company ad comes the information that the atomic submarine "Nautilus," which went under the polar ice cap, carried a flesh and blood librarian to take care of over 2,000 volumes arranged on 200 feet of bookshelves, including book lockers, in the torpedo room. ● A lament from Tom Swift: "The book collection must be inventoried," said Tom listlessly. ● R&D expenditure in the United States for 1962-63 amounted to about $16 billion with $1,488 million, or ten per cent, for basic research. ● From an uncommon "Who's Who": "Documentalist—a harmless paper shuffler; not yet a professional, no longer a technician. Consultant—an ordinary guy more than 50 miles from home." ● The Sage of Baltimore once said that in three weeks one could become the second-best authority on any subject, given access to a decent library with a good librarian. When asked who would be the first-best authority, Mencken answered that it would be God or else the author of the best book on the subject you were reading. "That's better," said his friend. "I thought at first that you were going to say the librarian." ● What is professionalism? The directors of a University of Chicago Graduate Library School conference have said that is is the process of achieving mastery and control over the services one offers in exchange for the public's trust and deference. ● Vance Packard, who keeps a ubiquitous eye on manners and mores in suburbia and behind office partitions, tells of a man who discovered, from a study of the organization chart and job descriptions, that the assistant to the president also happened to be in charge of a special library on executive development. The man then became a student at the library and became friendly with the man who had the president's ear. ● Asia Press has qualms about an order received from a pharmaceutical products house for its book on library cataloging, "Colon Classification."

Japanese Medical Libraries

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MEDICAL LIBRARIES in Japan, most of which came into existence in the twentieth century, are mainly found in medical schools. At present there are 46 such schools: 21 in national schools, 12 in public schools and 13 in private schools. As a comparison, in the United States during the nineteenth century, about 40 medical school libraries were in existence. The great growth in Japan came after World War I and especially during World War II when new medical schools were set up, each with a library, because of the increasing need for physicians and medical libraries during those years.

Present libraries vary in size from 30,000 to 150,000 volumes, and the annual budgets range from ¥2,200,000 ($6,000) to ¥30,000,000 ($83,000); the range of staff members is from 3 to 28, while annual circulation varies from 3,000 to 35,000.

Information on other types of medical libraries in Japan is obscure because the Japan Medical Library Association includes only medical school libraries (although recently two dental school libraries have been included), and other medical libraries, such as hospital and research institute libraries do not have any association. At present, there are about 6,000 hospitals and 120 medical research institutes in Japan, but the number of libraries in them has never been reported.

General Background

One of the big differences between Japanese and Western medical libraries is the absence of society libraries in Japan, of which there is only one, the Japan Medical Association Library set up after the war (1947). In the United States on the other hand, there were more than ten medical society libraries before 1900, including the St. Louis Medical Society Library, which was founded in 1899. Society libraries in Europe, especially in Great Britain, are much older than those of the United States; the Library of the Royal College of Physicians of London, for example, was founded in 1518.

There are many reasons for this that are too complicated to explain here. One of them is the differences in the development of medicine in Japan and the West. Although new developments in Western medicine were first brought to Japan by the Portuguese, Luis de Almeida, in 1556, then by physicians of the Dutch firm stationed in Dejima, Nagasaki, Chinese medicine was not superseded by Western medicine until about a hundred years ago. In 1857 the government decided to set up a medical school in Nagasaki, and Pompe van Meerdervoort, a Dutch naval physician, became the first person to teach Western medicine formally to Japanese students. Since then the number of practitioners of Western medicine has grown with the increase of medical schools. Those who studied in these schools developed a strong tie with their own school, even after they graduated and practiced somewhere else. When they wanted to read medical literature, in many cases they acquired it from the school from which they graduated; thus, no strong need was felt for buying books or journals by a group of physicians in a certain area.

Although each Japanese medical school now has its own library, in reality the number of libraries that function well (in the sense of modern library) is still very small. Many of the schools still do not have a central library to serve the entire medical school, but

Presented at a joint meeting of the St. Louis Medical Librarians Group and the St. Louis Chapter of Special Libraries Association, St. Louis, Missouri, May 22, 1963. The author is at present a librarian and literature analyst at the National Library of Medicine, Bethesda, Maryland.

rather maintain small collections in each department. This pattern, which imitated the German system, matched perfectly the traditional sectionalistic inclinations of Japanese life, and collections are still divided into small units in many schools. There is no doubt but that this practice has been a great deterrent to the full development of Japanese medical libraries.

Neither the setup of the medical schools nor the teaching methods practiced in Japan encourage use of the library. The teacher used to be an absolute, authoritarian figure. Before the Meiji Restoration in 1868, schools were open mainly for the Samurai class (the military caste); here obedience was a strong virtue. The pattern was for the teacher to lecture and the student to listen. Traces of this still persist. Few free and creative discussions were carried on, and students were not required to read many books for their courses. For examinations they merely repeated the lectures. Therefore, naturally, there was no strong need for a library. In my own experience in college, I can say that occasionally I went to the library to look up materials I needed for my papers, but not for my daily school work. The library was not a part of our student life. We could do without it, and this feeling has not changed much since then.

In spite of this, however, the importance of the role of libraries has been gradually recognized. With the aid of the China Medical Board of New York, the University of Tokyo, Osaka University, Kobe Medical College, and Kyushu University were able to build new medical libraries, and Keio University Medical School could remodel its library. Even more important, through the efforts being made by medical librarians in Japan and in the United States, not only the library building but also its function are now gradually being oriented towards the modern practice of librarianship.

Organization and Administration

In the United States, where centralization of the medical school library is common, the person to whom the librarian is responsible may be the dean of the medical school, the hospital administrator, or the chairman of the library committee. In a university setup, it may be the director of the combined libraries; but in any case, the librarian is ordinarily responsible to only one person. This is not so in most cases in Japan.

In Japan the director of the medical library is a physician, with no professional knowledge of librarianship, who is elected to the office, usually for a two- to four-year term. The chief librarian trained in library science or with long experience in the library, but with no faculty status, actually handles all the daily library work. He reports to the library director and at the same time is under the control of the school business manager. As Dr. Estelle Brodman used to say to her Japanese students, "The Japanese medical library is a two-headed monster." (Dr. Brodman, Librarian and Associate Professor of Medical History at Washington University School of Medicine, was a Visiting Professor at the Japan Library School of Keio University in 1962, under the aid of a grant from the Rockefeller Foundation.) If the medical library is under the control of the main university library, the setup becomes even more complicated.

Secondly, as I stated before, in many Japanese medical school libraries or university libraries each department maintains its own collection, in addition to the medical school library or the university library. This has created tremendous difficulties in the control of the library budget and its itemization. In many medical schools, the total budget is divided among the departments, and then each department gives a small portion of its funds for the upkeep of the main library. In many cases departments maintain the right to choose any books or periodicals they like, and the central medical library exists only for the purpose of buying and processing these materials for them. Although some school administrators and librarians have realized that centralization of services and collections is more effective and more economical in the long run than departmental libraries, this goal will not be achieved in the very near future. This is due, in part, to the fact that the dean is elected from among the professors, usually for two to four years, like the director of the library, and so nowhere is

there strong centralized authority in a Japanese medical school. By the time officials have learned the problems of their positions, they are out of office.

Thirdly, the fact that the chief librarian does not have faculty status also creates many problems in the administration of the library. He is unable to attend meetings of the Board of Professors, a group which holds the real authority in the Japanese medical school; therefore he cannot obtain the necessary support for operating his library in an adequate way. The solution would be to give professional librarians faculty status. However, regrettably, there are not many medical librarians in Japan who can be regarded as professional librarians by American standards. Therefore, this problem also cannot be solved immediately.

The fourth problem I would like to point out is the organization within the library. The first thing I noticed about Japanese libraries after returning with the experience of working in American libraries, was the lack of organization within the library. Dr. Brodman has pointed this out also.[1] This lack is probably due to the fact that there is no distinction whatsoever between professionals and non-professionals, either in salary or work. Systematic supervision is rarely carried on. However, that these are problems is being realized, and improvements are coming gradually. For example, in the Keio University Medical School Library a staff manual, including an organization chart and job descriptions, was compiled, and at the 1962 annual meeting of the Japan Medical Library Association the need for staff manuals was discussed.

Efficiency of workers is another headache for the chief librarian. This is true everywhere, of course, but the amount of work done per worker in Japan seems to be less than in the United States, because many social factors are involved that are not found in the United States. Since Japanese librarians do not earn enough money to live on their salaries without overtime work, they tend to work slowly till late in the evening. Excessive population and the desire to cut down unemployment by giving each person some kind of job are other reasons. Fatigue caused by lack of a well-balanced diet, lengthy commuting in very crowded trains in big cities, or the perhaps unnecessary strain in human relations characteristic of Japan may be other contributing factors.

Librarians and Education

As is already evident, the status of Japanese medical librarians is much lower than that of medical librarians in the United States. In Japan the positions of director of a medical library and the president of the Medical Library Association are occupied by physicians only. In the United States, too, those positions used to be filled by a medical man, but as long ago as 1912 the Medical Library Association elected a librarian as its President for the first time, Charles Perry Fisher, Librarian of the College of Physicians of Philadelphia. Since then many librarians have held the office.

The status of librarians certainly has much to do with education and vice versa. In Japan there is only one library school at the college level, which was established at Keio University in 1951 with the assistance of the American Library Association. In addition, there is the Ueno Training Institute for Librarians in Tokyo, which was established in 1921 under the Ministry of Education. This institute has two kinds of classes: one-year training for college graduates and the two-year training for high school graduates. Persons who graduate from the Japan Library School and/or from the Ueno Training Institute for Librarians both receive the same certificate, called "shisho," from the Ministry of Education, regardless of their former education. A "shisho" certificate is also given to working librarians with college degrees who attend either a two-month course during the day or a six-month evening course. Even high school graduates can obtain "shisho" status by attending the short course twice, with a three-year interval. Therefore, it is obvious that the present certification for librarians is no help in raising the quality of librarians and establishing their status as professionals. Natu-

1. BRODMAN, Estelle. Japanese Medical Libraries. *Bulletin of the Medical Library Association*, vol. 51, January 1963, p. 16-25.

rally few people attend the longer, more difficult courses at the Japan Library School at Keio University if they only want "shisho" for practical purposes.

In spite of this, it is nevertheless true that the number of librarians has been increasing gradually. According to a survey made by the Japan Medical Library Association in 1958, there were 328 employees in 46 medical libraries and 2 dental libraries. Of these only 103 (about 31 per cent) had college degrees, and only 62 had the certificate of "shisho" in addition to the degree. Further, only 17 (five per cent of the total) were graduates of the Japan Library School or the Ueno Training Institute for Librarians.

In such circumstances, it is quite natural that librarians are treated as clerical workers, exactly as those who work in business or personnel offices. The only difference is that "shisho" librarians in some libraries receive a *very* small amount of extra money in addition to the clerical salary. Those with library training in the United States are also treated the same way.

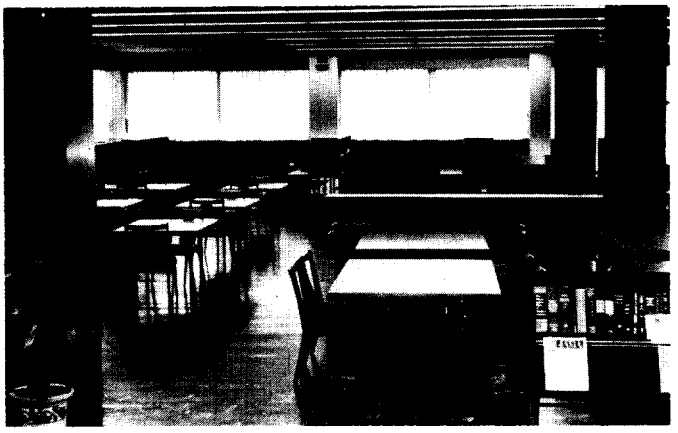
To change the present situation, education for librarians must be seriously considered. Of course, the need for education for librarians exists everywhere. It seems to me, however, the problems North American librarians face today are different from ours. In the United States thirty-three accredited library schools exist at the moment, and the basic techniques and philosophy of librarianship are fairly well taught in the schools, although revision of curriculum and teaching methods always has to be undertaken to meet the day-to-day changes and progress of society. For those who are already on the job, the necessity for continuing education has been recognized for many years, and almost every possible way of study and teaching has been tried. In Japan, on the other hand, more library schools are needed in the first place. Attempts to raise the quality of librarians on the job have to be made, though I should point out some attempts have been carried on in the past.

Since 1956 a week-long workshop for medical and pharmaceutical librarians has been conducted jointly by the Japan Medical Library Association and the Japan Pharmaceutical Library Association. The Special Libraries Association and the Ministry of Education also have given a series of lectures or workshops from time to time. The number of attendants is usually large, 50 to 200. However, their educational background and experience vary greatly, and there is some question about the effectiveness of this form of continuing education. This problem will not be solved unless training courses for librarians are raised to a much higher level. Last year, however, was an epoch-making one in the history of medical librarianship. Formal courses for life sciences librarians were inaugurated in the Japan Library School, Keio University, with the aid of a grant from the Rockefeller Foundation. The first visiting professor was Dr. Estelle Brodman of Washington University. This program is being continued by Thomas P. Fleming of Columbia University, and next year will be completed by J. R. Blanchard of the University of California. I am very happy to report that Dr. Brodman's visit and teaching in Japan were very successful indeed, and I have seen some changes taking place already within some librarians and in some of the libraries. I believe that these efforts will be brought to even greater fruition in the future.

I would like to discuss here one more thing—the status of women in Japanese libraries. When Thomas E. Keys of the Mayo Clinic Library came to Japan in 1961, he said to me that it seemed strange for him to see so many men librarians, because he was always surrounded by women whenever he went to American library meetings. When Dr. Brodman came to Japan and gave a dinner last year, she invited the wives, but none of them came. As may be seen from these illustrations, there are few women in Japanese libraries, and wives are not generally present at formal occasions their husbands attend.

In October 1962 seven women engaged in library and documentation work were selected for a discussion on documentation and women, conducted under the auspices of the Study Group of Documentation in Tokyo.[2]

2. Josei to Dokyumenteishon. *Dokyumenteishon Kondankai Kaiho* (Bulletin of the Study Group of Documentation), no. 17, 1963. p. 1-18.



Reading room of the newly built Kobe Medical College Library.

The discussion disclosed that women are handicapped by being women. In extreme cases women receive only half of the salary men receive, regardless of their education. All women are treated as high school graduates in some companies and institutions. Since even men documentalists do not hold professional status, this complicates the matter. In general, there is some feeling that women cannot be chiefs and cannot supervise men. It is really discouraging, but I do not think this will last forever. Society cannot tolerate the waste of labor of well qualified women any longer.

Services

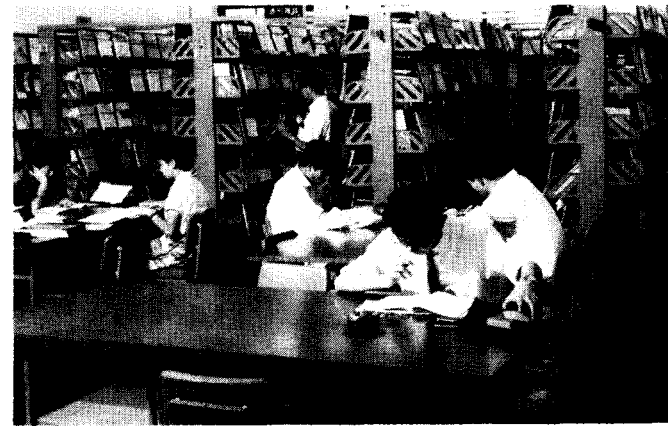
It is still true in many Japanese libraries that the library considers its role to be storing books rather than serving society through the use of its materials. Therefore, open access to all materials in the library is not practiced in many libraries in Japan. In some libraries only faculty members are permitted free access, or only a part of the collection is open to the users. Many librarians have understood the advantages of open access, but its practice is not easy because of the fear of losing books, especially in national colleges and universities where the Law of Property Control is strictly applied to library books and periodicals. This has hampered use of the library in many cases. According to this law, once a book is accessioned in the library, it may not be lost and cannot easily be discarded. Moreover, loss of books is a serious matter, and it is quite natural that librarians do not want free access to their materials.

Knowing this, you can understand why many medical libraries in Japan still do not let students take books from the library. Some libraries set different circulation rules for faculty and students. This differentiation is found not only in circulation rules but also in reading room facilities. I believe this came from the custom practiced in the feudalistic society where a person's social status and class used to be distinctively differentiated and people of different classes had to live in completely different worlds.

Reference service has not been offered much yet in Japan. Libraries having a reference section and reference librarians are few in number. Some libraries, such as the University of Tokyo Medical Library and the Kobe Medical School Library, are now developing a reference section. But though many do not have such a section, many libraries answer quick reference questions without realizing that this is a part of reference service.

I should like to mention a little about reference services given at the Keio University School of Medicine Library, since it is one of the best examples among Japanese medical libraries. The library has two sections related to reference service: the reference section and the research and translation section, with two staff members in the former and three in the latter. The reference librarians' main duties are answering quick reference questions, performing literature searches upon physicians' requests, and giving guidance to library users. In the research and translation section long-term bibliographic

The current periodical room of the Kitasato Memorial Medical Library at the Keio University School of Medicine, which was recently remodeled.



surveys, for example one on plasmin, has been carried out by a librarian who is also a physician. Besides these jobs, librarians are assigned to many projects, such as publication of a library bulletin, compiling staff manuals, or writing papers on library or documentation activities for some publication. They also give advice for the improvement of the work of the library and its collection by gathering the necessary information. The library, in cooperation with three other medical colleges, issues a "contents" service covering 150 foreign journals. Three hundred copies are now distributed to subscribers three times a month. Translation service is given mainly to assist physicians who wish to publish their articles in English. If Japan had a central institute, like the National Library of Medicine in the United States, that could give all kinds of information on medicine, the work of the Keio Medical Library could be cut down greatly. Under the present circumstances, however, Keio has to develop more intensive services to meet physicians' needs in their own and other schools.

Photoduplication service is widespread among Japanese medical libraries. Most of them have photoduplication equipment, and last year about 85 per cent of interlibrary loans were filled with photoduplicated materials. Besides interlibrary loans, many libraries give photoduplication service to their own physicians. Xerox, which is very popular in the United States, is being introduced in Japan. Since the rent is relatively expensive for the Japanese, not many machines have been installed yet. However, Keio is planning to rent a Xerox machine very soon, and I have also learned some other libraries are considering it now.

Cataloging and Classification

In Japan the Nippon Decimal Classification (NDC)[3] is used in more than half of the medical libraries, and the Boston Medical Library Classification follows (8 libraries) in popularity. The National Library of Medicine Classification is now used in only three medical libraries, University of Tokyo, Keio University, and Iwate Medical College. The rest use the Dewey Decimal Classification, the Universal Decimal Classification, or their own scheme, but these are not many in number. It is interesting to note that three libraries use different classification schemes for Japanese and for foreign books; for example, NDC for Japanese and DDC for foreign books.

The catalog is usually divided by author, title, or classification, within this further by languages: Japanese and foreign. The dictionary catalog, which is very popular in the United States, is not used in any Japanese medical libraries. Very often foreign books are shelved separately from Japanese books. There has been some discussion on this, but personally I do not think the segregation by language is helpful for library users from the

3. MORI, Kiyoshi, comp., rev. & enl. by the Committee of Classification, Japan Library Association. 1st ed., 1929; 7th newly rev. ed., 1961.

educational standpoint. Even if the user is primarily interested in Japanese books, he may encounter some foreign books if both are interfiled in the catalog and on shelves. It is also time-consuming for users and librarians to look in two places.

The shelflist or so-called classified catalog is very common in Japan, but I must note that a real classified catalog can hardly be found there. The subject catalog, which is common in the United States, is now used by only a few medical libraries in Japan. I understand that the classified catalog was widely used by American libraries up to 1893, but because of the lack of an adequate alphabetical key to the early classification system and of adequate cross-references, the logical arrangement of subjects began to lose supporters. Even now it is found at the John Crerar Library in Chicago, and in Europe it is still widely used. Many librarians in Japan are now curious about the subject catalog, and I feel they should carefully investigate its advantages and disadvantages before they make a decision.

Conclusion

Japanese medical libraries are now in a period of transition from the old idea of a storage library to the modern library emphasizing service to meet the needs of society. United States Information Service libraries, which were set up in the main cities of Japan after the war, became our first examples of modern libraries. About ten years ago the Japan Library School was established at the Keio University, and a number of American Visiting Professors have been invited there to teach. Young people have also been sent to the United States to receive training in library science. Thus, the modern concept of library service has been gradually introduced, and the importance of the library has been recognized. In reality, however, it is not an easy task to make changes and progress in the library field, because it requires changes in the entire social system.

It is generally known that Japanese have been and are very eager to learn and take in new things, but it is very often outward acceptance without inward understanding. I can recall vividly how the Japanese people tried to imitate the Western, especially the American, way of anything after the war—foreign cigarettes, perfume, cosmetics, dresses, mambo —and now twist, charleston, etc., etc.! But to what degree did they really become Western? Did they become entirely Western? No, they are still Japanese. Many of them still change from Western dress to a kimono after they return home from work. They are still bound by seniority both at work and home, though now this is lessened among members of a family. Even if people are very skilful at borrowing from others things that seem to give them an advantage, old customs and ways of thinking still remain. The older the country is, the harder it is to absorb new things; I have felt this many, many times in my life.

In such a transitional period, it is not enough for a librarian to have only library training, but it is also extremely necessary for him to have a deep understanding of the tradition of his own country. Without it he will not be able to perform or achieve what he thinks is the best. Erwin Bälz, who was invited to teach internal medicine at the University of Tokyo Medical School in the early Meiji period (the last half of the 19th century) and stayed in Japan for 30 years, said in his diary that many of his students thought everything foreign was good, so they did not even try to understand their own country.[4] As one of the Japanese who have studied in the United States, I feel strongly that we must not commit the mistake Bälz pointed out about 90 years ago. At the same time we must be careful not to become discouraged even if obstacles we meet seem to loom large.

Above all, however, if well-trained librarians help and encourage each other and go forward to bring about a better situation, I am sure that remarkable progress will take place in Japanese medical libraries. Seeds have been planted. Whether or not they produce better fruit depends upon efforts being made by a handful of librarians who are now working earnestly and unselfishly.

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4. BÄLZ, Toku, ed. *Erwin Bälz, das Leben eines Deutschen Arztes im Erwachsenden Japan.* Stuttgart: J. Engelhorns, 1931, p. 27-9.

A Selective Bibliographic Survey of Automatic Indexing Methods

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IN RECENT YEARS a great deal of research has been done on methods for the automatic indexing of natural language text. The trends that gave impetus to research in this area are of two kinds. The first might be described as creating needs: *1)* the great increase in all types of published and unpublished literature; *2)* the expansion of research and development requiring information from the literature; and *3)* the shortage of trained and skilled professional labor to perform the difficult intellectual work of abstracting and indexing.

The second grouping of trends might be called opportunities. They consist of those technical and other developments that have led efforts at solution of the needs in certain directions: *1)* the increasingly general availability of computers; *2)* the increasing availability of devices producing or requiring a tape that may be used as an input to a computer (Maron[1] states that we are rapidly approaching the time when, along with the printed page, there will be an associated tape of corresponding information ready for direct input to a computer); and *3)* the greater availability of government and private funds for research in the area has—as it was intended to do—markedly increased activity.

One of the primary objectives of research in automatic indexing and abstracting methods is minimizing the human physical and/or intellectual effort at the "storage" end, that is, in preparing material for retrieval. The aim is to derive directly from the unedited text of a document index entries or sentences for the creation of abstracts. The intermediate human efforts of creating or designating data to stand for a document in storage and coding this data prior to feeding it into a computer are eliminated.

Automatic indexing should not be confused, as it often is in the literature, with mechanical storage or with mechanical searching systems. The latter merely store away and search for index entries or other data that were created and coded by human effort. Automatic indexing may, of course, be used in conjunction with mechanical storage and selection systems.

Automatic processing of information demands that the text of a document be available in some machine-readable form such as punched cards or paper or magnetic tape. The earlier in the production process the text is available in machinable form, the greater the savings. Special transcription of a text into machinable form is the most expensive. It is far more economical if machinable transcripts of texts may be obtained simultaneously with typesetting or printing, that is, as a by-product of the reproduction process. Many type-setting processes are performed in two steps: the first consists of creating a tape by means of a keyboard operated punching device, and the second consists of feeding this tape into an automatic typecasting or photo type-setting machine. From some of these tapes transcripts into the machine language of the processing equipment may be produced automatically.[2] While at present such tapes are available only in rare instances, their future general availability would greatly increase the usefulness of automatic indexing methods.

Approaches to Machine Indexing

Experimental approaches to machine indexing and/or abstracting may be thought of in several ways:

1. From the point of view of the forms in which a document is handled, i.e. whether input is full text, title only, extract, abstract, etc.[3]
2. From the point of view of the techniques

used. Three of these are: the statistical, the semantic, and the linguistic. The statistical approach utilizes the frequency of occurrence of words and their relative distance from one another in a document. The semantic approach, according to Climenson and his colleagues, evolved from the traditional interest in semantic classification, descriptive terms, cross-indexing of related subject fields, etc.[4] The linguistic approach depends on an analysis of the language structure using modern linguistics. It is based on the assumption that "the ability of the machine adequately to determine information relevance depends strongly on its ability to recognize and manipulate the syntactic structures of the text."[5]

In practice, most approaches are a combination of these.

Indexing from Titles

Several approaches are based on the use of the title only. The most widely used of these is the "Keyword-in-Context" or KWIC index, a permuted title index. A KWIC index is an alphabetical list of keywords occurring in the various titles to be indexed. For each title there are as many listings as there are keywords contained in it. The listing of the keywords includes several words immediately preceding and following it in the original title. By giving the context in which it appears in the title, the meaning of the keyword is made more specific. "Keywords, i.e., significant words as such, are established indirectly by having the machine reject all words contained in a predetermined list of non-significant words, and then all remaining words are included in the index."[6] Each entry in the index is arranged so that the alphabetical listing of keywords is aligned to form a vertical column.

While a number of KWIC-type indexes are produced commercially, there is no meaningful cost and efficiency data available in the literature on this method of indexing.

There is general agreement on the fact that storage and retrieval efforts cannot and should not be thought of separately and that a greater or lesser effort on one end can be compensated for at the other end. Nevertheless, it is reasonable to assume that there is a point beyond which lesser effort at the input end can no longer be compensated for at the output end. Thus, it is of primary importance to evaluate the over-all efficiency of all the elements in any system.

In trying to determine the value of the title for indexing purposes, Maizell found that in a sample of 25 articles, included both in *Physics Abstracts* and *Chemical Abstracts*, the titles alone contained about 50-70 per cent of the key terms under which the articles were actually indexed. He thinks that with slight revisions of titles, indexing of the same thoroughness as is now achieved could have been done directly from title either by a human indexer or by a machine.[7]

A study by Montgomery and Swanson showed that "the present indexing of medical literature as published in *Index Medicus* is, or could be, based largely on examination of titles and a word-plus-synonym match of titles to subject headings." Titles alone were found to be about 50 per cent effective as a basis for judging the relevance of a given article to a given information need.[8]

Significant Words and Sentences

Much of the work in automatic indexing and abstracting rests on an assumed relationship between the frequency of occurrence of words in the text and the topic the author writes about and the aspects he stresses.[9]

Statistics on kind, frequency, location, order, etc. of selected words are clues to the subject matter of the document. Maron's idea is that a prediction can be made about the subject categories to which a document belongs from these statistics.[10]

Luhn uses frequency counts as a measure of word significance. The significance of sentences is then determined by the relative position of these significant words within them.

A set of significant words is established by compiling a list of the words in the text in descending order of frequency. According to Luhn, the justification for the method lies in the nature of technical writing: "Within a technical discussion there is a very small probability that a given word is used to reflect more than one notion. The probability is also small that an author will use different words to reflect the same notion."[11]

He describes two approaches for the elimination of the high frequency part of the word list: *1)* comparing text words with a stored common word list, and *2)* establishing a cutoff point through statistical methods.

A low frequency boundary is also established to bracket the portion of the spectrum that contains the most useful words: "Establishing optimum locations for both lines should be a matter of experience with appropriately large samples of published articles. It should even be possible to adjust these locations to alter the characteristics of the output."[12]

The relative significance of sentences was established by Luhn on the basis that "wherever the greatest number of frequently occurring different words are found in greatest proximity to each other, the probability is very high that the information being conveyed is most representative of the article."[13] In other words, the significance of a sentence was determined through: *1)* the number of occurrences of significant words within the sentence, and *2)* the linear distance between them caused by the intervention of non-significant words.

"Sentences scoring highest in significance are extracted and printed out to become the auto-abstract."[14]

The validity of the idea of significant or representative sentences was studied by Resnick, who found that many equally representative sets of sentences exist for any given article.[15]

Baxendale has considered three methods for extracting the essential content of a document: *1)* scanning of topic sentences, *2)* a syntactical deleting process, and *3)* automatic selection of phrases.

She based the selection of topic sentences on the finding that in 200 paragraphs, in 85 per cent of the paragraphs the topic sentence was the initial sentence and in 7 per cent the last. Thus, the machine was instructed to select the first and last sentences of paragraphs.

Parts of speech serving grammatical functions that Baxendale considered not to be useful in subject determination were deleted from the text by table look-up. The percentage of words extracted from six articles by this deletion program averaged 51.6 per cent.

Prepositional phrases were selected by making the computer recognize the preposition by table look-up and then automatically select the next four words, unless a second preposition or a punctuation mark were encountered.

In each case the resulting vocabulary was ranked according to frequency. ". . . the number of allowable words for the index was calculated as 0.5 per cent of the vocabulary of the entire article. Thus, the index entries for an article of 3,000 words would be the 15 terms occurring with highest frequency, and this was arbitrarily defined as the subject matter index."[16]

Baxendale's conclusions were that a high percentage of reduction in volume is possible without loss of content; that certain syntactical elements may be excluded as units from an index since their contribution is not essential to determining the subject matter; and, that the frequency distribution of single nouns and adjectives within an article do reflect content significantly.[17]

Comparing this with Luhn's method shows that while Luhn started out with the entire text of a document and established a list of significant words by cutting off the highest and lowest frequency parts of his curve, Baxendale established her list of significant words by first reducing the text to be processed through various methods and then taking from the top of the resulting frequency list words equal to 0.5 per cent of the original text.

Semantic and Linguistic Analysis

Maron's approach also utilizes frequency count. His aim was to establish the probability that a certain document belongs to certain categories on the basis of the "clue words" that appear in it. He eliminated from his frequency distribution 2 per cent of the words that accounted for over 40 per cent of the total occurrences, the most "common" words for the field, and words that appeared only once or twice. The remaining words then were checked for their frequency of appearance in the various subject categories previously established for a sample set of documents. Those words that "peaked" in certain categories were assigned as "clue words" for those categories to be used sub-

sequently for determining inclusion of other documents in the category.

Maron found that the intrinsic weakness of the method is that it does not allow degrees of belonging to a category, and he suggests thinking in terms of automatic probabilistic indexing rather than automatic indexing.[18]

Doyle's work is based on the co-occurrence of certain pairs of words within the text of the same document or the "association of words in text." He feels that once this can be measured, the strongest and most significant associations may be identified and patterned by completely automatic means.[19]

O'Connor analyzed a group of documents for the occurrence and frequency of certain terms to decide how many times a term must appear in a text to be indexable. He found that in the particular group of documents studied, the rule to assign the term if it appears at least once resulted in over-assignment up to 10 per cent, and that the rule to assign the term if it occurs at least twice failed to assign it to at least one-tenth of the documents that should have had it. Also, at least one-tenth of the documents indexed by a human indexer for the term contained the term only once, and less than ten per cent of those not indexed for the term contained it at least once.[20]

Studies made by Climenson and his associates on a document condensation method based on syntactical criteria showed evidence of strong correlation between structure and information. They suggest several ways in which their syntactical filtering criteria could be incorporated into the Luhn auto-abstracting method described above.[21]

Swanson based the "information requirement" on a set of questions constructed without reference to a collection of experimental articles. After the questions were formulated, they were transformed, with or without help of a thesaurus, into a series of words to produce a search instruction. Text is searched for "the presence of a given word, any one or more of a group of words, or the simultaneous presence of one (or more) members of each of several groups."[22] As a control the same group of documents was subject indexed and information conventionally retrieved from it.

The proportion of relevant information retrieved under any circumstances was rather low. It did not exceed 42 per cent of what was judged to be present in the documents. Swanson thinks, however, that the situation could be improved by requiring that terms occur within the same sentence or in relative proximity of each other in the text.

This approach was further developed by producing both the thesaurus and the search instruction by machine, and by the use of a revised subject index for the conventional retrieval comparison.[23]

Luhn outlined a method for the mechanical preparation of what he called "notational abstracts" by grouping words into notational families and creating a dictionary of notions. With the help of this dictionary documents are encoded by notions related to each other by the author within the paragraph. A notion occurring at least twice in the same paragraph would be considered a major notion, and a notion appearing in the immediately preceding and following paragraphs a major notion, even if it appeared only once in the sentence. Documents would be searched by preparing and encoding a question similar in format to the documents in the encoded collection. The resulting notational abstract would be then set up as a question pattern for the machine.

"Since an identical match is highly improbable, the process would be carried out on a statistical basis by asking for a given degree of similarity."[24]

A recently completed study by the author showed that a dictionary, or a selective list of terms that can be anticipated for a subject area, can be an effective tool for the selection of indexable matter from natural language text. A syndetic apparatus included in such a dictionary not only automatically prevents entry scatter under various synonyms but also may be used to increase its over-all detection efficiency. That is, a syndetic apparatus may be designed to permit detection of different designated phrasings in a text and to enter them in the final index under those headings that provide for optimum search conditions. The two man/machine methods developed for the mechanical indexing of proper nouns are based on rules of capitalization in English.

A section of an inorganic chemistry textbook was used as an experimental document, and the index produced by the procedure compares favorably in intellectual content with the average published manually-produced index for the same type of material.[25]

Summary

The one common aim all the above approaches share is to define objectively things present in a text that can be used to indicate document content for indexing or abstracting purposes. All the described methods and experiments center more or less around the problem of extracting the most representative part of the information content of a document. This problem of selectivity is absent when complete analytical concordances are prepared, because the aim then is to account for every word in the text. Selective concordances exist, of course; the KWIC index, for example, is simply a selective concordance of titles. Selectivity in this case is, however, negative selectivity, that is, the compiler determines certain exclusions and then includes everything else, whether it is relevant or not. Positive selectivity determines what should be included rather than excluded. Mechanization of the concordance approach thus is a much easier task, because the problem of deciding what is or is not relevant simply does not exist.

The common characteristic of all these methods is that they are based on the use of natural language text rather than on coded data, that they are concerned with the indication or extraction of the most representative part of the information content of a document, and that they attempt to accomplish this by an automatic process.

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A Compact Card Catalog:

Being a Printed Book Catalog by Photographic Process

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A MAJOR PROBLEM of any library is that of the card catalogs. The file cabinets are expensive and space consuming, interminable filing and checking are required, they are seldom up-to-date, and it is difficult to teach students and faculty how to use them. The cost of maintaining the catalog increases progressively, as does the difficulty of using it.

While many machine methods for libraries are in the experimentation process, they tend to be costly and elaborate. One system is the IBM printed book index from punched cards. Examination of this process reveals the following difficulties: information from the Library of Congress catalog card has to be coded and then transferred to punched cards, both tedious processes, and much information is necessarily left out; a professional librarian also has to check the needed information to be punched. Although a greater portion of the sorting and filing of cards for the three indexes (author, title, and subject) could be done by machine, some hand filing is still necessary. Despite all this busy work, the major factor against the system is the finished product—the teletype print is unfamiliar and extends across the page in hard-to-read lines.

Since the Library of Congress card (or any home-made version thereof) contains all of the information needed in a familiar form, the ideal solution is to use the card itself, a procedure that was not possible until Compos-O-List Systems developed a card camera. This amazingly speedy machine is capable of photographing 7,200 cards an hour, producing paper negatives either positive or reversed for immediate use, or producing film for developing, from which offset plates can be made for extensive printing. The only step required by librarians is the initial filing of cards for an author index, a title index, and a subject index to be printed in book form. In sharp, readable, and familiar form, all the necessary information from the Library of Congress card is reproduced in a double column of 25 or more entries per page.

The cards feed automatically into the camera in whatever order they are filed; no shingling is required. Two minor problems came up in producing the first basic indexes. First, the card had to be marked for the electronic eye to catch and adjust the bite of the camera, i.e., two, three, or more lines. This now has to be done manually, but it is a clerical function and can be done as cards are acquired daily. Progress is under way to refine the camera to make this function also automatic. Further, although this is currently being changed, offset plates were necessary to produce the desired number of sets of the indexes. Development of better procedures and processing in these two functions will substantially reduce over-all cost of the index, perhaps by as much as one third.

The cost factor is negligible as compared with either the conventional card catalog or

Arteaga Photos

Joe Richardson (left), Compos-O-List Systems, who developed the camera, and Richard Wooten (right) of Friden, Inc., which sells the camera, discuss techniques with Dr. Jones (center), who was the first to use the camera to produce printed book catalogs.

427.09 AMERICANISMS
W478 **Wentworth, Harold, 1904–**
Dictionary of American slang. Compiled and edited by Harold Wentworth and Stuart Berg Flexner. New York, Crowell ,1960,

R
427.9 AMERICANISMS
D554 **A Dictionary of Americanisms on historical principles, edited by Mitford M. Mathews. Chicago, University of Chicago Press ,1956, *1951,**

R
629.403 ASTRONAUTICS—DICTIONARIES
S732 **The Space encyclopaedia; a guide to astronomy and space research. ,General editor: M. T. Bizony. 2d, rev. ed.,** New York, Dutton, 1960 ,*1957,

427.09 ENGLISH LANGUAGE—SLANG—DICTIONARIES
W478 **Wentworth, Harold, 1904–**
Dictionary of American slang. Compiled and edited by Harold Wentworth and Stuart Berg Flexner. New York, Crowell ,1960,

R
427.9 ENGLISH LANGUAGE—TERMS AND PHRASES
D554 **A Dictionary of Americanisms on historical principles, edited by Mitford M. Mathews. Chicago, University of Chicago Press ,1956, *1951,**

757 FIGURE PAINTING
O52 **Olson, Herbert Vincent, 1905–**
Painting the figure in watercolor ,by, Herb Olson ,pseud.,
New York, Reinhold ,1958,

A sample of the printed subject index.

the IBM system. The latter process makes conversion of existing card catalogs to book form prohibitive; by the high-speed photo-process, the only work required is to run the existing cards through the camera, and the cost of a large operation is little more than a small run-off. Unit cost, in fact, decreases with volume. If one wishes to do so, these entries can be transferred by photography to pre-punched IBM cards, combining the virtues of both systems.

Actual cost comparison is difficult, since the conventional card file, for all its cost, space requirements, and expense of duplication, does not make an index that is easy to distribute. It is roughly estimated that 30 sets of basic author, title, and subject indexes cost about the same as a card file for one campus. Refinement of coding and run off will yield an even greater cost differential.

The question of keeping the indexes up-to-date was resolved by a combination of several possible solutions. After the basic indexes are composed, an up-to-date daily (another advantage) card supplement can be maintained for new books, until sufficient cards are available to run off a printed supplement. Depending upon volume of acquisitions, this can be cumulated at intervals to keep the card file at a minimum. Then, perhaps each year, the whole card deck can be merged (and deletions pulled) and new basic index books can be produced. Experimentation will undoubtedly evolve better methods in this area.

A word on the ease of using book-form indexes may be in order. When a student is at a card catalog, he is taking up at least one tray; since he can see only one card at a time and has to puzzle with the rigors of filing, he will take far more time to obtain the information than if he were looking at an open book. He can use the indexes as he does the phone book, and no training is required.

As in other new developments, adoption of camera reproduction from original sources lends itself to many other uses, including special bibliographies, special collections and libraries, multiple copies of the indexes, information retrieval, stock control, and so on. With a two-year college operation, it seems that simple author-title and subject index books are sufficient. But the basic card deck remains and is adaptable to future demands, with a minimum of staff involvement.

The book indexes have just recently been put into use in The Junior College District libraries and faculty offices; their use will be carefully noted. Some advantages already apparent, in addition to those listed here, include ease of checking holdings in each subject for balance, the ease with which faculty can make special bibliographies by thermofaxing desired pages, and the advantage of taking the library to them rather than coming to it. These indexes also include all instructional resources (periodicals, records, tapes, slides, AV and TV equipment), so at a glance an instructor knows what is available. While a misfiled card is glaringly obvious, it likewise is not lost to the patron with 70 titles visible at one time. The use of book indexes would appear to be even more useful for large institutions with many branches and for union catalogs. Many other uses and refinements will be forthcoming; one's imagination is the only limit!

The Conservation Library Center of North America

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THE VELOCITY, volume, and significance of the growth of the Conservation Library Center at Denver, Colorado, in the brief time it has been active, merits review and appraisal.

In March 1962, there was only a scattering of books, booklets, periodicals, reports, manuscripts, and related material on the 460 lineal feet of temporary shelving assigned to the Center. The thin spread of these materials was referred to as the Center's "seed bed." The seeding was fertile! At the end of one year, these shelves were stacked with conservation reference material. More items were piled atop those shelves, between 200 and 300 feet of additional shelving was filled, and a score or more of cartons and crates containing gifts to the Center remained unopened.

This dramatic growth indicates two certainties: *1)* the Center has been given dynamic support by conservation leaders and agencies throughout North America; and *2)* that support is positive affirmation of the need for rapidly expanding the organization and facilities in the months and years ahead.

The Quality and Size of the Center's Growth

Modest funds have been expended in purchasing books and other important materials, but for the most part, the unforeseen growth of the CLC has resulted from the host of those interested in the Center who have donated anything from a single pamphlet or photograph to whole series of publications, manuscripts, diaries, photos, and personal files of memoranda and correspondence. More than 200 individuals and agencies have contributed tens of thousands of items to the CLC. It is, of course, impossible to list all donors or all items, but here are a very few gifts that indicate the extent and value of the many:

The papers of Charles Lathrop Pack, who was a driving force in the American Forestry Association, the development of the magazine, *American Forests,* the founder of the Nature Association and *Nature Magazine,* and an eminent conservation leader. . . . Rare stereoptican slides that were in the collection of Dr. Vernon Bailey, former Chief of the Biological Survey, that had been given to Dr. Olaus J. Murie, now have been presented by the Muries to the CLC for safe keeping.

The Conservation Library Center has received official support from many national and international conservation organizations. For example, the American Association for Conservation Information has designated the CLC its official depository. The Outdoor Writers of American Association has officially moved to support the CLC. Membership includes 1,200 columnists, editors, freelance writers, lecturers, and photographers of regional and national stature. The Conservation Education Association, with membership among those actively concerned with the educational phase of projecting the story of conservation of natural resources, also has made the CLC its official depository.

The Executive Committee of the International Game, Fish and Conservation Commissioners, has officially endorsed the Center and urged its members to collect and then deposit reports, manuscripts, field notes, and other suitable material in it. The goal of this particular cooperative venture is to gather into the CLC all available basic conservation data from every state and province and catalog such data by a punchcard system. An investigator or student seeking the most inclusive spread of background for resource

Condensed from a paper presented to the Newspaper Division, June 12, 1963, at the 53rd Annual Special Libraries Association Convention in Denver, Colorado.

management in any of its divisions may then find it in this one, central location.

Publications of the United States Government are located in the Document Division of the Denver Public Library, which is an official depository. Also, in the Library's Western Collection, one of the foremost of its kind, are diaries, journals, original manuscripts, books, pamphlets, and photographs containing records of natural resource wealth as it existed originally in the entire sweep of the nation west of the Missouri River. Here, if thoroughly cross-referenced and put on IBM cards, is an untapped reservoir of information for those who invoke the wisdom of basing tomorrow's management of our natural wealth on what happened to it in the past.

Where Away from Here?

When the first moves were made toward establishing the Conservation Library Center there was no expectation that it would develop as it has. Thoughts of its size were limited to a part of one room of the Special Collections Division of the Denver Public Library; a few thousand volumes, perhaps, that could be cataloged by staff members as part of routine activities.

The Denver Library Commission made this an official project in 1960. From that time, the Commission, the Mayor of Denver, and the library staff have given shelf and office space, funds, and professional counsel and guidance, without which there could have been no pilot project, to determine the need, the direction, and the magnitude of this Center. But what began as a special collection of the municipal library has become a run-away project destined to serve the Western Hemisphere. Whatever the City of Denver, its Library Commission and the library's staff may be able to conscientiously put into building this international institution cannot keep pace with the growth of the Center. A municipality alone cannot be expected to underwrite a project of this magnitude and nation-wide service.

No less vital in this first period of exploration and demonstration was a grant of $25,000 to cover the two-year period, 1962-1963, made by the American Conservation Association in which the Rockefeller brothers are interested. In truth, by the end of the first quarter of 1963, the mounting volume of work to be done in sorting, classifying, cataloging, and making useful the array of materials on hand and the mere requirements of shelf space and operating facilities were outrunning all financing and operating facilities available.

Within a year-and-a-half, certainly before three years, it will be necessary to take definite steps toward providing a new structure that will house the Center as an international institution. At the present time the City of Denver is acquiring title to land adjacent to the present central library building, on which such an addition can be constructed.

Those of us who are involved in the racing growth of the Center know surely what lies ahead—the opportunity to collect a treasure of recorded knowledge relating to natural resources, their conservation, their management, and their underwriting of good life on our hemisphere. We have supplied only the rallying point and facilities whereby this project has come alive. What can happen to this program rests literally in the hundreds who have cooperated in its launching.

Rare Book Library at Yale

The Beinecke Rare Book and Manuscript Library at Yale University, believed to be the largest building in the world devoted entirely to rare books and manuscripts, was dedicated recently. The building, which is connected to Sterling Memorial by an underground tunnel, houses 250,000 volumes and over one million manuscripts. The capacity is for 800,000 volumes, and the building provides research and storage space for the overall Yale library of 4,600,000 volumes. The Beinecke collection includes the Gutenberg Bible and the first book printed in the American Colonies. The building is made of concrete, steel, marble, bronze, and granite, and natural lighting for the main section of the library comes not from windows but from the translucent character of the marble, which shields the collection from harmful direct sunlight. Special areas of the library have constant temperature and humidity controls.

Planning the New Library
Ampex Corporation Technical Library

MARK BAER, Manager
Technical Library, Ampex Corporation, Redwood City, California

AMPEX Corporation, incorporated in the state of California on May 2, 1946, as Ampex Electric Corporation, has become the recognized leader in the field of magnetic recording. Ampex develops, manufactures, and sells magnetic recorders, magnetic tape, core memory systems, and components utilized to acquire, store and transmit sound, data, and pictures. In addition, its substantial research and advanced development facilities are engaged in the investigation of nonmagnectic recording methods such as electron beam recording as well as the advancement of the state-of-the-art of magnetic recording.

Since its incorporation, Ampex has had a pattern of growth that provides a prototype for the burgeoning electronics industry. Between 1954 and 1963 it has grown from a corporation of 615 employees and sales of $5.5 million to one of 5,649 employees and sales of $93.2 million. A recent issue of *Fortune* magazine places Ampex among the 500 largest United States industrial corporations.*

Library Committee Formed

Although established in 1955, the Ampex Library, due to a combination of circumstances, did not grow as rapidly as the corporation grew. In its fourth year it had few resources, a staff of one professional and two clerks, cramped quarters, and virtually no budget for acquisitions. The library had failed to operate as an integral and essential part of the expanding research and development programs of the corporation.

To correct this situation, a Library Committee, made up of representatives of management, research, and product engineering, outlined a set of ground rules and service requirements, which reflected the library service needs of all areas of the corporation and served as the charter for the Ampex Technical Information Service, later designated the Ampex Technical Library.

In October 1959, the writer joined Ampex Corporation with the responsibility of building a technical library operation that would satisfy these requirements. In the years that have followed, the Ampex Technical Library has succeeded in becoming an integral part of the total effort to maintain Ampex's preeminent position in the magnetic recording industry.

The following set of requirements represents a brief statement of the ground rules, which were established by the Library Committee and have governed the Ampex Technical Library operation and provided guidelines during its continuing growth.

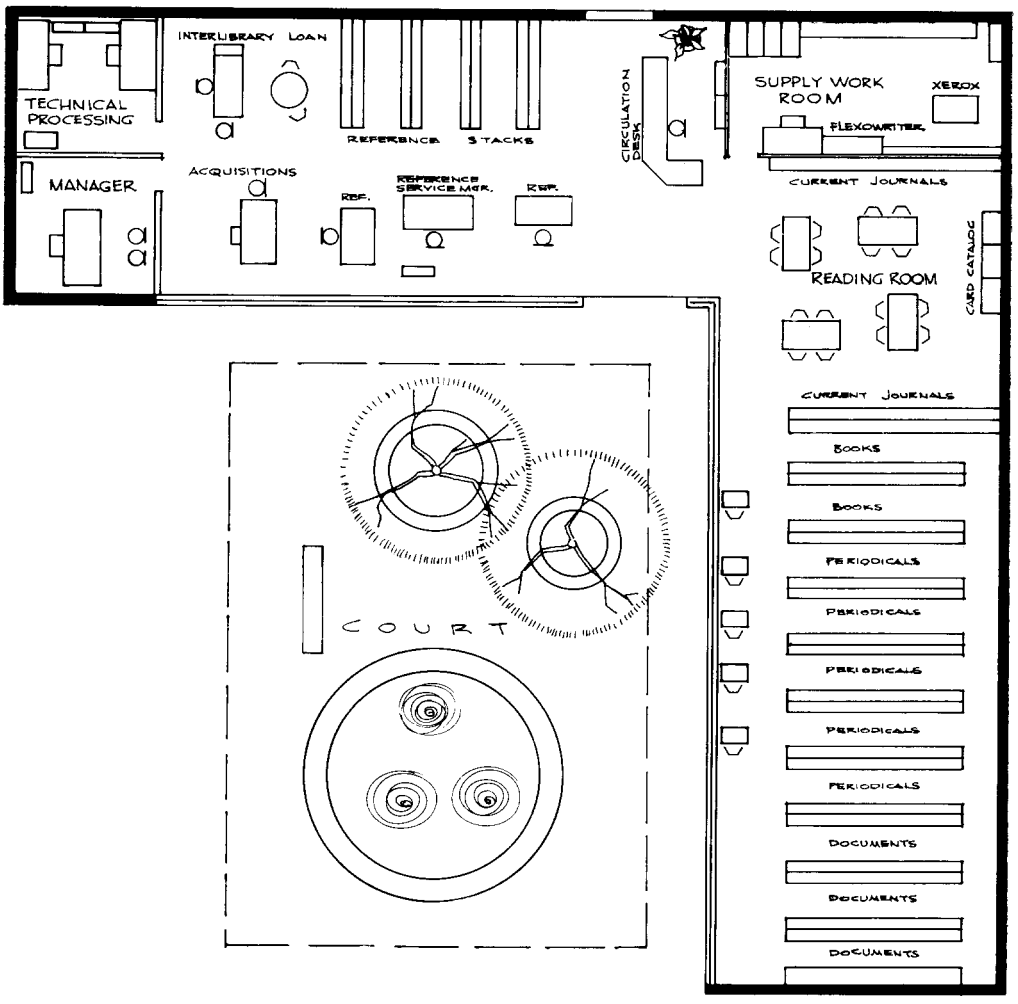
The Ampex Technical Library must:

1. Acquire, process, store, and make readily available internally and externally prepared material on all subjects required to assist company personnel in the performance of their duties.
2. Accept and utilize information with minimum restrictions on its source or format.
3. Utilize the resources of the collection to provide for the active and continuing dissemination of information it deems important to the various areas of the corporation as well as providing retrospective literature searches and continuing literature surveillance upon request.

As one member of the Library Committee put it, "the ideal technical library would be one that provided me with information I am going to need before I know that I need it."

By January 1960, with a staff of two professional librarians, three clerical assistants, an antiquated photocopying device, a modest budget, and boundless optimism, the Ampex Technical Library announced the immediate

* *Fortune*, vol. 67, no. 1, p. 194, July 1963.



Floor plan of the Ampex Corporation Technical Library. Scale: ⅛ inch equals one foot.

availability of a complete range of library services. The initial response, as alarming in its size as it was gratifying, substantiated the need that had been recognized by the Library Committee.

By the end of 1960, the Library Committee had indicated its confidence in the library operation by dissolving itself and leaving all library organization and acquisition policies in the hands of the library manager.

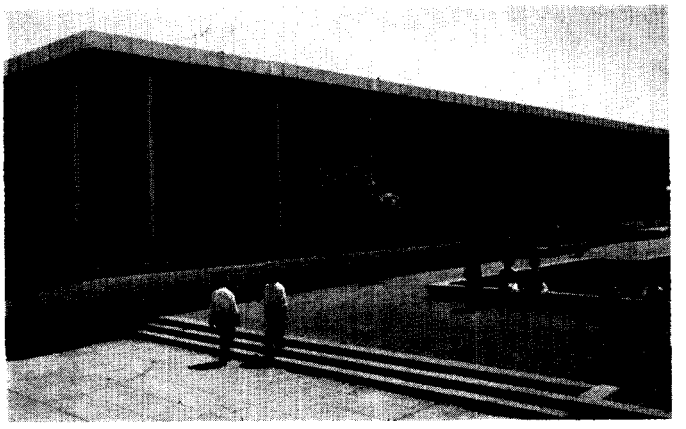
Initial increases in staff and budget received strong support from both management and technical areas. This continued support plus a highly competent and service-oriented staff have enabled the library to continue to expand and improve its services to a growing corporation with facilities located throughout the world.

Since 1960 the staff has doubled, space tripled, and we have increased our library services many times over. We have found that over 50 per cent of our total service is expended for the Research and Advanced Development and the management and staff departments, and the Product Engineering and Product Development departments receive 23 and 27 per cent, respectively.

Present Library Services

Among the services now provided by the Ampex Technical Library are:

ACQUISITIONS: All books, periodical sub-



The research and engineering building, which houses the library, is made of steel and concrete with glass window walls enveloped in a sun screen. Nearby (not shown) is a cafeteria-auditorium.

scriptions, documents, and reports ordered for the library collection or for individuals throughout the corporation are ordered through the library.

CATALOGING: All materials obtained through the library are given Library of Congress classification or accession number and complete cataloging, the library card catalog thus forming a union list for the entire corporation.

REFERENCE: General reference, special reference, literature searches, and literature surveillance are provided to both technical and nontechnical areas throughout the corporation.

PUBLICATIONS: Annotated subject bibliographies and biweekly library bulletins containing current book and document accessions, abstracts of current patents, reports, and technical articles are distributed to all corporate facilities throughout the world.

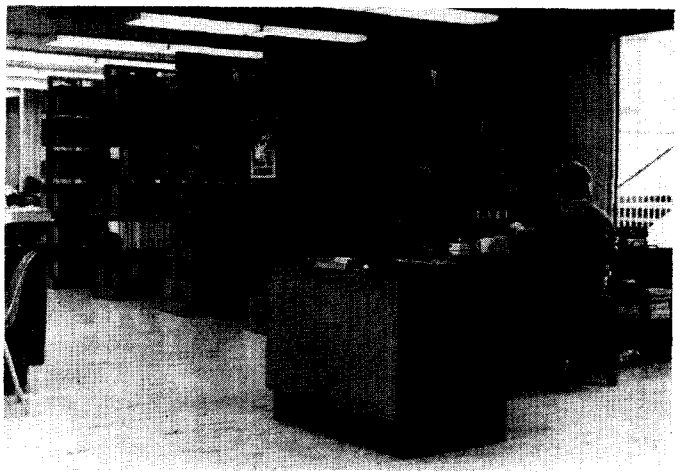
PHOTOCOPIES: Copies of material requested as a result of the published bibliographies, biweekly library bulletins, or from other sources are provided to all requesters.

DOCUMENT DISTRIBUTION AND CONTROL: All internal proprietary reports are distributed on a controlled circulation basis by the technical library. Similarly, all laboratory notebooks are supplied to individuals by the library, and completed notebooks are returned to the library for permanent storage.

The New Library

In December 1961, Mr. W. E. Roberts, President and Chief Executive Officer of Ampex Corporation, announced plans for a major modernization and expansion program for Ampex Corporation at its Redwood City location. As an initial part of this program, construction was begun in 1962 on a two-story, 150,000 square foot research and engineering building to house corporate and international headquarters and virtually all research and engineering activities, including the technical library.

Library is near the main entrance and looks out upon a court of olive trees and fountains. Glass walls bring the pleasant landscape inside.



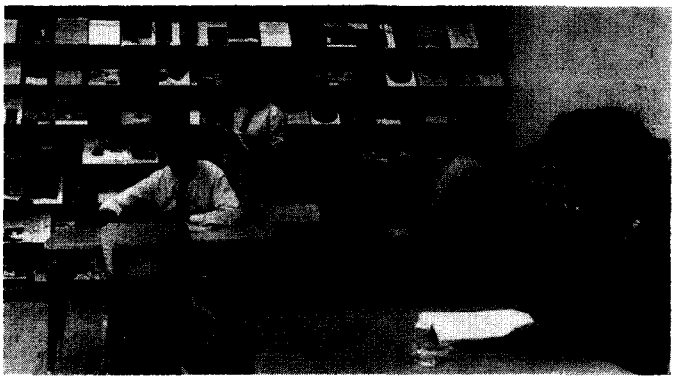
Circulation desk and reference stacks are at library entrance. Walled off with glass in the background is technical processing office and library manager's office.

The research and engineering building, completed in July 1963, is designed in the form of a hollow rectangle enclosing a central court containing olive trees, a pool, and fountains. The area, which represents the initial space for the library, is on the ground floor, forming an "L" bordering the south and west sides of the interior court. The south wing of the "L" is located near the employees' entrance lobby and adjacent to the main corridor linking all the operations on the ground floor. This location places it close to the main traffic flow in and out of the building, making it relatively convenient for all occupants of the building. The interior court walls are glass floor-to-ceiling, making the library a pleasant as well as convenient location for both staff and patrons.

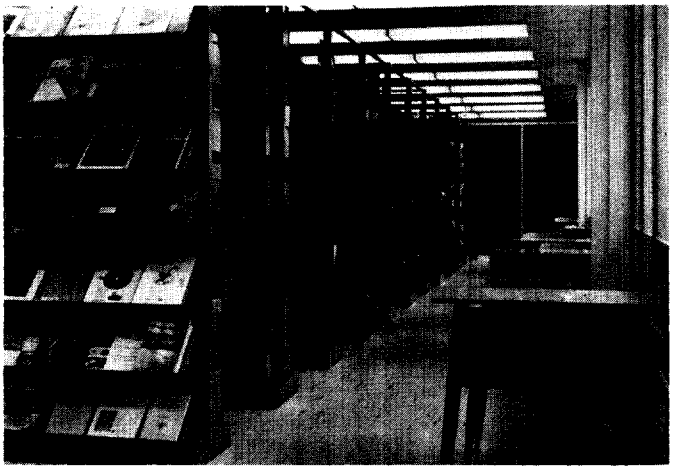
The accompanying floor plan indicates the manner in which the initial library space has been utilized. The manager's office, the office occupied by the technical processing section manager and a clerical assistant, and the remainder of the library staff occupy the south wing. An enclosed workroom, approximately 290 square feet, the reading area with current issues of journals, the union catalog, and the main stacks containing books, bound and unbound periodicals, internal and external documents, laboratory notebooks, and Ampex equipment manuals occupy the west wing.

In addition to files and supplies, the workroom, which is being provided with additional soundproofing, contains the Xerox 914 copier and a Frieden Flexowriter. The latter is being programmed to produce cards for the catalog and document distribution lists and to provide punched tape updating of a cumulative, annotated bibliography on magnetic recording, which currently contains more than 3,000 abstracts of technical articles on all aspects of this subject.

Tentative plans for future expansion include extending the west wing an additional



Wall supporting periodical shelves divides the reading room from the work area. Union catalog is at right.



Study desks are placed between main stacks and windows in the reading room for convenience and added natural light.

24 feet, adding 576 square feet, as well as increasing the width by another 24 feet, which would add approximately 1,900 square feet. This would provide for a total size of 6,000 square feet or slightly less than twice present size.

In the interest of economy, existing office furniture and equipment was utilized where possible. New equipment includes: a Remington Rand desk-height circulation counter consisting of four three-foot modules plus a corner unit; four reading room tables, five individual study desks and 21 chairs, produced by American Desk Manufacturing Company; and 56 sections of double-faced, free-standing metal shelving for the main stacks as well as 12 sections for the reference collection, manufactured by the W. R. Ames Company. Ames also supplied wall brackets and slant-faced shelving for current journal issues in the reading room and wall brackets and book shelving in the cataloging office. End panels for reference and main stack ranges are currently being prepared for installation. Desk-height filing cabinets designed to hold 3x5, 5x8, and conventional letter files have recently been added to the appropriate work stations. Future plans call for replacing the present desks with modular equipment in "L"-and-"U"-shaped units, which will permit maximum utilization of work space.

In the meantime, with a pleasant view, fine lighting, and an extremely efficient air-conditioning system, the library staff is well pleased with its new quarters.

VITAL STATISTICS FOR AMPEX TECHNICAL LIBRARY

Total square foot area	3,500
Staff	
Professional	4
Nonprofessional	6
Employees served at location	3,400
Total employees served at all locations	5,600
Services extended to other areas	All services provided throughout corporation
Average number of users per day (including telephone & mail requests)	200
Volumes (books and bound and unbound periodicals as of August 1963)	11,000
Technical reports and documents	8,000
Current periodical subscriptions	670
Vertical file drawers	10
Date of completion	August 1963

Planned by library staff, architects, and corporate facilities planning
Special equipment: Xerox 914 copier and Friden Flexowriter

CURRENT CONCENTRATES Of The Library World

Factors in Library School Admissions

MELVIL DEWEY and the first American library school "left" (as the euphemism has it) Columbia University because of a dispute over his selection of students. Every succeeding library school has inherited his problem. When the University of British Columbia School of Librarianship was established in 1961, its brand-new faculty had to face the same old dilemma of deciding upon the "ins and outs" of admissions.

The School's Committee on Admissions (which comprises *all* the full-time faculty members, admissions being too important to leave to the Director) uses the following criteria and tests, the statements in quotation marks representing the official wording of the School's *Bulletin:*

1. *With respect to academic qualifications*

"The student must present an acceptable bachelor's degree from a recognized university" (the Registrar decides if the university is "recognized").

"There is no limitation in respect of the faculty or department in which the degree has been earned, unless in the opinion of the School the individual's preparation appears unsuitable for success in library work." *Explanation:* since librarians deal with the whole world of knowledge, it is unreasonable, in our view, to require a specific subject background of candidates.

"The student must present credit (at the 200 level) in a language other than English," or give evidence of a working knowledge of such a foreign language through a special examination.

2. *With respect to personal qualifications*

a. *Good* experience in a library job, though not required, is an excellent clue. It is probably the surest guarantee that the candidate has a reasonably accurate picture of library life and the likelihood of his satisfaction with it.

The attitude sought for in candidates to U.B.C. is, in fact, idealism but, hopefully, a hard-headed one. We tell students who "love books," "Yes, of course: but what else can you do?" We tell persons who want "quiet" that the good library is more like a railroad station than a mausoleum. We tell the "plodder" candidates that we are looking for students who may *make a difference* in the practice of librarianship.

b. The other personal qualifications are easy to list, hard to identify, and impossible to attain *in toto.* Resilience, poise, articulateness, stamina (don't forget *your* year in library school) imagination, intellectual curiosity—all these we look for, and we also expect our student to be honest, loyal, able, steadfast. . . . If this paragon has youth as well, he will stand a better chance of being admitted, but the School makes no formal stipulation with respect to age.

The last and most rigorous test of admissibility is imposed, not by the Committee on Admissions, but in a sense by the candidates themselves. The School limits enrollment at present to something like 40 students and thus far has been receiving several times that number of applications each year. Essentially then, the students *compete* with each other for places in the School and the most notable feature of U.B.C. admissions policy is thus its *selective* character.

This policy is, we well realize, rather at odds with the prevailing emphasis on recruitment and numbers, but we feel justified in our position. Quality and quantity are not incompatible, but they are difficult to combine, especially for a new school.

Extracted from "New School, Old Problem" by Samuel Rothstein in *SLA Bulletin, Toronto Chapter,* summer 1963, vol. 23, no. 3.

Regional Recruiting by Cooperative Effort

IN MID-OCTOBER an exciting, and for some, a new experience in recruitment was experienced by several SLA Connecticut Valley Chapter members. The 17th New England Personnel and Guidance Conference met in Hartford, on October 16, 17, and 18, with approximately 1,000 persons in attendance. This membership involves personnel from elementary and secondary schools as well as colleges and universities.

A representative from the Connecticut Library Association contacted Mary Lee Tsuffis, Immediate Past-President of the Connecticut Valley Chapter to find out if the Chapter would be interested in sharing a booth at the Conference. Mrs. Tsuffis immediately requested information and suggestions from the Association's Public Relations Director, Mary L. Allison, and also from Herbert White, Chairman of the SLA Recruitment Committee. Miss Allison responded with a list of materials available from Association Headquarters and also approved the expenditure of $25, half of the booth fee. Types of materials and quantities were noted and ordered, and all materials were received well in advance.

The booth was scheduled to be set up at 3 p.m., October 16th—in time for the five o'clock registration. *Please note*—always double-check about this detail. The exhibition area was occupied by another group on this date, and we could not set up the booth until 6:30 a.m., Thursday, to have the booth ready by 8 a.m., in time for the arrival of the conferees.

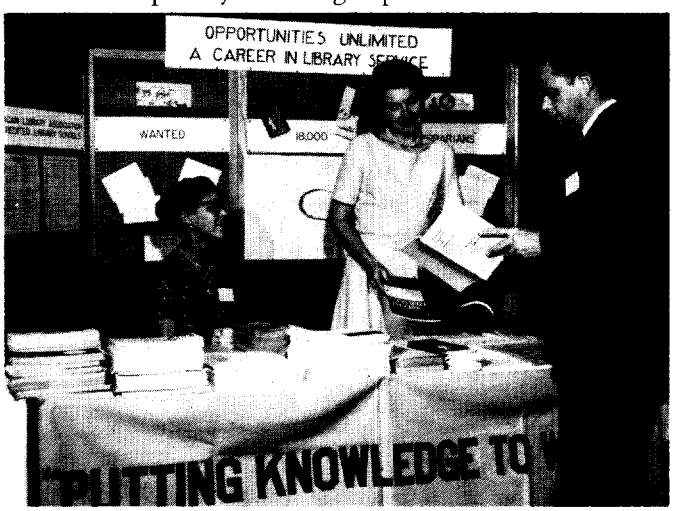
The Data Sheets on special librarianship were displayed individually, and this gave the staff an excellent opportunity to talk with conferees about the scope of special libraries while the sheets were being collated for them. Many of the conferees expressed surprise at the variety in special librarianship, and several asked, "What is a Special Librarian?" The brochure of the same title provided a ready answer.

It was agreed that the booth would be staffed from 8 a.m. to 5 p.m. on Thursday and from 8 a.m. to 12:30 p.m. on Friday. Staffers were Esther Brown, David Evans, Florence Moore, Mary Braman, Wilbur Crimmin, William Mortimer, and Zena Grot-Zakrzewski, with Mrs. Tsuffis and Mrs. Richardson on call.

We recommend that other Chapters seek similar opportunities to participate in an activity of this sort.

MRS. MARY LEE TSUFFIS, Head
Reader Services, United Aircraft Corp.
East Hartford, Connecticut

MRS. MARIE S. RICHARDSON, Manager
Corporate Library
Combustion Engineering, Inc.
Windsor, Connecticut



Mrs. Tsuffis and Mrs. Richardson explain the qualifications of a special librarian to one of the conferees.

Picture courtesy of Combustion Engineering, Inc.

First International Congress on Reprography

THE FIRST International Congress on Reprography, under the sponsorship of German photographic and documentation groups, convened in Cologne, Germany, on Monday, October 14, and continued through Friday, October 18. The term, "reprography," coined about ten years ago, is intended to describe all methods of facsimile reproduction of documentary materials with the exception of conventional printing. Although little used in the United States, the term is achieving considerable popularity in Europe.

The meeting comprised three concurrent activities: the first was a program of technical and informational papers, the second an exhibit of equipment, supplies, and accessories, and the third a series of smaller meetings usually held in the evening for groups with special interests in particular areas.

The formal program of about 40 papers was significant. Some of the presentations were excellent, others average, and a few were poor. Sessions were held in a large and a small auditorium with simultaneous translation for the three official languages, English, French, and German, provided in the former. Arrangements have been made with a commercial publisher, Dorotheen Verlag, to print the papers in the form of proceedings. These will be made available within six months in a bound volume, which will cost about $35.

The exhibits were comprehensive. The City of Cologne maintains a large trade show center with a complex of well-equipped exhibition buildings. Exhibits from Germany, Switzerland, Belgium, France, Holland, Italy, Japan, Britain, and Sweden as well as the United States were shown. Much of the equipment was in operation, and many of the items displayed are not currently on the market in the United States. It is difficult to assess the comparative qualities of all of the devices of differing national origin. Certainly, it would appear that each nation expresses its own individuality in theory of design and methods of implementation. In general, the equipment from the United States appeared to be more advanced in concept and somewhat better adapted to its intended purposes than most of the other machinery on view. A possible exception might be in the field of diazotype reproduction where England and Germany seem to have taken the lead. Among the many interesting novelties was a lenticular film developed by the French for compact, almost three-dimensional, microphotographic data storage. It is interesting to note that the Japanese are making determined efforts in the field of microphotography. Microfiche, which is only now coming into its own in the United States, has long been in use in Europe, especially for library purposes. This fact was amply evident in cameras, reading equipment, and other devices shown.

One of the more important evening special sessions was a meeting of the International Micrographic Congress, a group with headquarters in the United States, devoted to microforms and the international exchange of information. The Microfiche Foundation, with headquarters in Holland, sponsored an invitational session devoted in large part to microfiche formats. Growing utilization in the United States, especially by NASA and other government agencies, has resulted in the development of sizes that are not standard. It was the purpose of this meeting to reconcile differing American and European practices. At this juncture, it would appear that these efforts will be successful. The third meeting concerned the future of the International Congress on Reprography itself. Representatives of the several national groups agreed that a second meeting of the Congress, to be held in Cologne in about three years, would be desirable.

In summary, the Congress brought together an international group of informed specialists and a good exhibit of equipment. The results will be significant and will advance not only the several national interests but also international cooperation in the exchange of information.

EUGENE B. POWER, President
University Microfilms, Inc.
Ann Arbor, Michigan

John Fitzgerald Kennedy: In Memoriam

MANY ELOQUENT WORDS have been and will be spoken and written about the shocking and senseless assassination of John Fitzgerald Kennedy in Dallas on November 22, and it seems fitting that this journal, representing as it does an international organization of professional librarians devoted to service and the utilization of knowledge, should add its small tribute to the dedicated man of vision and high intelligence who strove, during his brief term as President of the United States, to stimulate his countrymen to render service to, and utilize knowledge for, the betterment of all mankind.

President Kennedy's ideals and programs concerned the whole broad spectrum of economic development, social and scientific progress, and world peace, and in all these efforts he recognized the contributions libraries and librarians make in the struggle for truth, justice, and human advancement. A prodigious reader of books, newspapers, journals, and reports as well as the author of two thoughtful volumes, "Profiles in Courage" and "The Strategy of Peace," John F. Kennedy frequently and forcefully advocated the improvement of libraries across the nation and the right of all Americans to have access to books. He publicly endorsed National Library Week and wrote the American Library Association on the occasion of its 1963 conference, "Librarians make a very special contribution to intellectual freedom. . . . This nation must strive to make its schools and colleges good enough to educate free men who think for themselves in an increasingly complex world. Education of this quality demands strong libraries."

While still a Senator, Mr. Kennedy co-sponsored bill S-2830, which extended the Library Services Act. This bill was passed with an overwhelming majority on August 22, 1960. Shortly after his 1963 State-of-the-Union address, President Kennedy sent his National Education Improvement Act to Congress, in which he stated, "I recommend the authorization of Federal grants to institutions of higher education for library materials and construction." He also recommended amending the Library Services Act to provide for a three-year program of grants for the construction and operation of urban as well as rural libraries. On November 26, 1963, the day after Mr. Kennedy's interment in Arlington Cemetery, the Senate passed such a bill expanding Federal aid to states for public library services and buildings.

President Kennedy also appreciated the importance of information to scientific and technical organizations and commissioned his Science Advisory Committee to study information handling in the government and technical community. The result was the so-called Weinberg Report, "Science, Government, and Information." While special librarians may not agree with all the recommendations contained in the report, it is significant that it was prepared for a President who realized the need for "better understanding of the problems of scientific and technical communication both within the Government and outside of Government and of the steps that can be taken to meet these problems."

Until this past summer the executive mansion did not contain a formal library for the use of the President and his staff, but under the direction of James Babb, a collection of 1,780 titles were selected as the nucleus of the White House Library. Both Mr. and Mrs. Kennedy supported and took an active interest in this project.

When greeting delegates attending the Second International Congress on Medical Librarianship on the White House lawn in June 1963, President Kennedy summarized his concept of librarianship by stating, "Librarian is a title to be proud of." Now librarians, remembering his personal courage, his vigorous leadership, and his many efforts to attain peace, prosperity, and progress for all men, must say, "John Fitzgerald Kennedy was a President to be proud of."

Report on the Fourth Congress of the International Federation of Translators

As HEAD of the official delegation of the American Translators Association (ATA), I recently attended the Fourth Congress and tenth anniversary celebration of the Fédération Internationale des Traducteurs (FIT), held in Dubrovnik, Yugoslavia, from August 31 to September 7, 1963.

FIT, founded in Paris in 1953, is a nongovernmental technological organization and enjoys consultative status with UNESCO. Among its various activities, FIT aims to foster international understanding by facilitating communication between different languages and cultures and to represent translators at the international level. Membership is open to organizations representing translators, and associations from over 20 countries are presently affiliated with FIT. The USSR, while not represented on FIT, sent a group of observers to the Congress.

The Congress, which was attended by over 200 participants, included meetings of the Statutory Congress (for official delegates only), committee reports, and official papers. Among the latter were papers by the Yugoslav Nobel Prize-winning author, Ivo Andrić, on "Translation and the Author," by Roger Caillois of UNESCO on "The Translation of Poetry," by Dr. Burton W. Adkinson of the National Science Foundation, Washington, D. C., on "The Role of Translation in the Dissemination of Scientific Information," and by French publisher Paul Flamand on "Translator and Publisher."

Many of FIT's activities lean toward the literary side. There was a report by the Committee on Literary Translators headed by B. Zielinski of Poland, and a new FIT Prize Committee was set up under the chairmanship of Professor Edmund Ordon of Wayne State University to work out the details for a prize to be awarded periodically for the best translation.

Of interest to scientific and technical translators was a report on the European Translation Centre by G. A. Hamel. Fourteen countries are presently contributing to the Centre, located at Delft, The Netherlands. The Committee for the International Register of Specialized Translators, headed by I. J. Citroen of The Netherlands, is working on the coordination of national registers with the hope of eventually arriving at an international register of translators. C. W. Frerk of Great Britain is in charge of a Committee on Translator Training and Exchange of Glossaries.

One of the highlights of the Congress was the election, by the heads of the official delegations, of the new Council, which will govern FIT until the next Congress in Helsinki, Finland, in 1966. The members of the new Council are: Z. Gorjan (Yugoslavia), President; P.-F. Caillé (France), Dr. K. Gingold (USA), and Dr. J. Wünsche (Germany), Vice Presidents; H. J. Pfisterer (Germany), Secretary-General; Dr. J. Ahokas (Finland), Mme. L. Bertelli (Italy), I. J. Citroen (Netherlands), C. W. Frerk (Great Britain), Mme. M. de Juan (Spain), Professor K. Takahashi (Japan), and B. Zielinski (Poland). The President, Vice Presidents, and Secretary-General are elected by the Council, and constitute FIT's Executive Committee.

Despite a heavy schedule of meetings, the social side was not neglected. The Mayor of Dubrovnik gave a reception at the Rector's Palace; there was a thrilling open-air performance of national dances and songs by the Lado ensemble of Zagreb at Fort Revelin; and a banquet was given by FIT and the Savez Prevodilaca Jugoslavije (Yugoslav Translators Association) at the Hotel Excelsior.

It was a truly stimulating experience to meet colleagues from so many countries and to enjoy the wonderful hospitality of our Yugoslav hosts, and I am sure all of this year's participants will be looking forward to meeting again in Helsinki in 1966.

DR. KURT GINGOLD
American Cyanamid Company
Stamford, Connecticut

Metals Division 14th Annual Fall Meeting

THE 14TH Annual Fall Meeting of the Metals Division of Special Libraries Association was held in conjunction with the 45th National Metal Congress and the 50th Golden Anniversary Year celebration of the American Society for Metals in Cleveland on October 24 and 25, with SLA headquarters at the Statler Hilton Hotel.

On Thursday afternoon, Mrs. Dorothea Rice presided over the session on Specifications. " 'The time has come,' the walrus said, 'to talk of many things . . . of shoes, and ships, and sealing wax, of cabbages and kings' " introduced us to the first talk entitled "Of Shoes and Ships—and ASTM Standards"* presented by H. J. Stremba, Assistant Standards Editor, ASTM, and coauthored by J. W. Caum, Technical Secretary, ASTM. Discussed for the first time outside ASTM circles was the entirely new system, which is to be used for printing 1964 and succeeding ASTM Standards. Standards have grown with the technological explosion of the twentieth century. Membership in ASTM increased from 175 in 1902 to over 11,000 currently. Total pages in the Book of Standards—6,300 in 1946—has increased to 21,000 pages. Mr. Stremba emphasized the importance of standards in industry both nationally and internationally.

"Industry-Standard Specifications for Aerospace Use,"* commonly known as AMS specifications or AMD documents, were traced from their beginnings in 1938 to the present by D. E. Manning, Senior Design Metallurgist, Pratt & Whitney Aircraft Division, United Aircraft Corporation. Every effort is made to make changes before publication of AMS specifications, whereas AMD's may be considered tentative documents. A cardinal rule of AMS procedure is that each specification number shall be fully definitive of the material covered. Since they are used primarily as procurements specifications, there must be at least two users of a material or process repetitively to warrant their development. In closing, we were told that these specifications are "clear, concise, and brief, yet fully definitive" and that "their use is expanding constantly, not only here but abroad."

The whys and wherefores of government specifications were the topic of discussion by Margaret Haskin, Assistant Head, Specifications and Standardization Branch, Bureau of Ships, Department of the Navy, in a paper entitled "Government Specifications and Associated Documents for the Metals Library."* Issued in either the Federal or Military series, these are intended primarily for use in procurement and will be prepared and used to meet one or more of several conditions, such as "to protect the health and insure the safety of personnel using item." Methods for changing specifications, their size and format, identifying symbols, military handbooks, and qualified products lists were carefully and thoroughly discussed.

Mr. J. W. Caum read "Specifications in a Metals Library" prepared by L. L. Wyman. Mention was made of the problem as to what the library should have available in standards; the many sources of standards, and the sheer volume of standards that makes it impossible to have all. The criterion of acceptability is the recurrent use of a specification. Standards were classified on five levels: company; inter-company; inter-industry; international; and other standards including government and codes, such as municipal or building. The utopian setup would be to have just one international standard for each material; in many countries, the use of standards is purely voluntary whereas standards are the law of the land in others. With our rapidly advancing technology, many standards are in a state of flux, and it is a major task to keep the library up to date.

Lois Brock introduced E. N. Case, Metallurgical Editor of *Steel,* who charmed us with his talk following the dinner attended by many Cleveland Chapter SLA members. He pointed out that inter-disciplinary problems have increased with the Space Age.

* Copies of these papers are available from Alice Paulin, American Steel & Wire Division, U. S. Steel Corporation, Wire Avenue, Cleveland 5, Ohio.

Vitallium, which was first used for dental purposes, was later used for turbine blades. He recalled that Columbus didn't know where he was going; when he got there, he didn't know where he was; and when he got back, he didn't know where he had been. This is our problem or will be tomorrow. Even though scientists are doing what may soon be obsolete, Mr. Case assured us that we as librarians will not be outdated for many years, for someone will have to keep track of everything being written today or it will never be used again. He urged us to let people know the job we are doing. Each week, on the table of contents page of *Steel,* there appears "Coming Next Week"; so we must advertise our library service. A librarian is asked to be a translator in finding answers to questions that involve an understanding of content, not just form. "We want you to tell us where to go for information, not just where to go." He suggested that more articles about special librarianship should be published.

On Friday morning the International Nickel Company film "Corrosion in Action" proved a fine introduction for the following talks on corrosion. Jane Rigo, Senior Development Engineer, American Steel and Wire Division, USS, was introduced by Robert Gibson, Jr., now Head of Technical Processing, IBM Research Center. In her paper, "Corrosion Testing in the World of Steel,"* she stressed the complexity of the corrosion process, variations in corrosivity of atmosphere, and "protective rust." Slides helped us to "see" and understand corrosion. Miss Rigo concluded that the problems with corrosion in steel apply to those of all metals equally in specificity: *1)* define corrosion conditions; *2)* scan literature; and *3)* simulate conditions to obtain data.

At the Friday noon luncheon we were honored to have Dr. Carl Swartz present "Those Who Made ASM's Fifty Years Golden." Alice D. Paulin, Fall Meeting Chairman, introduced Dr. Swartz, who said that the library and the binocular microscope were the two most valuable tools to the metallurgist. "Obsolescence is an indication of progress," he said, in mentioning the change in name of ASST to ASM, which may again be changed to include materials such as plastics, ceramics, etc., which the metallurgist must now consider. Dr. Swartz continued by giving thumbnail sketches of the ASM "greats" from Bill Woodside and Bill Eisenman to Allen Ray Putnam. In closing, he said SLA librarians have helped ASM and he hopes the reverse is also true.

The final session of the Corrosion Seminar was presided over by Mrs. Katherine Faber, Chairman of the Metals Division. Mr. Bialosky, Manager, Metallurgical Laboratory, Koppers Company, headed the list of afternoon speakers with his talk "Some Plant Corrosion Problems—Their Causes and Cures." He has come in contact with a wide variety of plant corrosion problems and has cataloged them according to the form of corrosive attack. His color slides illustrated various forms of corrosion including uniform, pitting, intergranular, stress cracking, etc. Probable causes and the use of protective coatings and cathodic protection to correct the problems were discussed.

J. H. DeVan, Supervisor, Metals and Ceramics Division, Oak Ridge National Laboratory, presented "Compatibility Problems in High-Temperature Nuclear Energy Systems." This paper discussed the classifications of material interactions in current nuclear energy systems and described the research techniques used for their solution. Increasing emphasis on higher operating temperatures in nuclear energy systems has intensified corrosion problems arising both from chemical oxidation and solid-state diffusion, since temperature has an accelerative effect on diffusion processes and most chemical reactions. Examples of compatibility problems arising in used-salt, liquid metal, helium, and vacuum environments were presented to illustrate the similarities of corrosion effects encountered in today's high-temperature nuclear systems. Equipment developed for studying corrosion processes was reviewed.

Warren E. Berry, Assistant Chief, Corrosion Research Division, Battelle Memorial Institute, rounded out the Seminar with his talk "Aqueous Corrosion in Nuclear Reactors." Corrosion behavior in pressurized-water reactors, boiling-water reactors, and nuclear superheaters with respect to the nature of

the material and its function in the reactor was discussed. Uranium, thorium, and uranium carbide (fissionable materials) exhibit poor corrosion resistance to high-temperature water, while well-prepared uranium dioxide is quite resistant if there is no dissolved oxygen in the water. Typical corrosion failures include: intergranular attack of aluminum, hydriding of zirconium, and stress-corrosion cracking of austenitic stainless steel. High-nickel alloys are now being used in steam generation because they are less susceptible to cracking due to chlorides or hydroxides.

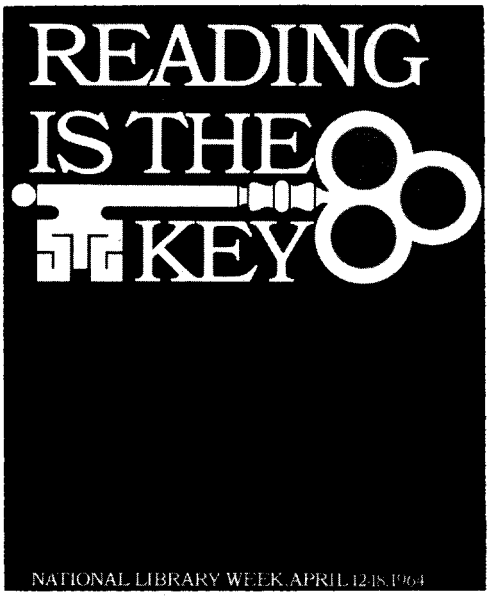
Thanks go to Alice Paulin, Chairman of the Fall Meeting, and to all the members of the Metals Division and the Cleveland Chapter who contributed so much of their time and effort to make the Fall Meeting and the SLA booth successful. Visitors to the booth asked a number of challenging questions. There were many requests for copies of the eight bibliographies, mostly on corrosion. The booth afforded an excellent opportunity to "sell" special libraries and special librarianship.

JEAN SUMMERS
Public Relations Chairman
Metals Division, SLA

Call for Hall of Fame Nominees

The SLA Professional Award and Hall of Fame Committee invites Chapters, Divisions, and individuals to present nominees for the 1964 SLA Hall of Fame. The nominee must be or have been a member of SLA. Recognition may also be awarded posthumously. Recognition is granted for outstanding contributions to the growth and development of Special Libraries Association over a period of years and is awarded near the close or following the completion of an active professional career. Nominations should reach the Committee Chairman by January 31, 1964.

EUGENE B. JACKSON, Chairman
General Motors Corporation
Research Laboratories
12 Mile and Mound Roads
Warren, Michigan



Reading Is the Key to HAPPY NLW

National Library Week is set for April 12-18, 1964, and this year the slogan and pictures will be easily adaptable to any special library promotion. READING IS THE KEY to unlock the mysteries of the past, to reveal the "state of the art," and to open new vistas to the future.

It is not too early to begin gathering ideas for your library emphasis, program, exhibits. Who are your clients? Can you interest other persons of your organization to use the "KEY," to become clients? Go after the non-readers: administrative officers, secretaries, support personnel, and all of their families. NLW would be an ideal occasion to encourage these persons to broaden their knowledge of their organization's work. Books, book lists, and publicity about the pertinent but not-so-technical books and journals could do the trick.

Let's make NLW SLANLW this year. It's a natural!

LOYD R. RATHBUN
SLA Special Representative
National Book Committee

British Librarians Came, Saw, and Will Return

IN A whirlwind two-week tour of Boston, Washington, D. C., and New York, 137 members of the Association of Assistant Librarians (a section of The Library Association, London) visited libraries, historical points of interest, museums and universities, shopped, and met and made friends with innumerable people. The success of the visit can be measured in a great part by the fact that about four librarians have made job contacts and will be coming back to the United States to work. The visit also marked the beginnings of arrangements for an exchange eastward, projected for the spring of 1965.

Sometimes the visitors were amazed at the differences and sometimes the similarities in both the professional and daily life. Some of their observations were that in some public libraries the interiors were disappointing, but visitors were surprised at the availability of films, records, and pictures; in branch libraries the appearance and stock were disappointing as well as the fact that very little use of new library methods were utilized; university libraries evoked amazement at the elaborateness of the interiors and the size of the collections, particularly the rare books, which, however, were thought not to be used effectively. Equally impressive were the large areas given to browsing, reading, and catalogs.

Ronald Surridge, President of AAL, noted that library education is a problem in the United States as well as Great Britain with imperfections in professionalism and a lack of bookmanship.

In spite of their short stay, many of the visitors had a chance to compare their preconceived notions of the United States with what they saw. Many were quite amazed at the many differences as they went from place to place and saw the social and economic extremes that do exist. They became quite aware of the intensity of our race relations problem, especially in Washington. In general, the group was overwhelmed with the affluence they found and were also impressed with the money made available for library supplies.

Upon arrival in Boston, October 9, the visitors received a welcome and traditional four o'clock tea served by representatives of the Boston Public Library Staff Association. The balance of the day was left for the visitors to meet and chat with their hosts, and the next four days were spent sightseeing and learning about Boston's libraries. Columbus Day was observed by excursions into the New England countryside, and since it was their last day, their hosts said farewell with a gala dinner and entertainment.

On Sunday afternoon four busloads of librarians arrived at the Library of Congress in Washington, D. C., where they were met by their new hosts. Wednesday's highlight was a special tour of the White House, followed by a joint reception given by the SLA Washington, D. C. Chapter and the D. C. Library Association at Washington's International Center.

En route to New York they stopped at Baltimore for a visit and luncheon with the staff of the Enoch Pratt Free Library. Monday and Tuesday tours of special, public, and university libraries in the New York City area concluded with a meeting and reception at the Donnell Library, sponsored by the New York Library Club. There the visiting librarians had a chance to give voice to their impressions.

Leave-taking on Wednesday was mixed with visiting further libraries in the city, a luncheon given by the R. R. Bowker Company, and a tour of the United Nations Library.

As a token of AAL's thanks, all regional committee chairmen and members of the tour committee received an inscribed and autographed copy of Norman Binns' *An Introduction to Historical Bibliography,* published by The Library Association.

While in Washington, D. C. the British librarians visited the Library of Congress. Here they are told of LC's functions by Acting Librarian Rutherford D. Rogers. Waiting to welcome the group are ALA President-Elect Edwin Castagna and SLA President Mrs. Mildred H. Brode.

Have You Heard . . .

Computers to Replace Medical Card Catalogs

The medical libraries at Yale, Harvard, and Columbia Universities received a $61,755 grant from the National Science Foundation to develop a computer system that will replace the card catalogs and improve information retrieval time and methods. The project, which has its headquarters at Yale, is under the direction of Frederick G. Kilgour, Librarian, Yale School of Medicine, Ralph T. Esterquest, Librarian, Harvard Medical School, and Thomas P. Fleming, Librarian at the Columbia College of Physicians and Surgeons. "The sponsors feel that the computerized catalogues will be the next major step toward increased speed and completeness of library services following the 19th-century introduction of the card catalogue, and the abstract and index journal," according to a statement from the three librarians. "Moreover, they are equally convinced that the proposed method of cooperative cataloguing based on a single cooperative catalogue will work effectively where many other techniques tried throughout the 20th century have been unsuccessful."

The project encompasses both information retrieval and mechanization of library procedures, but its main goal is information retrieval. The procedures now being developed will make possible printing library cards from information on recorded punched cards that can subsequently be stored in a computer. The ultimate aim is to have in the computer cataloging and indexing information for those books and journals that supply 80 per cent or more of the recorded use in the libraries of the three schools. Studies completed at the Yale Medical Library indicate that 40 per cent of recorded use of the library is of books, and that books published in the past 12 years supply 79 per cent of the total book usage. For this reason, only books printed since 1960 will be cataloged on the computer. The project is expected to be ready for operation in 1965 and by that time books published in the six-year period of 1960-1965 will be listed in the new way.

Associated Science Libraries of San Diego

As another example of cooperation between libraries and librarians, seven scientific and technical libraries of San Diego, California, have formed the Associated Science Libraries of San Diego. The booklet, *A Plan to Use and Improve Community Science Information Resources through Interlibrary Coopera-*

tion, has been distributed to other San Diego libraries inviting them to become members. This voluntary library cooperative hopes to give greater library services, save money by avoiding duplications of expensive publications, and provide quick and easy access to the specialized collections in the area.

As a community service the San Diego Public Library has printed the brochure, which describes the scope and purposes of the association, the science information resources of the area (nearly two million publications, 40 per cent of which are in the sciences), the availability of these resources, and the growing recognition of San Diego as a national science center. Also included is a directory showing resources, hours, and regulations of the Associated Science Libraries of San Diego as a guide to the location and use of San Diego science information resources.

Library Scholarships and Assistantships

A $1,000 Marion Dondale Scholarship is being offered by the MEDICAL LIBRARY ASSOCIATION to assist a student showing promise for medical librarianship. The scholarship is available for the summer and fall 1964 terms in any ALA accredited library school, where application forms may be obtained.

For the 1964-65 academic year the UNIVERSITY OF FLORIDA Libraries are offering several graduate assistantships for study leading to an M.A. or Ph.D. degree in a subject field *other* than library science. Stipends of $2,250 for a ten-month period require 15 hours of library duties each week, and $3,000 is for 20 hours of weekly library duty. Application forms are available from the Director of Libraries, Gainesville. Deadline for filing is March 14, 1964.

Retirement Residence Study

The American Library Association's Committee on Retirement Homes is studying the need for a librarians' retirement residence and is requesting that librarians who are planning to retire shortly or who are planning far ahead advise ALA of their needs and interest. The advisability of continuing the study will depend to a great extent upon the interest shown. Suggestions concerning location and type of residence and comments should be sent as soon as possible to Peter Spyers-Duran, Chairman, Committee on Retirement Homes, Library Administration Division, ALA, 50 East Huron Street, Chicago 11. Replies will be kept confidential.

1964 National Library Week

The seventh annual National Library Week will be launched April 12-18, 1964, with the theme, "Reading Is the Key." This same theme has been used for the past three years by Canadian Library Week, which is a similar program to that in the United States. Variations of the major theme—"Reading Is the Key to Opportunity," ". . . to New Worlds," and ". . . to Understanding," will be implemented with basic materials available from NLW Headquarters for use by local and state National Library Week committees and 60 national organizations participating in the campaign. The Chairman of the 1964 Steering Committee, which plans and directs NLW activities, is Ken McCormick, Vice-President and Editor-in-Chief of Doubleday & Company. Vice-Chairmen are Frederick H. Wagman, ALA President and Director of the University of Michigan Library, and A. Edward Miller, Publisher of *McCall's Magazine.* SLA will cooperate in the effort by conducting its third National Library Week Publicity Award contest for the most outstanding projects publicizing special libraries and their services during the Week. Diamond Alkali Company, Painesville, Ohio, will contribute the cash prizes.

Microfilm Handviewers Available

A limited supply of the Seidell-type hand viewer for 35mm microfilm, developed and distributed by the late Dr. Atherton Seidell, are available for $2 each, payable in advance, from Elizabeth Medinger, 2301 Connecticut Avenue, Washington, D. C. 20008.

P.L. 480 Program Extended

The Library of Congress Public Law 480 has been extended for 1964 to Burma, Indonesia, and Israel, where arrangements are being made to acquire materials for the Library of Congress and 22 participating American li-

braries. Survey teams visited these countries during November and December 1963 to start arrangements and establish offices.

January Information Conference

The SLA Georgia Chapter and Florida State Library School are co-sponsoring a Conference on the Organization and Utilization of Information to be held January 9-11, 1964, on the Florida State campus at Tallahassee. Systems studies in special libraries and information centers, information needs of researchers, critical problems in special libraries, and education for special librarianship and information science will be discussed by guest speakers. Introductory papers and short reading lists on the subjects under discussion will be mailed to registrants prior to the Conference. Registration fee is $15, and further information is available from Dr. Gerald Jahoda at the Library School.

Antiquarian Association Bookstore

Fifty-six United States and Canadian antiquarian and rare book dealers, who are members of the Antiquarian Booksellers' Association of America, have established a bookstore, the first time the trade has set up a central headquarters. Located in the Concourse level of Rockefeller Center's International Building, the store sells autographs, manuscripts, drawings, illustrations, and prints, and has a schedule of weekly exhibits.

Engineering and the Technical Library

The American Society for Engineering Education and the Engineering School Libraries Committee has put out a call for papers on the elimination of the technical library for the annual ASEE Conference in Orono, Maine, June 22-26, 1964. The technical library's present and future function, its educational responsibilities, the question of engineers' lack of literature orientation, and the desire for change that increased facilities and services might bring about will be discussed. Abstracts are due January 1, 1964, and all papers must be submitted by April 1, 1964, to Professor Karen G. Takle, Graduate School of Library Science, Drexel Institute of Technology, Philadelphia, Pennsylvania 19104.

Members in the News

ALBERT G. ANDERSON, JR., former Technical Information Coordinator, Bendix Systems Division, Ann Arbor, Michigan, is now Head Librarian and Assistant Professor at Worcester Polytechnic Institute, Mass.

JANICE BABB, former Librarian at the National Association of Real Estate Boards, Chicago, is Librarian at Continental National Insurance Group, Chicago.

RAYMOND A. BOHLING, former Supervisor of Departmental Libraries at the University of Minnesota, has recently assumed the newly created position of Assistant Director of Libraries at the University.

EDNA DURKEE, Director of the Wells Fargo Bank Research Library, San Francisco, since 1940, retired recently.

BERNARD M. FRY, former Deputy Head, Office of Science Information Service, National Science Foundation, is now with the Office of Technical Services, Washington, D. C.

CHARLES M. GOTTSCHALK, former Head of the Systems Identification and Analysis Section, National Referral Center for Science and Technology, Library of Congress, has been appointed Information Systems Specialist at the Information Services and Systems Branch, U.S. Atomic Energy Commission.

JEAN KERFOOT, former Assistant Librarian with the Ontario Legislative Library, Ontario, has recently been appointed Chief Librarian. She succeeds MRS. MILDRED FRASER, who had held the position since 1949.

EDWARD G. STRABLE has been promoted to Director of Library Services and Administrative Assistant to the Director of Research at J. Walter Thompson in Chicago. Mrs. ELIN B. CHRISTIANSON has become the Librarian.

In Memoriam

ELLWOOD HUNTER MCCLELLAND, Technology Librarian at the Carnegie Library of Pittsburgh for 40 years, died October 16 at the age of 85. Mr. McClelland, who had been with the library since 1904, retired in 1948 but remained active by indexing and editing publications. Before he joined SLA in 1932, Mr. McClelland founded *Technical Book Review Index* in 1917 and directed its

publication until 1928. When *TBRI* was taken over by SLA in 1935, he directed it from 1940-1948. He was the compiler or director of over 60 published bibliographies. Mr. McClelland was an Honorary member of the SLA Pittsburgh Chapter.

New Library Association Syllabus

The Library Association, England, in an effort to raise the educational standards of librarians, has initiated a new syllabus of professional examinations this fall. About 700 undergraduates have already started courses leading to these examinations, and, for the first time, most of them will be studying full-time at library schools. More post-graduate courses for graduate librarians will be available in 1964 through the establishment of schools of librarianship at Belfast and Sheffield Universities, in addition to the 44-year-old post-graduate school at London University. As a further step toward better standards, the Association of Assistant Librarians has dropped its 40-year-old correspondence courses and will offer no courses in connection with the new syllabus. For graduates, the new courses will last from three to four terms; for non-graduates, from six to seven terms, according to the school they are attending. After successfully completing the course, they must show completion of two years of library service, of which at least one must follow directly after the course. They are then eligible to apply to be registered as chartered librarians in the category of Associate in the Association. Student librarians are required to have a General Certificate of Education with at least two "A" levels, because the Association no longer examines in general subjects but confines itself to the bibliographical aspects of special subject fields.

Miniaturized Filing System

Docuform, a system developed by Documentation Incorporated, Bethesda, Maryland, can store over 100 standard size pages on a 5 x 8 inch unit of transparent film, which can also be used for reproduction purposes. The reduction ratio is approximately 18-1. It is estimated that the Docuform contents of its shoe box-size filing cabinet is equivalent to 200 standard size filing cabinets. In addition, color-coded tabs on each Docuform allows rapid selection from the file for viewing or reproduction on most microfilm reader-printer equipment.

Coming Event

Rome, Italy will be the meeting place for the CONGRESSO INTERNAZIONALE DOCUMENTAZIONE SCIENTIFICO TECHNICA during February 2-11, 1964. Papers, in the three languages of the Congress, English, French, and Italian, will be presented on the methods of operation in documentation centers and the handling of information. An exhibit area is also planned. Further information may be obtained from the Executive Secretariat, CNP, Viale Regina Margherita, 83D.

Xerox Catalog Card Reproduction

Duplication of catalog cards on identical card stock the same size as the original is being offered by the Reproduction Service Center of Xerox Corporation. The original cards, which are sent in special mailers provided by the Center, are microfilmed in sequence, processed, and returned in the same order. The copies are of durable stock of 100 per cent rag content, and cost is only a few cents per card. Samples will be sent on request from Reproduction Service Centers, 700 Midtown Tower, Rochester 4, New York. Other centers are located in principal cities in the United States and Canada.

Defense Documentation Center Transfer

The Defense Documentation Center for Scientific and Technical Information, which has been under the operational control of the United States Air Force, has recently been transferred by the Department of Defense to the Defense Supply Agency in an effort to provide a direct channel of information with which DDC can provide DOD-wide document services. The location of the DDC at Cameron Station in Alexandria, Virginia, will not be changed, but studies are being made to determine the necessity of organizational structure changes. The primary aim of the DDC is to acquire, store, and announce

all technical reports prepared as the result of defense research, development, test, and evaluation activities and provide copies of these reports to the defense community free of charge. The DDC also conducts bibliographic searches and maintains a file of current R&D efforts in DOD.

Physics Documentation Project

The American Institute of Physics' Documentation Research Project, which is attempting to make journal articles and meeting papers more readily available to physicists, will continue its study for another year with the support of the National Science Foundation. One of the tasks of the project has been to query physicists to find out their requirements for a retrieval system. Once the answers have been analyzed, a retrieval system will be developed and applied to a pilot body of physics literature. Other retrieval methods being studied include a citation index, which lists a particular work together with all of the other works referring to it; a "current awareness journal" to alert physicists to research about to be published; a xerographic means of preparing several complete indexes from one typing operation as part of the solution to the storage of information and the publication of indexes to this information. A comprehensive study of *Physics Abstracts* is being made, and work is also being undertaken on the development of an educational program for personnel in scientific information centers to insure wide use of the project systems.

Letters to the Editor

CONFUSION BETWEEN DETROIT PUBLISHERS

Partly as a result, I trust, of our advertisements in *Special Libraries,* there seems to have been an increased incidence in mis-addressed orders involving Gale and our neighbor, American Data Processing, Inc. Whether the increased confusion actually comes from our becoming known to more sci-tech libraries, I can not really say, but we do have a definite problem in this respect.

To help librarians and jobbers place their orders with the source they intend, we would like to point out that the Gale Research Company is an independent organization not affiliated with any other publisher.

In particular, it should be pointed out that, although the two firms are friendly neighbors on the same floor of the same Detroit office building, there has never been any business connection whatever between Gale and American Data Processing, Inc.

JAMES M. ETHRIDGE, Editorial Director
Gale Research Company
Detroit, Michigan

SLA ACCREDITATION?

Having attended the recent annual conclave in Denver and having also just come away from reading the October issue of *Special Libraries,* I may, I suppose, modestly assert that I am somewhat familiar with the current issues and problems in "education for special librarianship."

I am aware of the prodding provided by such sharp critics as Alan Rees, Claire Schultz, and Dr. Robert Hayes, who are of the opinion that library schools generally are not preparing librarians for the "new wave" of computers and teaching machines. I am conversant also with the sometimes defensive and sometimes brave stance assumed by library school representatives, such as Neal Harlow and Stuart Baillie, in responding to such criticism.

In all this welter of argument and counter-argument, however, I have yet to hear or see a single reference to a proposition the importance of which, it seems to me, transcends any other, namely—the proposition that SLA become actively, officially, and wholeheartedly involved in the business of accrediting library schools.

Many of the comments made at Denver and elsewhere have strongly implied this, but no one, to the best of my knowledge, has openly urged it. And yet it should be urged. No greater commitment can be made by a professional society than to the proper preparation of the people entering its ranks. In the United States, this responsibility has been entrusted to the professional society, and those in the fields of medicine, law, engineering, journalism, pharmacy, education and many others have assumed it, have established educational standards, and have made it their business to maintain them.

In the library field, this function has been performed single-handedly by the American Library Association and performed well, conscientiously, and almost continuously since 1926. How passing strange it is that in the nearly 55 years of SLA's existence, it has not seen fit to do more than lend a more or less occasional hand.

The question I raise is, in view of the ferment now taking place in the library world, in view of the continued, uncoordinated outcropping of new educational programs in such places as Drexel, Western Reserve, Georgia Institute of Technology, Lehigh University, et al., is it not incumbent upon us, as a professional society, to have a voice in the direction of education? Can we afford to continue to evade this responsibility and still consider ourselves a profession? Can ALA "go it alone?"

Questions such as these may become merely rhetorical ones in the near future unless we act.

Our role may be preempted and the opportunity lost to others who are bolder and quicker. Already, in the just concluded meeting of the American Documentation Institute in Chicago, the recommendation was made by Dean John Harvey of Drexel that ADI "make itself responsible for and carry out the accreditation of instructional programs in information science in this country."

A Commission on a National Plan for Library Education has been established on which SLA is represented. I feel that this is the time for us to take the initiative by proposing that a Joint Committee on Accreditation be created, consisting of representatives of ALA, SLA, and ADI, and that this committee be empowered to develop and maintain educational standards for the library profession in all of its phases.

As Chairman of the Education Committee of the Connecticut Valley Chapter of SLA, I have already broached this proposition to our members, and we, hopefully, will arrive at a recommendation to Association Headquarters and the Advisory Council for immediate action. Other Chapters will, I trust, be similarly interested and will so move.

AARON L. FESSLER, Chairman
Education Committee
Connecticut Valley Chapter, SLA

THE NEXT STEP IN LITERATURE SEARCHING

James M. Jacobs' recent article on literature searching (*Special Libraries,* vol. 54, no. 6, page 349) is one of those infrequent steps forward in an otherwise languishing discipline. Incredible as it may appear, there is very little substantive data to justify the various individual, and sometimes highly peculiar, methods of literature searching. Recommendations can be gleaned from miscellaneous guides to the literature, but most of them serve chiefly as source enumerators rather than guides. Few of them will dare to tell the innocent reader what to do first, then second, then after that, and with good reason. There is no research data.

Special librarians, and especially their reference people, have neglected to gather, sort out, assemble, and classify the kinds and forms of literature surveys. They have failed to recognize properly their own responsibility to bring literature searching out of its blundering, often inefficient, methods and lead it into procedures based on a careful analysis of the best way to accomplish the job.

There are many, of course, who acknowledge that machine methods can solve, in principle, most of the problems of literature searching. Machine methods, however, cannot be very successfully applied if one does not know what to do next. Literature searching may be likened to a chess game in this regard for the first few moves are very thoroughly known, and reference workers generally apply one or the other of them without particular thought. The successive moves are not so well known and cannot be handled conveniently by machine methods until they are analyzed exhaustively. The immense variety of prospective patterns for searching makes a rigorous analysis of literature searching quite improbable.

On the other hand, people have been doing literature searching for years. Some of them are doubtless efficient, some are possibly inefficient, but the only way we can ever discern which is which is to study how it is being done by humans, then attempt to simulate these procedures by machine. This can only be done when those involved with literature searching begin to realize the need for careful documentation of their own methods of work. How many of the references in a survey were found in abstracts, in bibliographies, in footnotes, in personal files? Where is the strategy of a literature search formulated? What is the optimal way to find any specific piece of information? These are valid questions that cannot be answered with the stereotype of "experience." There must be a solution, and special librarians had better find it.

FRANK S. WAGNER, JR., Technical Librarian
Celanese Chemical Company, Clarkwood, Texas

TECHNICAL LIBRARY BULLETINS TO BE COLLECTED

A committee from the San Diego Chapter of SLA proposes to collect and evaluate library bulletins from the Aerospace and Engineering Sections. A selection will be made of those that meet the criteria of a *good bulletin.* These criteria will be arrived at by the committee, but suggestions and bulletins are expected from member libraries.

The committee plans to display the best bulletins at the Annual Convention in St. Louis in June 1964. The purpose of all this will be to point up techniques for reaching the library user through appealing announcement forms.

SLA members can help in this project by sending copies of bulletins with a brief letter containing the following information:

1. Amount of bulletin circulation and method of distribution.
2. Approximate size of technical staff served by the library. (Size of operation will not necessarily be a factor in selection of best bulletins.)
3. Suggestions as to what a library bulletin should include.

If a bulletin usually contains classified or proprietary information, a sample bulletin with these entries deleted could be substituted. All bulletins will become the property of the committee. Senders should be careful to fully identify their library by giving complete title and address. Bulletins should be sent immediately since a deadline date of April 1, 1964, will be observed.

Mail materials to:
Theodore Peck, Chairman
Bulletin Committee
General Dynamics/Astronautics
Library and Information Services, 128-00
Post Office Box 1128
San Diego, California 92112

THEODORE PECK

Off the Press . . .

Book Reviews

DIRECTORY OF SPECIAL LIBRARIES AND INFORMATION CENTERS. *Anthony T. Kruzas,* ed. Detroit: Gale Research Co., 1963. 767 p. $25 (L.C. 62-15815)

Because this is the most comprehensive and up-to-date directory of special libraries and information centers available, it should be a "must" purchase for most libraries, special and otherwise. The directory has certain limitations, however. These will be pointed out later.

The rapid expansion and growth of the special library movement, especially since World War II, can be seen in an examination of this directory, which includes more than 10,000 special libraries compared to the 2,423 included in *Special Library Resources* published by SLA from 1941-1947 and compared to the 1,154 included in the *Special Libraries Directory* published by SLA in 1935, the only directories with national coverage with which it can be compared. *The American Library Directory* published by Bowker biennially includes only selected special libraries, and other SLA directories are merely membership lists.

The main body of this directory is divided in two parts: "Directory of Special Libraries in the United States" and "Directory of Special Libraries in Canada." The appendices include nine special lists: U.S. Information Agency Libraries; U.S. Regional Libraries for the Blind; U.S. Government Depository Libraries; U.S. Army Map Service Depository Libraries; Libraries with U.S. Patent Files; U.S. Regional Technical Report Centers; U.S. Atomic Energy Commission Depository Libraries; Libraries in the U.S. and Canada Receiving U.N. Material; and Libraries of the United Nations Specialized Agencies. A foreword by the Executive Director of SLA, an introduction, a description of listings, and a subject index complete the volume.

The arrangement in the two main lists of the *Directory* is alphabetic with a few exceptions. That of the nine special lists varies. One is by continent, some are by city, and some are by state or province as the case may be.

Generally speaking, the information given for each special library in the two main lists includes: name of organization; name of library or information center; area of principal subject interest; address; head of library or information center; telephone number; founding date; staff; subjects; special collections; holdings; services; and publications (serial or periodical). Except for the libraries of the United Nations and its specialized agencies, no detailed information is given in the nine special lists.

In evaluating this *Directory,* one must deplore the lack of a geographic index. A personnel index would have also been an asset. The subject index itself seems satisfactory, but it refers to an entry first by page number and then by the letter of the alphabet, which would have been assigned to that entry had the entries on the page been designated by letters beginning with A. It would have been a timesaver had the letters themselves been placed next to the entries. Actually a numerical designation would be even better for one could then tell at a glance how many special libraries are in each list and exactly how many are included in the *Directory* as a whole. So far as entry information goes, a spot check showed it to be accurate except for names of personnel. In some cases the personnel information has not been correct since the fall of 1961. One wonders why at least one follow-up was not made in 1962 to verify information given in the summer of 1961. True, personnel changes may occur any day. However, 1962 data are better than are data for 1961! This reviewer checked to see whether various libraries are included. The only omission she found was the U. S. Treasury Department Library, which certainly seems important enough to be included even if no questionnaire were sent in.

In a future edition one hopes that "holdings" will be spelled out in some detail. The number of books may interest some, but the number of periodical volumes means little unless one knows which periodicals are bound. And even that information does not mean much unless one has some idea of the run of the more important ones. Finally, one hopes that a future edition might give more detailed information about collections. In *Special Library Resources,* for instance, the Metropolitan Life Insurance Company Library entry covers two pages. In the *Directory* this entry occupies less than two inches. Granted a more detailed directory would cost at least double the cost of this one. This reviewer believes that it would be so useful that most *special* libraries at least would gladly stand the cost, everything else being equal.

Despite the above shortcomings, this *Directory* is the best thing of its kind since *Special Library Resources* and should prove valuable to libraries, library users, and researchers in all fields.

MARY P. MCLEAN, Business Librarian
Newark Public Library
Newark, New Jersey

BOOK CATALOGS. *Robert E. Kingery and Maurice F. Tauber,* eds. New York: The Scarecrow Press, 1963. 330 p. $7 (L.C. 63-7470)

"A book catalog," says Dean Shera, "looks good like a bibliography should." And back from the dust of the nineteenth century returns the book catalog to the machine-conscious modern li-

brary. More than 50 book catalogs have appeared since the Library of Congress in 1942 announced the *Catalog of Books Represented by Library of Congress Printed Cards.*

Last spring an article in *Special Libraries** set us on the task of producing a book catalog for our 275 field stations. What we needed then was *Book Catalogs* edited by Robert E. Kingery and Maurice F. Tauber. Alas, it appeared just as our product was in the maw of the computer, but it will serve as a guide to the hundreds of book catalogs to follow.

The past and future of the book catalog is reviewed in the section labeled Backgrounds. Next, the editors present four articles on the relation of the book catalog to the card catalog. Agnes Tysse's "Card Catalog Versus Printed Book Catalogs and the Catalog Users" is one of these four. Technical details of production of book catalogs occupy the next three sections of 13 articles, well over half the book. These sections are entitled Techniques, Standards, and Applications. Appendix A on the Union Catalog Workshop of the California State Library is well worthwhile.

The book is a child of the Interdivisional Committee on Book Catalogs of the American Library Association. This group asked the editors to assemble the extant and certain new papers on book catalogs into book form. Like other similar compilations, the product as it exists is a maze of incisive writing, wearying redundancies, uneven composition, and information jewels. Nearly everything one wishes to know about the subject is in the book, but it must be sought after. The topic of book catalog versus card catalog is done to death with the expected decision that there is place for both. Let, a significant illustration for an article by Hubbard Ballou, mentioned on page 112, is omitted with others for economy. Perhaps the Committee will now see fit to follow this welcome pioneering work with a tightly written textbook on the subject.

Your reviewer recommends that librarians (especially uninformed librarians such as this one) interested in book catalog production hasten to acquire a copy of this book.

ERIK BROMBERG, Librarian
U. S. Department of Interior
Portland, Oregon

Management Reprint Available

A six-page reprint of the article, "Are You Ready for a Company Library?" published recently in *Administrative Management,* is available gratis from Association Headquarters. The needs for small and large company libraries are discussed by the author, Peter R. Weill, Associate Editor.

* W. A. Wilkinson. A Machine-Produced Book Catalog: Why, How and What Next? *Special Libraries,* vol. 54, no. 3, March 1963, p. 137-43.

New Serials

AUTOMATICA, an international quarterly on automatic control and automation, publishes the results of theoretical and experimental research and development in the field and provides a medium for the multilingual publication of information and news of interest to scientists and engineers. Subscription rates for libraries are $30 a year, and the journal is available from the publisher, Pergamon Press.

CHOICE: BOOKS FOR COLLEGE LIBRARIES is a monthly, which will begin publication in late 1964 with a four-year $150,000 grant from the Council on Library Resources, Inc. It will review trade, university, text, and quality paperback books close to publication date or before. Subjects of interest to liberal arts curriculum, including pure science, for undergraduate college libraries, public, and high school libraries will be covered. Editorial offices are in the Olin Library of Wesleyan University, Middletown, Connecticut.

INTERNATIONAL INFORMATION SERVICE, formerly *The World in Focus,* is published quarterly by the Library of International Relations in Chicago. The journal is a guide to current source materials, including approximately 1,000 periodicals from throughout the world. Selections emphasize factual data, documentary sources, scholarly analyses, and commentaries on current problems and issues. Yearly subscription rate is $10.

WELFARE IN REVIEW is published monthly by the Welfare Administration of the Department of Health, Education, and Welfare. Contents include articles, statistics, reports, and notes of interest concerning the offices and bureaus of the Administration. Annual subscription price is $2.50, available from the Superintendent of Documents, U.S. Government Printing Office. The Annual Statistical Supplement is 75 cents.

WORLD BIBLIOGRAPHY OF SOCIAL SECURITY is divided into three parts: *1*) entries of current nonperiodical literature in the field; *2*) references to important articles in social security periodicals; and *3*) a chronological list of references to all legislative texts concerning social security. Classification is by country, and items in parts 1 and 2 are in the original language of the document. Published quarterly by the International Social Security Association's Documentation Service, 154, rue de Lausanne, Geneva, Switzerland, the annual subscription price is $10.

Russian Physics Index Available

The Russian journal *Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki* (USSR) has prepared a cumulative index for volumes 16-39 for the years 1946-60. The index has been published as volume 45, number one, July 1963. The American Institute of Physics translation of the index will appear as *Soviet Physics, JETP,* volume 18, number one,

January 1964. The English version will contain references to the volume and page of *Soviet Physics, JETP,* for volumes 28-39 of the original journal. The files of the SLA Translations Center at the John Crerar Library in Chicago will be searched in an effort to indicate the availability of translations of papers published in volumes 16-27. The AIP volume includes a subject and an author index and can be purchased for $8 from the Institute.

SLA Authors

CASELLAS, Elizabeth. Sources of Information for Electronics Product Engineers. *IEEE Transactions on Product Engineering and Production,* September 1963, N. Y.: The Institute of Electrical and Electronics Engineers, Inc. (Reprints available gratis from requests on company letterhead to Library, Stewart, Dougall & Associates, 405 Park Avenue, New York 10022.

CLAPP, Verner W. "Permanent/Durable" Book Papers. *ALA Bulletin,* vol. 57, no. 9, October 1963, p. 847-52.

CORY, John Mackenzie. The Slow Cool Burning. *Wilson Library Bulletin,* vol. 38, no. 3, November 1963, p. 262-70.

DANIELLS, Lorna M. Studies in Enterprise, 1962. *The Business History Review,* vol. 37, no. 3, Autumn 1963, p. 251-65. Also available as a separate.

GARFIELD, Eugene. Citation Indexes in Sociological and Historical Research. *American Documentation,* vol. 14, no. 4, October 1963, p. 289-91.

HYSLOP, Marjorie R. A Compatibility Study of Two Information Systems. *American Documentation,* vol. 14, no. 4, October 1963, p. 292-8.

RICHMOND, Phyllis A. Review of the Cranfield Project. *American Documentation,* vol. 14, no. 4, October 1963, p. 307-11.

WARNCKE, Ruth. Public Library Services to Adults Working With Children. *Library Trends,* vol. 12, no. 1, July 1963, p. 84-91.

WOOD, James L., et al. Foreign Literature of Chemistry. *Science,* vol. 140, no. 3567, May 10, 1963, p. 610-13.

New Jersey Membership Directory

SLA's New Jersey Chapter has recently published its *Membership Directory 1963-1964.* It contains listings of Chapter officers, committees and members, and Sustaining members; organizations arranged alphabetically; Chapter members with home addresses and telephone numbers; and a subject index. Copies are available for $1 from Mrs. Emma A. Warren, Medical Research Division, Esso Research & Engineering Company, P.O. Box 45, Linden, New Jersey 07036.

Preparation of 1964 Library Directory

R. R. Bowker Company, publishers of the *American Library Directory,* has mailed questionnaires for the 24th edition to be published in 1964. Libraries will receive clippings of their entries in the current edition for revision. If librarians do not receive a copy of the questionnaire, they should request one from the publisher at 1180 Avenue of the Americas, New York 10036. The *Directory* includes university, college, public, and special libraries in the United States and Canada as well as the major research libraries overseas.

Technical Meetings Information

Technical Meetings Information Service has started a two-part service to provide information about technical, scientific, and medical meetings. *Technical Meetings Index* lists the name, date, sponsor, and other pertinent details of meetings, on a quarterly basis, and each week *Calls for Papers* is issued, indicating the deadlines for abstracts and papers at the various technical meetings. The current issue of the *Index* lists information on over 500 meetings taking place from September 1963 to August 1965. The Service is available at $25 a year, which includes a four-week trial period, from TMIS, 22 Imperial Drive, New Hartford, New York 13413.

Technical Translations Index

The Cumulative Index to *Technical Translations,* volume 7, January-June 1962, and volume 8, July-December 1962 are available from the Government Printing Office for $1. Contents include an author, subject, journal, and number index. *Technical Translations* is published by the Office of Technical Services, U. S. Department of Commerce.

Reprints of "Times" Index

Out-of-print back numbers of the New York *Times Annual Index* will be reprinted by R. R. Bowker and Company, and volumes covering 1930-1960 will be available in early 1964. Plans have also been made to produce a complete *Times Index* file back to the first issue in 1851, including the previously unavailable volumes 1905-12. Each *Index* will be $44.50 postpaid, available from Bowker.

Industrial Relations Institute

The publishers of the *Industrial Relations News,* 230 West 41st Street, New York 10036, a weekly newsletter for the industrial relations/personnel field, has established an Industrial Relations Institute. The immediate objectives of the Institute, which is open to librarians, will be to foster, through editorial activities, a greater appreciation of the industrial relations function and conduct an annual survey of the profession. A subscription to *IRN* includes membership in the Institute. Members will receive the first annual survey by the Institute, "The Industrial Relations Executive," a bimonthly bulletin reporting the Institute's activities, and a certificate of membership. Subscriptions are $48 for one year, $88 for two years, and $128 for three years. Add $9 for mailing outside the United States and Canada.

RECENT REFERENCES

Librarianship

COHEN, Nathan M., et al. *Library Science Dissertations: 1925-60* (OE-15044, Bulletin 1963, no. 38). Washington, D. C.: U. S. Dept. of Health, Education, and Welfare, Library Services Branch, Bureau of Educational Research and Development, 1963. viii, 120 p. pap. 75¢. (Available from Government Printing Office)

Lengthy annotations of doctoral dissertations relating to subjects in library science completed between 1925 and 1960. Entries are arranged chronologically within each broad subject category. Subject and author indexes.

GAVER, Mary V. *Patterns of Development in Elementary School Libraries Today.* Chicago: Encyclopaedia Britannica, 1963. 27 p. pap. 50¢.

A study of current trends and practices based upon the 84 applications for the 1963 Encyclopaedia Britannica School Library Awards. Comparative tables, brief bibliography.

MAHAR, Mary Helen, ed. *The School Library as a Materials Center: Educational Needs of Librarians and Teachers in Its Administration and Use* (OE-15042, Circular 708). Washington, D. C.: U. S. Department of Health, Education, and Welfare, Office of Education, 1963. viii, 84 p. pap. 50¢. (Distr. by Government Printing Office)

The proceedings of a conference held May 16-18, 1962, to explore new requirements in the professional education of school librarians and teachers. Contains the 13 papers presented at the conference, conference summary, and list of participants.

MARTIN, Gordon P., et al. *Recruitment and Training of Staff and Support of Staff Dissemination Activities at the American Library Association Library 21 Exhibit Seattle World's Fair* (B-252). Seattle: University of Washington, School of Librarianship (in cooperation with U. S. Department of Health, Education, and Welfare), 1963. v, 118 p. pap. illus. mimeo. spiral binding. $3.

A report describing and analyzing the experiences drawn from the Library 21 Exhibit. The exhibit was conceived as a "Library of the Future," to demonstrate to the public the latest forms of library service and design, the newer educational media, and advanced storing and retrieving methods. Appendices.

THOMPSON, Anthony. *Vocabularium Bibliothecarii,* 2nd ed. Paris: Unesco, 1962. 627 p. $5.75 paper; $7 bound. (Available from Unesco Publications Center, 317 East 34th St., New York 16, N. Y., or from Columbia University Press.)

A multilingual (English, French, German, Spanish, Russian) glossary of library terms classified by subject under UDC numbers. Bibliography.

Bibliographic Tools

ANDREWS, Theodora. *World List of Pharmacy Periodicals.* Washington, D. C.: American Society of Hospital Pharmacists, 2215 Constitution Ave., N.W., 1963. 43 p. pap. $1.50.

A reprint from the *American Journal of Hospital Pharmacy,* vol. 20, no. 2, February 1963, listing over 900 pharmacy periodicals in 65 countries, based on a preliminary listing by Winifred Sewell.

BALLOU, Eleanor F. *Reference Books* (PACAF Basic Bibliographies for Base Libraries). San Francisco: 1963. viii, 181 p. pap. spiral binding. Apply. (Available from Commander-in-Chief, Pacific Air Forces, ATTN: PFPPS-P, Command Librarian, APO 953, San Francisco, Calif.)

Annotated bibliography to aid in building basic reference collections for the use of U. S. military and civilian personnel and their dependents. Reference books for elementary school children are not included. Author-title index.

BENNETT, Melvin. *Science and Technology: A Purchase Guide for Branch and Small Public Libraries.* Pittsburgh: Carnegie Library, 1963. 64 p. pap. $4.50.

A guide for the selection of books on the high school, college, and adult non-specialist levels. 1,034 titles of which 842 are annotated. Index.

British Technology Index, 1962. London: The Library Association, 1963. x, 902 p. $30.

First annual cumulative volume of the *British Technology Index,* which has appeared monthly since the beginning of 1962. 28,000 entries relating to technical articles, cross-indexed by subject, from 400 British journals in all areas of engineering and chemical technology. Index of journals. The subscription rate for full service (12 monthly parts and annual volume) is $50.

COLLINS, Robert and DUIGNAN, Peter. *Americans in Africa: A Preliminary Guide to American Missionary Archives and Library Manuscript Collections on Africa* (Hoover Institution Bibliographical Series: XII). Stanford, Calif.: Hoover Institution on War, Revolution, and Peace, Stanford University, 1963. viii, 96 p. pap. $2 (L.C. 63-16262)

An introductory inventory of library and other collections in the United States containing American documentation of American commercial, missionary, philanthropic, and scientific activities in Africa. Index.

Correlation Index to Current Department of Defense Research Reports. Cambridge, Mass.: Massachusetts Institute of Technology in cooperation with the Universities of California, L.A., and Washington, 1963. $10. (Available from Richard Snyder, Associate Director of Libraries, MIT.)

Contains a listing, by Defense Document Center accession number, of microfilm reports on deposit in OTS's nationwide system of Regional Technical Report Centers, plus a correlation index arranged by issuing agency report number. This section indexes *U.S. Government Research Reports* and the unclassified section of *Technical Abstracts Bulletin* from June 1962 through June 1963. Semimonthly

supplements are planned and will be cumulated monthly and quarterly.

DONOHUE, Joseph C. *Industrial Resource Allocation: A Bibliography and Report of Literature Search* (SP-212). Santa Barbara, Calif.: Tempo, General Electric Co., 1963. ii, 25 p. pap. spiral binding. Apply.

Under the headings "Planning Stage," "Organization Stage," "Integration," and "Evaluation," material useful to management in the resource allocation process, are given. Method of compilation described.

FOX, Gertrude. *Design of Laboratory Facilities: A Classified List of Selected References,* Supplement I, 1949-1963. Bethesda, Maryland: U. S. Dept. of Health, Education, and Welfare, Division of Research Services, 1963. iii, 6 p. pap. mimeo. Apply.

References omitted from *Design of Laboratory Facilities: A Classified List of Selected References, 1947-1962,* as well as literature that has appeared since original list was issued.

Classification and Cataloging

HERALD, Althea C. *Processing Manual: A Pictorial Workbook of Catalog Cards,* 2nd ed. Teaneck, N. J.: Fairleigh Dickinson Press, 1963. 88 p. pap. $6. (L.C. 63-17823) (Correction of October listing.)

NORRIS, Elizabeth D. *Intergroup Relations: A Special Subject Heading List Used in the Library of the National Conference of Christians and Jews.* New York: Paula K. Lazrus Library, NCCJ, 43 West 57th St., 1963. iv, 21 p. mimeo. unbound. $1.

This classification system has been devised keeping in mind the basic concepts of intergroup relations in American society. Appendix of selected definitions.

RANGANATHAN, S. R. *Elements of Library Classification,* 3rd ed. (Ranganathan Series in Library Science No. 8). Bombay: Asia Publishing House, 1962. 168 p. $5. (Distr. by Taplinger Publishing Co., New York, as of October 30, 1963)

Based on a series of lectures at the University of Bombay and in the schools of librarianship in Great Britain, this manual by a distinguished Indian teacher and librarian sets forth for beginners the principles and practice of library classification. Index.

Directories

ADAMS, Mary Ann, ed. *Foreign Service Directory of American Librarians.* Chicago: American Library Association, 1963. 98 p. pap. $2. (Available from Marie Rapp, Treasurer, University of Illinois Library, Navy Pier, Chicago 11.)

Roster of United States librarians who have had experience in foreign countries or overseas possessions of the United States.

American Book Trade Directory, 16th ed. New York: R. R. Bowker Co., 1963. xii, 853 p. $25. (L.C. 15-23627)

Biennial directory of American book publishers, booksellers, auctioneers, dealers, export representatives, importers, exporters, wholesalers, book clubs, and book trade organizations, with a special section covering the British book trade and another listing publishers and booksellers all over the world.

Biographical Directory of Fellows and Members of the American Psychiatric Association. New York: R. R. Bowker Co., 1963. xx, 645 p. $25. (L.C. 63-12595)

Biographical data, as of May 8, 1962, on 13,000 active psychiatrists in the United States and Canada, 3,000 more than in the last edition in 1958. Geographical index.

BOWYER, Carlton H., comp. *The Directory of Education Associations.* Emporia, Kan.: Teachers College Press, 1962. v, 157 p. pap. $3.

Covers adult education, agriculture, the arts, social sciences, science, religion, the professions, and student organizations. Information given on founding date, sources of revenue, history, and purposes. Index.

Directory of British Scientists, 1963. England: John Grant; New York: St. Martin's Press, 1963. xxxii, 1289 p. $24. (L.C. 63-11074)

Contains 30,000 entries listed alphabetically and also classified by fields. Also lists scientific societies and their journals, other scientific periodicals, and research establishments.

Guia de Bibliotecas de la America Latina, provisional edition (Columbus Memorial Library Bibliographic Series No. 51). Washington, D. C.: Pan American Union, 1963. viii, 165 p. pap. mimeo. $5.

A directory of Latin American libraries, both public and specialized, arranged by country. Text in Spanish.

1963 Certified Products List. New York: Institutional Research Council, Inc., 1963. 40 p. pap. $1. (Distr. by American Library Association.)

"A listing of cleaning and maintenance products, commercial carpets and textiles which have been laboratory tested and/or certified to comply with the prescribed standards for 1963." Includes directory of cleaning product manufacturers, textile manufacturers, distributors, and suppliers.

Photocopies from Abroad, 3rd and rev. ed. (FID publication 347). The Hague, Netherlands: Fédération Internationale de Documentation, 1963. 28 p. pap. 5 Dutch guilders.

A directory of photocopying and microcopying services supplying reproductions of documents in 38 countries. Includes a questionnaire to facilitate the correction of future editions and the inclusion of new listings. Published in cooperation with UNESCO. Text in English, French, and German.

OTASH, Fred. *1963 International Directory and Almanac.* Hollywood, Calif.: Fred Otash Publications, Inc., 949 North Fairfax Ave., 1963. 292 p. $25.

A directory of American and foreign private

detectives, adjusters, repossessors, collection agencies, credit reporters, and patrol services. Also contains information on where to write for birth, death, marriage, and divorce records, gives the licensing and wire tapping laws for each state, and has articles on such subjects as lie detection, missing persons, shoplifting, espionage, etc.

United Kingdom Kompass Register, 3 vols. Croydon, Surrey, England: Kompass Register Ltd., 1963. Various paging, tables, thumb index. Apply.

Lists some 30,000 products and services and their manufacturers or suppliers in the British Isles, with detailed descriptions of 18,000 British companies. Entries are in English, French, German, Spanish, and Italian. Second edition, in preparation for the spring of 1964, is priced at 15 pounds, 15 shillings.

Dictionaries

DEVRIES, Dr. Louis and CLASON, W. E., comps. *Dictionary of Pure and Applied Physics,* vol. 1. New York: American Elsevier Publishing Company, 1963. $9.95.

Volume one is the German to English version; the second volume, from English to German, will be published in January 1964 at the same price. Contains over 31,000 terms including commonly used technical words in related fields.

EMIN, Irving. *Russian-English Physics Dictionary.* New York: John Wiley & Sons, 1963. xxx, 562 p. Apply (L.C. 63-8056)

Compiled with the collaboration of the Consultants Bureau staff of physicist-translators, this dictionary gives the Russian vocabulary for all important branches of physics, mathematics, and related sciences. Includes pertinent general terms, names of instruments and parts, Russian abbreviations, and transliterations of the names of many non-Russian scientists as well as technical word endings and grammatical reference material. An appendix of ruled pages is provided for the addition of further equivalents.

The European Communities: A Glossary of Legal Terms in the French Texts of the Treaties Establishing the European Atomic Energy Community, the European Coal and Steel Community, and the European Economic Community and Related Documents. London, England: Her Majesty's Stationery Office, 1962. iv, 26 p. pap. 40 cents from British Information Services, 845 Third Avenue, New York 22.

Glossary is not exhaustive, but it attempts to list terms where exact English equivalents of the French are not readily available.

FREEMAN, Henry G. *Spanende Werkzeug-Maschinen* (Metal-Cutting Machine Tools). 43 Essen, Ger-Str. 3, West Germany: Verlag W. Girardet, 1963. 1,169 p. $42.50. (Also distr. by Henry Brutcher, Box 157, Altadena, Calif.)

80 per cent of the 30,000 terms in this English-German dictionary not found in other dictionaries, and hundreds of terms receive up to 18 differentiated renderings. Tables, conversion charts, line drawings, and photographs included.

Funk & Wagnalls Standard College Dictionary. New York: 1963. xxvi, 1606 p. $7.50 thumb index; $6.50 plain. (L.C. 63-17360)

Over 150,000 entries, including new scientific, technological, and cultural terms. Biographical and geographical entries are included in the general A-Z listing; pronunciation key printed on each page. Illustrated.

SLIOSBERG, A., comp. *Elsevier's Medical Dictionary.* N. Y.: American Elsevier Publishing Company, 1963. 1,910 p. $45.

Medical terminology in English, French, Italian, Spanish, and German, including 34,506 English terms. All non-English terms are separately indexed and bear a reference number, which refers to the table where they are found.

Information Storage and Handling

Electronic Computer Systems (NFPA No. 75). Boston, Mass.: National Fire Protection Association, 60 Batterymarch Street, 1963. 30 p. pap. 60¢.

A newly revised standard classifying computers by construction, design features, and protection needs, outlining necessary measures for the protection of the computer area as well as the tapes and records, and giving detailed emergency fire procedures. Glossary.

KUENTZEL, L. E., ed. *CODEN for Periodical Titles: An Aid to the Storage and Retrieval of Information and to Communication Involving Journal References* (ASTM Special Technical Publication No. 329). Philadelphia: American Society for Testing and Materials, 1916 Race St., 1963. [vi], 426 p. $20; $16 to ASTM members (L.C. 63-15617)

Lists a set of about 20.000 newly devised four-letter codes or CODEN for the titles of scientific periodicals, as an aid in storage and retrieval, in the preparation of bibliographies, and in general communication involving references to published material. Annual supplements to be issued.

LITTLE (Arthur D.), Inc. *Centralization and Documentation: Final Report to the National Science Foundation* (C-64469). Cambridge, Mass.: 1963. iv, 70 p. pap. mimeo. spiral binding. (Available from Office of Technical Services, Department of Commerce, $2; appendices, $3.)

A report on the centralization of facilities for storage and retrieval of scientific documents. Does not recommend large-scale centralization.

Thesaurus of ASTIA Descriptors, 2nd ed. Arlington, Va.: ASTIA, December 1962. v, 673 p. pap. $8; gratis to ASTIA certified users (Sold by OTS.)

A descriptor list, a scopenote index, which lists descriptors and use references in alphabetical order, and tables of generic relationships for some descriptors in terms of specific to and generic to entries. Descriptor fields covered are science and technology, military, and social sciences.

Miscellaneous

AMBER, George H. *Water Damaged Files, Papers, and Records; What To Do About Them.* Royal Oak, Mich.: Document Reclamation Service, 1963. 26 p. Gratis with stamped self-addressed envelope.

Prevention and reclamation methods for wet documents, microfilm, and books. Bibliography.

BALLOU, Hubbard W., ed. *Supplement A to the 1962 Guide to Microreproduction Equipment.* Annapolis, Md.: National Microfilm Association, 1963. 87 p. pap. illus. $4 to nonmembers; $2.50 to members.

New specifications and illustrations for 45 pieces of equipment, revisions of previous models, and price changes are listed. Items included are cameras, readers, hand viewers, processors, contact printers, enlargers, accessories, and special items.

BARROW (W. J.) RESEARCH LABORATORY. *Permanence/Durability of the Book: A Two-Year Research Program.* Richmond, Va.: Box 7311, 1963. 46 p. pap. illus. Apply (L.C. 63-22099)

Reports on three research projects undertaken at the Barrow Laboratory: deacidification of books by spraying, the aging properties of polyvinyl acetate adhesives, and performance standards for library binding. Charts and bibliography.

BENJAMIN, Curtis G., et al. *Book Publishing in the U.S.S.R.* New York: American Book Publishers Council, Inc., and American Textbook Publishers Institute, Inc., 1963. vi, 112 p. mimeo. pap. $2 (L.C. 63-12756)

A report by the delegation of American book publishers who in 1962 visited the U.S.S.R. under the U.S.-U.S.S.R. Exchanges Agreement. Chapters on the organization and operation of Russian publishing houses, manufacturing, distribution, belles-lettres, juveniles, textbooks, encyclopedias and dictionaries, translations, royalties, copyright, etc.

Copyright Law Revision, Part 2—Discussion and Comments on Report of the Register of Copyrights on the General Revision of the U. S. Copyright Law. Washington, D. C.: U. S. Government Printing Office, 1963. viii, 419 p. pap. $1.25.

Transcripts of four panel meetings held in 1961 and 1962 to discuss the House Committee on the Judiciary's Report, as well as a number of comments submitted to the Copyright Office and the House Committee.

HAWKEN, William R. *Enlarged Prints from Library Microforms: a Study of Processes, Equipment, and Materials* (LTP Publication no. 6.) Chicago: Library Technology Project, American Library Association, 1963. x, 131 p. pap. Illus. $4 (L.C. 63-15807).

Results of a study of reader-printers now on the market, which might have library application. Eight basic machines are evaluated, including explanation of why other well-known machines were not considered. Types of equipment studied were electrolytic, stabilization, and diffusion-transfer.

Protection of Records (NFPA No. 232). Boston, Mass.: National Fire Protection Association, 60 Batterymarch St., 1963. 107 p. pap. illus. $1.

Standards covering minimum requirements for fire-resistive vaults and file rooms, safes, containers, and other equipment. Gives methods of salvage. Appendices give vault construction details and retention schedule for records.

Scientific Research and Development in Colleges and Universities: Expenditures and Manpower 1958 (Surveys of Science Resources Series, NSF 62-44). Washington, D. C.: 1962. vii, 140 p. pap. 70 cents (Sold by Government Printing Office).

Presents final data of a survey on R & D conducted by the Office of Economic and Statistical Studies. Colleges and universities, agricultural experiment stations, and federal contract research centers are studied. Questionnaires, charts, and tables included.

WALLS, Howard. *Copyright Handbook for Fine and Applied Arts.* New York: Watson-Guptill Publications, 1963. 144 p. $5.95 (L.C. 62-21082)

Explains in non-technical language the copyright regulations for every field of creative activity, art, architecture, sculpture, poetry and prose, music, dance, radio, and television. Index.

WYNAR, Dr. Lubomyr R. *History of Early Ukrainian Printing* 1491-1600 (Studies in Librarianship, vol. 1, no. 2). Denver, Colo.: University of Denver Graduate School of Librarianship, Spring 1962. vii, 96 p. pap. illus. $2.50.

Thesis for the author's M.S. in L.S. degree. Bibliography.

HEAD—of Catalog Department for large university library in the northeast. L.S. degree and experience with Library of Congress Classification required. Administrative experience desirable. Salary $9,000. Usual academic fringe benefits. Write Box B 123.

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JAPANESE PATENTS—chemical, metallurgical, electronic devices and components, illustrated abstracts three weeks after publication from $30 p.a., partial translations any patents quoted from C.A. or other sources airmailed same day. Rotha Fullford Leopold & Associates, P.O. Box 13, Black Rock, Victoria, Australia. Established 1953.

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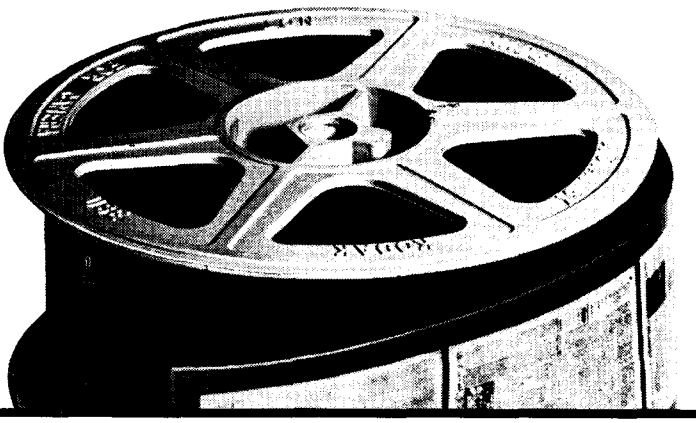

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