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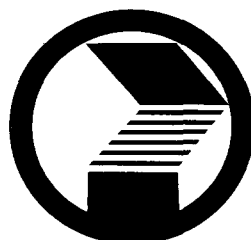
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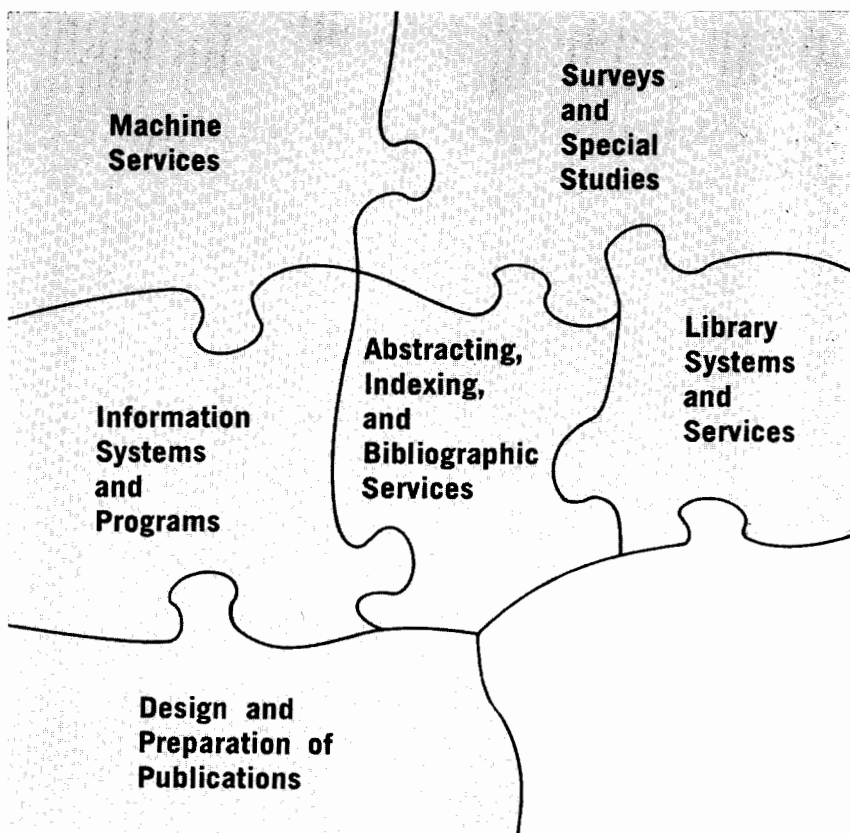
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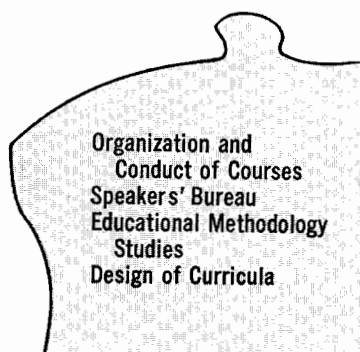
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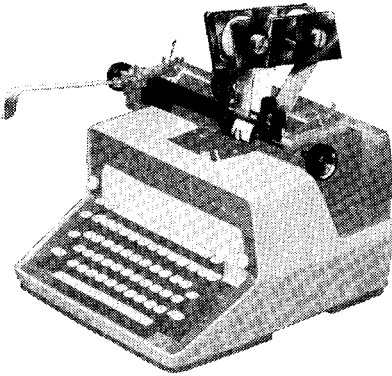
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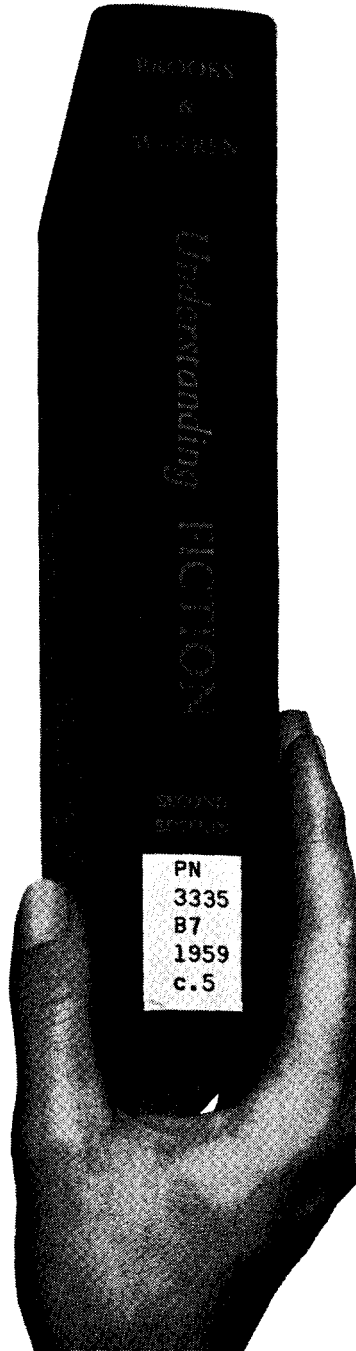
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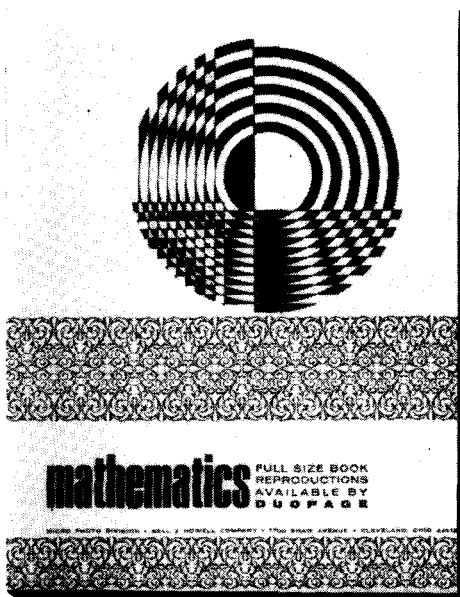
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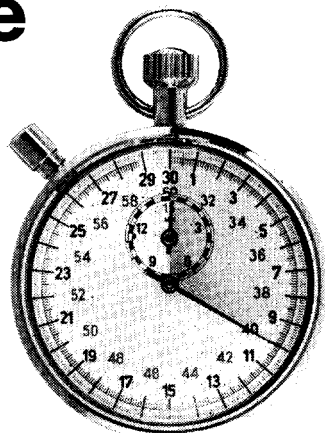
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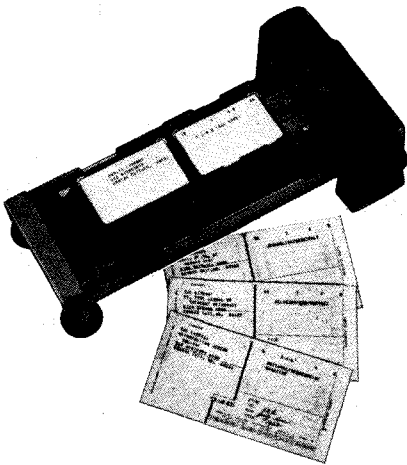
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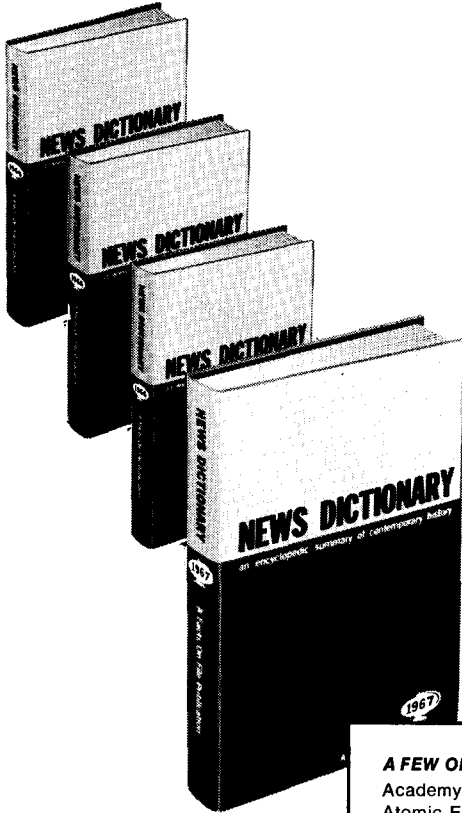
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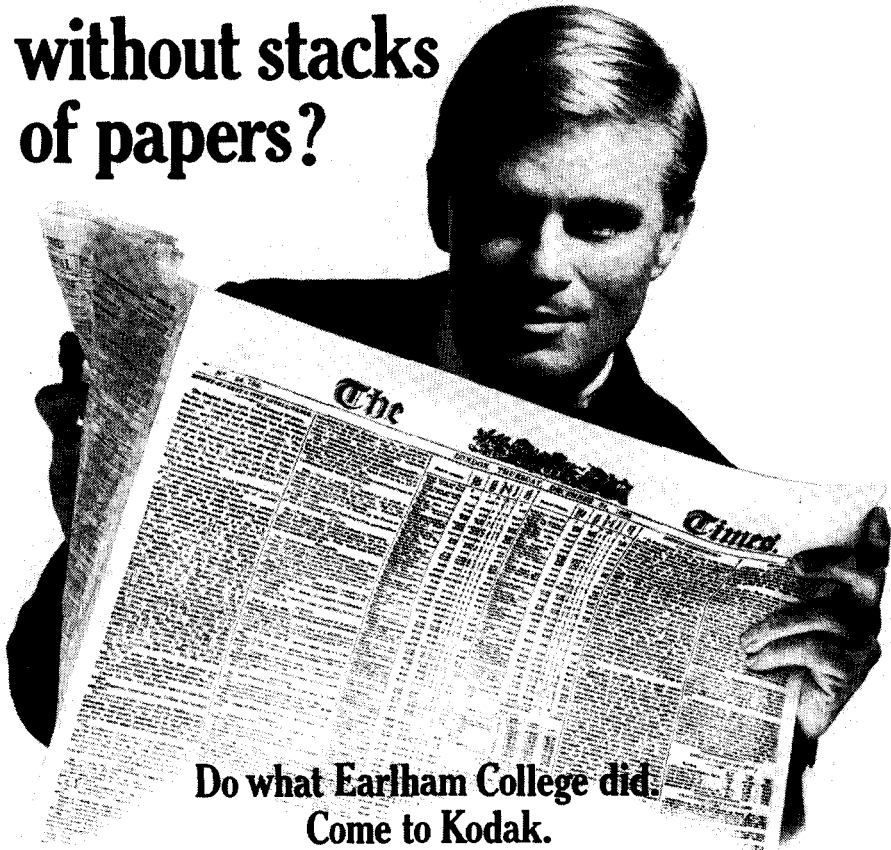
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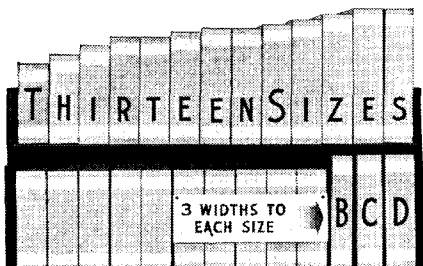
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A Dues Increase?

The Finance Committee Replies

FIVE YEARS AGO this month, SLA published an article by its Finance Committee in *Special Libraries* enumerating the reasons for a much-needed dues increase in 1964. Following is a discussion in the same vein by this year's committee. What has changed since 1964 and what impels the Association to request its members to approve a dues increase for 1969 is the one fact of life common to us all during the past five years—the continuing rise in the cost of consumer goods and services. How much these costs have risen, the present financial picture of your Association, and the effects of a dues increase (or non-increase) are some of the subjects discussed below.

* * *

1) QUESTION *What are the proposed dues increases and who will be affected?*

ANSWER Active and Associate members will be raised from \$20 to \$30 annually. Affiliate members will be raised from \$15 to \$30 annually. Active-paid-for-life memberships will be raised from \$250 to \$350. Student members will be raised from \$2 to \$5 annually.

2) QUESTION *When will the vote on the proposed increase be taken?*

ANSWER The vote will be taken at the Annual Business Meeting to be held in Los Angeles on Tuesday, June 4, 1968. In order for the increase to be approved, an affirmative vote of two-thirds of the voting members in attendance is required.

3) QUESTION *When would the increase take effect?*

ANSWER It would begin with the 1969 dues.

4) QUESTION *When were the Association's dues last increased?*

ANSWER In January 1964, Active membership dues were increased from \$15 to \$20 and Associate membership dues were increased from \$10 to \$20 annually.

5) QUESTION *Why does SLA need a dues increase?*

ANSWER Our expenses have risen 34% in the past four years and our income has only increased by 26%. We have recently had a 150% increase in rent when we moved into our new Headquarters location. A retirement

program, hospitalization and major medical programs have all been established for Headquarters staff, as well as an improved pay plan which offers salaries sufficient to attract well qualified and experienced personnel.

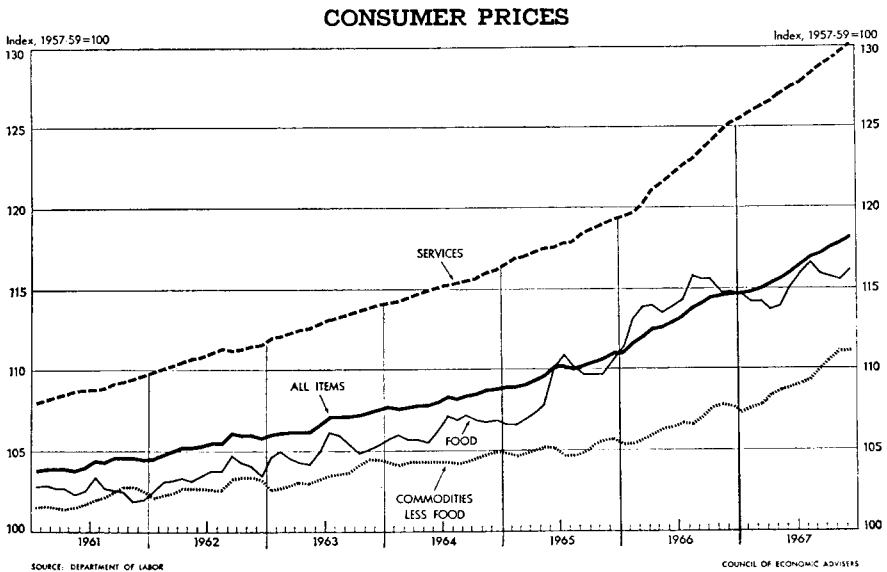
6) QUESTION *How much of the Association's total income is derived from membership dues?*

ANSWER Your annual dues constitute the major support of the Association. According to the Price Waterhouse audit of SLA for the fiscal year October 1, 1966—September 30, 1967, just a shade over half of the total income (\$299,955.65) represented income from members' dues.

7) QUESTION *What has happened to the cost of living generally since the last dues increase?*

ANSWER Each SLA member realizes that it is now necessary everywhere to pay more for goods and services. The Consumer Price Index (see chart) reveals the following comparative index figures for 1964 (when the dues were last increased) and today:

	All Items	Services Only
1957/59 Base	100.0	100.0
1964	108.1	115.2 (15.2%)
1967	118.2	130.1 (30.1%)



What these index figures represent is that, in the category "All Items," the \$10 cost for goods and services in the base period 1957-59 increased to \$10.81 in 1964 and stood at \$11.82 in December 1967. Even more striking is the category "Services Only." This category, incidentally, includes such items as salaries, office supplies, rent, printing costs and equipment maintenance—representing SLA's greatest area of expenditures. The figures indicate that services costing \$10 in the 1957-59 base period rose to \$11.52 in January 1964 and increased further to \$13.01 in December 1967.

8) QUESTION *Why doesn't the Association use its Reserve Fund if additional money is needed?*

ANSWER The Reserve Fund was established in 1936 to insure the continuous operation of the Association during a depression or other low-income period. A policy statement for the Reserve Fund was adopted by the membership in 1951 and was most recently amended in 1965 by action of the membership. It would be extremely unwise and financially unsound to pay for ordinary operating costs by depleting such a reserve fund.

9) QUESTION *What else is being done to increase income to the Association?*

ANSWER In September 1967, your Board of Directors voted an increase in subscription prices which became effective for 1968. At the present time advertising rates in *Special Libraries* are being studied. Increased interest income is already being realized by improved management of our working funds (for example, investment in short term Treasury notes). A campaign to seek Sponsors and Patrons will be announced later this year.

10) QUESTION *How does the Association plan to use the additional money?*

ANSWER The Association is presently installing Unit Record Equipment (punched cards) to modernize our membership and subscription records. The benefits in speed and performance will far outweigh cost of such equipment rental.

The Association must expand its professional activities by promoting special librarianship generally.

The Board has directed that beginning with the fiscal year 1968/1969 there shall be a minimum of \$10,000 per year budgeted for transfer to the Reserve Fund until its present maximum limit of \$100,000 is reached.

In short, as the condition of growth is usually accompanied by growth pains, so SLA must now ask its members to approve the dues increases necessary for its own continued development.

ROSEMARY DEMAREST, JEAN DEUSS, KATHERINE DODGE,
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Library Technician: A Professional Opportunity

LOUIS SHORES

PROFESSIONAL LIBRARIANSHIP confronts a challenge of new dimensional proportions. Semiprofessional technicians are now being employed by an increasing number of libraries of all types—academic, public, school, and special sporadic efforts in local and state civil service to make a place for the technician somewhere between the clerical and the professional have now been given federal blessing by the new GS-1411 series.¹ Despite some professional reluctance, library technician education programs have mushroomed in that most exciting American higher education phenomenon—the junior college. Our profession must soon make a momentous decision.

The alternatives have already begun to form battle lines in our professional literature. Those among us who oppose the technician in library practice, and his library education in the junior college, do so, partially at least, because of an understandable fear that unknowing lay employers may welcome the economy of employing semiprofessionals rather than professionals. There is some basis for this fear in comparative librarianship. Colleagues in Japan indicated

to me on a recent visit there that some professional positions in Tokyo libraries had already been filled by junior college educated semiprofessionals.

But another part of the opponents' fear is that the distinction between the duties and responsibilities of the professional and of the technician overlaps dangerously. Furthermore, specifications and "examples of typical duties" indicated by some civil service, and even by GS-1411 descriptions for technicians, appropriate tasks that are dear to the professional hearts of librarians. It is true that many of these jobs have been responsible for tarnishing our image. They may even have interfered with our recruitment drives. But they have long symbolized, at least for most laymen, the meaning of the vocation, librarian.

Opposition to the technician practicing in libraries is both because he lowers standards by attempting functions that are professional, or even semiprofessional; and raises costs by doing jobs clericals can do as well or better. Condemnation of technician education is from several standpoints. One is that the library can do the training better. Another is that these duties call for more than high school education. A third is based on an underestimation of the junior college.

Although I respect the position of my colleagues, many of whom have been close associates, and personal friends, these many years, I must dissent. I believe the technician is needed in all types of libraries. He is essential to relieve the manpower crisis. His presence can enhance library service by performing duties now curtailed by personnel shortages. But above all, the technician, along with increased clerical personnel and intelligent automation, can relieve the professional from tasks for which society has long overpaid him; and at long last, permit him to assume the role which is the librarian's destiny.

Dr. Shores, Dean Emeritus of the Florida State University Library School, presented this keynote essay for the California Workshop for the Occupations Bureau of Junior College Vocational Technical Education. The workshop at the University of San Francisco on January 17-18, 1968, was sponsored by the California Department of Education. Dean Shores is currently developing syllabi for the Tex-Tec Junior Technician program. He received the 1967 Beta Phi Mu Award for distinguished service to education for librarianship.

Middle level library work, between the clerical and the professional, is steadily being accepted by Library Practice in all four types of libraries. Call the worker *Technician*, or *Aide*, or *Library Technical Assistant*, as recently recommended by the ALA Committee; the opportunity for libraries is to fill that portion of the 100,000 unfilled positions that are semiprofessional in their requirements. For librarianship, there is the challenge to relieve, at long last, the professional librarian of tasks that have never helped our image among the professions and with the college graduates we seek to recruit. If Library Practice appears to have been won over to the cause of the middle level, Library Education appears to be a bit more restrained. Principally, library schools have not yet been willing to discuss articulation, to find a level in library education comparable to the rung found by library practice in the career ladder. It is here proposed that articulation is feasible, not only with the junior college curricula, but with both the ALA master's and NCATE bachelor's programs in library science. Such articulation can relieve graduate and senior level education much as the technical assistant relieves the professional librarian.

Definitions

To begin, let us agree what we mean by the occupational level, Library Technician. Adequate definitions occur in the GS-1411 (page 2) series; for example:

"Positions involving nonprofessional or technical work in libraries which are administered in accordance with the practice and techniques of professional librarianship. Such work *primarily* requires a practical knowledge of library functions and services; and ability to apply standard library tools, methods, and procedures to the service needs of the particular library."

The "preliminary draft of a statement developed by a Joint Ad Hoc Committee of the Library Administration Division and the Library Education Division . . . proposes some basic definitions and classification specifications, including statements of typical duties. . . ." While noting that the revision of the GS-1411 standards proposes to redesignate the series as "Library Aid/Technician" the Committee offers this definition amplification for "Library Technical Assistants" (page 4):

"Performance of such work primarily requires skills peculiar to library work, such as knowledge of circulation systems, ability to perform simple cataloging and classification, to use book lists, dictionaries, encyclopedias and other elementary reference aids, to apply clearly established methods, skills, and procedures to the service needs of a library under the supervision of a librarian."

From these two basic documents we can, perhaps, assume the fundamental definition of a *Library Technician*, or *Library Aid/Technician*, or *Library Technical Assistant* (the three terms now used) as

A semiprofessional library worker, whose duties require knowledge and skills based on a minimum of two college years general education that includes library instruction above the student use and clerical work levels.

It is a definition that will probably not satisfy the meticulous and sensitive. But it is the last one in a series of about a dozen redrafts by the writer's own meticulous and sensitive urges.

Need for Specifications

The argument that the technician in practice is crossing the professional line emphasizes the need for classification specifications, as the Ad Hoc Committee has begun to do, and the identification of typical tasks as the GS-1411 series indicates for Grades 1-7. Nor can the contention that clericals can do some of these tasks better stand up in the face of even more clear differentiations such as those indicated by both the GS-1411 series and the Ad Hoc Committee Report.² As the latter states (page 3):

"A recognized middle group of employees between the professional and clerical levels would help to solve some of the library manpower problems. The gap between clerical and professional staff is often too wide. This leads to reluctance to reassign segments of

professional responsibilities. A middle level staff competently trained could further relieve professional staff from performing routines, techniques, and procedures not requiring full professional knowledge."

Education at a Middle Level

What constitutes competent training for this level is another basis for opposition. Some contend that no more than high school education plus on-the-job training and/or an apprentice program such as some libraries, particularly public, have provided in the past. Perhaps it will take "research" to convince, but pending the kind of investigations desired on the professional literature of both education and librarianship, it is advocated here that this middle level—to be effective—requires the general education which is now the accepted curriculum of the first two college years. One recent example of this literature is an article by Steinberg and Shatz.¹¹

Although this general education is offered in the first two years of senior colleges and universities, it is hoped many of these will also offer, as does the University of Toledo, for example, library technician curricula. The junior college is in an advantageous position to assume a major responsibility for library technician education. By 1970, more than half of all college freshmen and sophomores in the U.S. will be enrolled in junior colleges. As Steinberg and Shatz write: "It is not an exaggeration to state that junior colleges can provide the major key to 'legitimizing' new careers." This is so because "Junior colleges are more flexible in curriculum, experimentation and innovation in the educational process. . . ."

Finally, the blame for the ambitious, and frequently overlapping offerings in many of the present junior college technician curricula, must be placed partially, at least, on a reluctant profession and a resistant library education. One Executive Board of the ALA Library Education Division,⁸ not so long ago, went on record as opposing the junior college technician program. The New York State report, which read in its early pages as though it were about to approve ended by disapproving.⁹ Inevitably, such neglect of a challenge and opportunity in the face of mounting manpower shortages and

the higher education trend toward innovation and experimentation forced junior colleges to go it on their own, unguided and undertrained.

Fortunately, this professional posture has now been corrected. Beginning with the Martinson report,³ a noticeable support for the junior college-educated technician has been growing. The U.S. Civil Service Commission's GS-1411 series and the ALA Ad Hoc Committee's Report can be counted as milestones. At least three states are planning on a state-wide level. California, a leader from the beginning,⁵ is synthesizing its long effort with a workshop. In April 1968 Minnesota will give attention to the problem at its Junior College Faculty Association meeting. Outside the U.S., the Canadian Library Association developed its own guidelines.⁶

Texas State Library has contracted with John Martinson's Communication Service Corporation for the development of syllabi for the courses to be offered in the library technician curriculum in the junior colleges of Texas. Known as the *Tex-Tec* project,⁴ the work is still in its early stages. Consequently, what follows are only the preliminary projections by the director of the project. Admittedly, several of the assumptions are ponderable, if not debatable. But as one who has long advocated the junior college library technician program, dissented with the LED Executive Board's position, and advised with junior colleges on their libraries, as well as on their technician education programs, the *Tex-Tec* director shares his present thinking.

High on his list of objectives is *articulation*, not only with the junior college curriculum, but with education for librarianship. This objective will probably face little objection from junior college curriculum developers. But when it comes to education for librarianship, the confrontation is almost "you are damned if you do or don't." On the one hand, it is objected that junior college courses telescope both the bachelor's undergraduate and the master's graduate library science courses; and on the other hand, library educators can be heard to declare "Of course you will never articulate these courses."*

Two articulations of the junior college

* EDITOR'S NOTE: Dean Shores states: "As the old

Exhibit A. Proposed Junior College Curriculum

AREA	SEMESTER HOURS	QUARTER HOURS
I General Education	39	59
II Library Technician Education	12	18
III Elective	13	19
	—	—
Total	64	96

Exhibit B. General Education Area

DIVISION	SEMESTER HOURS	QUARTER HOURS
A. Communication (English, Writing, Speech)	6	9
B. Humanities (Literature, Philosophy, Art, etc.)	9	14
C. Social Sciences (History, Economics, Political Science, etc.)	12	18
D. Natural Sciences (Mathematics, Physics, Chemistry, Biology, etc.)	12	18
	—	—
Total	39	59

Exhibit C. Proposed Library Technician Education Courses

COURSE TITLE	SEMESTER HOURS	QUARTER HOURS
1. Library Use	2	3
2. Librarianship Orientation	2	3
3. Library Technical Processes	2	3
4. Library Public Services	2	3
5. Library Graphics	2	3
6. Library Business Methods	2	3
	—	—
Total	12	18

curriculum and of library education are offered.

Junior College Curriculum Articulation

The first two college years divide their 64 semester hours approximately: 40 hours for

general education and 24 hours for electives. I propose to take half of these 24 elective hours for Library Technician Education. Such a program will come under either the so-called "college parallel" or "terminal" objectives of the junior college.

man of education for librarianship who has headed two ALA accredited schools or a total of 34 years, I can tell you I have been through this before—in connection with articulating non-ALA accredited undergraduate library science programs. In 1941, when we held the first program ever on articulation—at Peabody—the AALS, of which I have been a member since 1933, had a posture much like that of many in practice and education today toward the technician program. In 1958

ALA published *Standards and Guide for Undergraduate Programs in Librarianship* "to be used by the National Council for the Accreditation of Teacher Education in its evaluation of teacher training agencies which offer an undergraduate program in library science."⁹ I see no reason why this cannot be accomplished with the junior college technician program. At least, I should like to try,⁷ as I did for senior college programs back in 1941."

The Elective area should permit the choice of a modern foreign language, or the strengthening of a General Education division, or the introduction of personal development courses.

The 12 semester hours of Library Technician Education are suggested in six courses as convenient units for organizing the instruction that will encompass the content suggested by the job specifications in the GS-1411 series, in the Ad Hoc Committee Report, in other documents, and in sample junior college programs. It is hoped, also, that this course of study will minimize infringement on professional library education, and yet permit articulation.

Course 1. Library Use. Should go beyond the library use we have taught college freshmen in the past, whether in a separate required or elective one-semester hour course, or in a combination of opening week tour and English units, or in other formats. The "beyond" accents the independent study approach which is now dominating higher education innovation. If, to quote Winslow Hatch, one measure of quality higher education is "the degree to which students can learn independently," then the student must be armed with the resources and resourcefulness he has never adequately been taught before. What is needed is a new library sophistication, communicated by teacher to students in dramatic dimension. And if "the half of knowledge is knowing where to find it," then Course 1 must be a requirement for all freshmen, whether or not they later choose to prepare to become library technicians.

Course 2. Librarianship Orientation is a "pre-foundations" course, which introduces to library organization, behind-the-scene operations, personnel, business methods, technical processes, public services, library history, career opportunities. It also recruits for professional librarianship, and it can do this better if there is an open door articulation plan, as later proposed.

Course 3. Library Technical Processes instructs in the tasks of classification, cataloging, preparations, etc., upon which the ALA Ad Hoc Committee and GS-1411 series agree. Data processing and reprography elements should be added. A skills laboratory is proposed, one in which the student can perfect his skills through practice, at his individual rate of speed, and through observation and work-study.

Course 4. Library Public Services instructs in the tasks of circulation, reference and other patron relations upon which both the Ad Hoc Committee and GS-1411 specify for Library technicians. Skills laboratory and work-study.

Course 5. Library Graphics instructs in poster making, bulletin board and exhibit lettering, display, handling; in dry mounting; transparency making; mimeographing, multigraphing; sketching, drawing, art work for library publications; glass slide making; microfilming; photography, etc. Skills laboratory and work-study.

Course 6. Library Business Methods. Typing, speed writing (as the simplest taught of the shorthands), filing, library terminology, including some foreign language equivalents, correspondence and report forms, cards, key-punch operation, records, sample bookkeeping are some of the course components. Skills laboratory and work-study.

These course descriptions only hint at the syllabi content. There is vulnerability at many points. No one knows better than the *Tex-Tec* team at how many points colleagues will stand ready to belabor. Yet, venture we must for the good of libraries and librarianship.

Library Education Articulation

Most venturesome of all is the attempt to articulate library technician education with education for librarianship. But it must be done, not alone to prevent uneconomical duplication, but in the interest of recruiting the next generation. Just as it is hoped *Library Practice* will profit by a middle group who can relieve the professional librarian of a high percentage of semiprofessional duties, so, also, professional *Library Education* should benefit by being relieved of clerical and semiprofessional instruction that has always raised eyebrows in senior college and graduate school circles.

A problem that has always confronted ALA accredited library schools is the range of practical library experience found among its entering students. As a result, most library schools have had to incorporate clerical and semiprofessional content into beginning courses.

What is suggested is that the content of the library technician education program be

eliminated from both the N.C.A.T.E. Bachelor and the ALA Master programs. It is further suggested that a non-academic credit, directed, independent, work-study, skills laboratory be activated, under the instructional leadership of the library school librarian, or another faculty member. Through pre- and post-testing, each student's competence would be established. At the individual student's pace these skills, still taught as part of academic credit courses, would be mastered individually and independently, under guidance.

The junior college library technician graduate, of whom there should be an increasing number in the years ahead, would, of course, be exempt. So might, also, the student who is library experienced, of whom library schools have many.

Conclusion

Librarianship and library education have been my life. Five decades in the first and four decades in the second are not lightly abandoned. I have thought deep and long about the library technician movement. I have added advantages and subtracted disadvantages. After a decade of endeavor in the junior college phenomenon I am more convinced than ever that this middle group of

workers will enhance our library service. I am excited because for the first time the professional librarian has an opportunity to become a professional, to assume the high role in our society for which we are destined.

To paraphrase the words of Franklin D. Roosevelt: We have nothing to fear but professional fear itself.

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A curriculum has been established on the premise that the study of information and information-based processes and their applications are not restricted to librarianship or any other single field of science or profession. The curriculum encompasses a theory-oriented and a design-oriented direction of study and (that is, information science and information engineering).

Graduate Programs in Information Science at the Georgia Institute of Technology

VLADIMIR SLAMECKA

THE IMAGE which I shall convey may differ somewhat from that of the programs at Western Reserve and Lehigh Universities, and I should emphasize at the outset that the distinction does not imply an evaluative judgment or an attempt at quality ranking; it is merely indicative of a different concept of the substance of the field. This concept and the educational programs based on it, like other concepts of the field and their educational programs, must be judged by the criteria of logical consistency and of their utility to society and science.

It is possible to think of information science as an activity closely related to librarianship, the concern of which is with a deeper analysis of and machine-aided access to documents and other packages of recorded information. Such a library-centered viewpoint is illustrated by academic programs of the "library and information science" schools. There is no *a priori* reason why this viewpoint is not valid; the change in name from

"library science" to "library and information science" is perhaps analogous to the change from "industrial engineering" to "industrial and systems engineering", both acknowledging the importance to their fields of a crucial concept or entity (as well as the power-politic desire of claiming ownership of it).

It is equally plausible although rarely admitted, however, that there is no *a priori* reason why the library-centered definition of information science should be *the only* valid viewpoint. If we admit the utility of information and of information processing also to fields other than librarianship, the descriptors "computer and information science", "information systems science", "information and control science" are equally admissible, as are those in which the concept "information" is harbored latently, such as "cybernetics" or "communication and control science". We clearly need criteria other than the staking out of a titled claim to

judge the validity or uniqueness of a discipline or field.

Historically, the School of Information Science at Georgia Tech, established in 1963 on the premise that a new and distinct field of knowledge was in the offing, does not owe allegiance to any single field of science or profession; the National Science Foundation conferences which gave an impetus to the establishment of the school reflected a multidisciplinary and multiprofessional concern and interest. In addition to this freedom from incipient bias, there has been a strong conviction at Georgia Tech that the responsibility of a university is not only to search for new knowledge and new applications but also to structure and codify human knowledge. These attitudes have reflected strongly on the development of the program of the Institute's Graduate School of Information Science, by urging it to define the broad base pertaining commonly to the understanding and engineering applications of information and information-based processes.

The resulting nonpartisan orientation of the information science program at Georgia Tech is its first distinction from other, more parochial programs.

Program Design

In a paper published elsewhere¹ we have suggested that the design of educational programs is a factor of the following variables: a set of educational goals; characteristics of a set of learners; a given educational system; a subset of knowledge relevant to the program; and the environment. The effect of these variables on the design of the programs in information science at the Georgia Institute of Technology may be briefly described as follows.

Goals. The overall objective was to design an educational program scholastically comparable to education in other, established scientific and engineering disciplines or professions. In keeping with the current trend of higher education, the program was to be embedded in theory.

Learners. Because of the multidisciplinary character of the field and the initial empirical nature of the program, a relatively high degree of maturity of students was assumed to be initially desirable. A common base of mathematical proficiency of the entering student was defined, including as the minimum working knowledge of the calculus and linear algebra, differential equations, introductory higher algebra, probability theory and statistics, symbolic logic, and computer programming. (Students holding a bachelor's degree but lacking some of these prerequisites may be admitted to a "special standing" status permitting them to acquire this background.)

Educational System. The postbaccalaureate level was considered to meet the constraints on the learners. The period of time of study was delimited to twelve to eighteen months for the terminal master's degree, and additional appropriate time for the doctoral degree.

Environment. Since the impetus for the design of a new program in information science came partially from outside the Institute, most environmental constraints were omitted from consideration, assuming that adequate funding, staffing, facilities, student body and accreditation would be a function of the quality of the program.

Substantive Content. In general, the subset of knowledge from which the substantive content of any educational program is to come has three important characteristics: scope, level of difficulty, and structure. Structure—the organization of the components of the subset of knowledge on basis of the relations existing among them—is a necessary and dominant characteristic of all systems, including that of human knowledge. It has been shown that the rate and direction of further development of a system can be affected when its intrinsic structure is understood. I have attempted elsewhere to indicate an approach to the structure of information science and engineering, suggesting that the

Dr. Slamecka is director of the School of Information Science at the Georgia Institute of Technology. This paper is adapted from an informal talk presented at the Third Forum on Education in Special Librarianship at the 58th Annual SLA Convention, New York, May 28-June 1, 1967.

denominator of this new discipline is "information" or, more precisely, signals and symbols:

"Information is the one component which occurs in the problem, in the solution algorithm, and in the execution or computation of the algorithm. The entire process of converting a felt problem into a solution can be viewed as a process of sign or symbol manipulation. The pervasive occurrence of signs and symbols and the astounding potential of our field become apparent when we realize that the field is attempting to understand and control, via sign and symbol processes, the general organization problem, the general learning problem, the knowledge problem, the general communication problem. . . . There have been in the history of man few concepts equally powerful, and comparisons with the development of language or of logic are now commonplace.

... [The structure of information science and engineering] may then be viewed as consisting of and including three clusters of concerns or 'theories': 1) a theory of information, 2) a theory of the information process, and 3) a theory of information systems."²

The theory of information is concerned with the nature and properties of signs and symbols, and its major elements are information representation, measure and structure. The theory of the abstract information process pertains to the generation, transmission, transformation, storage and control of information in both physical and human networks. The theory of information systems (information systems are defined as those generating, storing and/or transmitting information) embraces and builds upon the theories of information and of the information process, and it may be viewed as being identical or closely related to the theory of general systems.

Upon reflection, it is difficult to determine generally where information science ends and information engineering begins. In information science, engineering and science are drawing closer and becoming less autonomous, to be distinguished perhaps only in the choice of environment in which work is carried out. Thus the philosopher of science, the psychologist, the electrical engineer, the librarian, and the systems analyst partake of information science and/or engineering. For this reason, it is not realistic to represent

abstractly the field of information as a progression of areas along a linear base; more appropriately, the structure of these areas is multidimensional.

Current Academic Programs

The axiom that the discipline unites rather than distinguishes science and engineering has led to the development at Georgia of both a theory-oriented and a design-oriented direction of study. The goal of the theory-oriented direction (Option I) is a program in metascience. Based on the abstract theories of the information process and general systems, the objective of information science (as a metascience) is the development and application of a general set of techniques and devices for problem solving in science, subsuming such problems as the methodology of science and scientific research, codification of knowledge, scientific and technological forecasting, and the optimization of cognitive processes. For obvious reasons, Option I of study should continue through the doctoral program.

The professionally-oriented, information engineering direction of study comprises a program in the study and design of information processing systems (Option II) and a program in the study and design of computer systems (Option III). The emphasis in both these options is on the system theoretic approach. Using the above definition of information systems, Option II is concerned with the engineering foundations, techniques and devices pertaining to the study, design and operation of social and corporate information systems, science information systems, and with the application of information processing techniques and devices for a large variety of purposes. Option III focuses on the design and operation of computer systems and utilities, treating not only the advanced design of programming and operating systems but, especially, the interaction of hardware, software, users and their objectives.

The graduate program of the School of Information Science is comprised of the Master of Science and the Doctor of Philosophy degree programs; entering students can take either program for a terminal degree. At the Master's level, the program in each

option includes two clusters of mandatory courses and a sequence of electives. The first sequence of six mandatory courses is common to all three options, covering selected fundamentals in fields and topics which constitute their multidisciplinary base; these fundamentals are comprised by topics from modern algebra, mathematical logic, linguistics, semiotics, and general systems theory. The second mandatory course sequence is dedicated to the substance proper to each of the three options. In Option I, the topics currently comprise the theories of signal representation, measure, coding and classification; advanced semiotics; recognition, transformation, communication and control of information; and information processing in the human brain. For Option II, the topics cover the theory of communication; selected applied mathematical techniques; theory, techniques, and applications of information control; and design of computer-based information systems. In Option III, the topics are switching theory and logical design; mathematical theory of numeric and non-numeric computation; design of computer languages; and design of computer operating systems.

The mandatory courses comprise approximately two-thirds of the M.S. degree program; the last third is elective, and students may choose from some fifty graduate courses offered in and outside of the School of Information Science. (By the way of an example, a student in Option II desiring to broaden his knowledge of document processing systems would typically choose graduate electives in the topics of control processes; simulation techniques; theory of classification; computer techniques for information storage and retrieval; and organization and management of information systems.)

The Ph.D. program is built on the substance of the Master's curricula, and its primary objective is to provide a foundation for demonstrating an ability to conduct satisfactorily a scientific research project or study on a non-trivial subject or problem in the field of information science or engineering, resulting in a significant addition to the knowledge in the field.

The following requirements govern the admission to Ph.D. candidacy: 1) Passing an examination in mathematics, at the levels

of advanced calculus, modern algebra, probability and statistics; 2) Passing a preliminary examination in the fields of information science or engineering, in the depth and scope of the Master's program (covering areas of mathematical logic, linguistics, general systems theory, theory and engineering of information, and advanced computing); 3) Passing an examination for proficiency in one foreign language; 4) Passing a comprehensive examination in the specialized portion of the field of information science in which research is planned, in the depth and scope determined by the Doctoral Guidance Committee; and 5) Submitting and having approved a formal statement naming the thesis advisor and setting forth the topic and methodology of the planned research project. The requirements for the degree of Ph.D. (Information Science) include submitting and having approved a doctoral thesis, and passing an oral examination in defense of the thesis.

Concluding Remarks

A few remarks will indicate the state of development and acceptance of the four year old program in information science at Georgia Tech.

The number of registered graduate degree students, all of whom meet admissions criteria which are in some instances higher than those of other graduate departments of the Institute, in the Spring Quarter 1968 is 92; there were 65 graduate students registered in 1966/67. This enrollment ranks the School of Information Science among the largest of the 25 graduate programs in this 7,500-student institution. The U.S. Air Force, the U.S. Marine Corps, and several other federal agencies regularly delegate qualified persons for the degree program.

The research activities of the School of Information Science and their support by extramural agencies currently command over \$600,000 in sponsored research funds, in addition to substantial research expenditures by the State of Georgia. A research center in information science, co-sponsored by state and federal funds, has been established within the School of Information Science, and the Georgia Institute of Technology has selected information science as one of three

substantive areas for its program of academic excellence.

In the light of this rate of development and support, at our institution and elsewhere, it is difficult to doubt seriously the recognition and place of information science and engineering as a discipline and a profession. Arguments against the right of existence of this field are either voiced from a position of misunderstanding its nature, or they are motivated politically. In advocating disciplinary isolation, however, these arguments are inimical to the development of science which proceeds optimally in an

atmosphere free from disciplinary barriers and biases.

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Guy R. Bell Leaves SLA

Guy R. Bell who has been editor of *Special Libraries* resigned effective February 15, 1968. Mr. Bell joined the staff of SLA Headquarters on October 1, 1966. His successor as Manager, Publications Department, will be announced in a future issue.

The System on Automotive Safety Information (SASI) was established at General Motors Research Laboratories to serve the corporation by gathering and organizing all published information relating to automotive safety and automotive air pollution. The organization, methodology, outputs, users, and service philosophy are described.

System on Automotive Safety Information

NEIL K. VAN ALLEN and ROBERT W. GIBSON, JR.

SINCE THE first recorded automobile fatalities just before the turn of the century—two deaths in Great Britain in 1896, one death in New York City in 1899—the literature on automotive safety, on accident research and prevention, on drivers, and on roads has appeared in ever increasing volume.

The fields of concern have changed little over the years. A 1906 article was concerned with collision forces in automobiles; so are many in 1968. Another 1906 article considered the relation of speed to automobile dangers. A 1908 article presented "The Positive Driving System" to overcome the principal causes of accidents; how did this differ from today's "Defensive Driving System"?

The users of the General Motors Research Laboratories Library are concerned with all areas of automotive safety and accident prevention. They are also concerned with air pollution, especially that portion caused by the internal combustion engine. A preliminary search for substitute propulsion led us to an 1890 article on an electric carriage. Carbon monoxide poisoning has led us back to an incident related by Livius in his account of the Second Punic War about 200 B.C.

Do these old articles really say anything about collision forces? Have control systems, and driver training in use of these control systems, changed with speed capabilities?

Or are these older articles outdated, useless for current information needs? The need for ventilation in an enclosed space in which carbon monoxide is present is certainly not a new concern. Nor is the short range of a lead-acid battery when used for propulsion. Experience has proven that these older articles drew conclusions which are still valid if the methodology of research was exact. Once more we are forced to recognize the truth of the need to consult the literature, all the literature, before man-years are committed to repeating already completed research.

How does a library collect and control this body of literature? How does a library catalog this information for instant retrieval in answer to questions not yet posed? Interest in this area of information retrieval has long been a concern of the GM Research Laboratories Library, and the inability to answer user information needs in depth and scope in the automotive safety area particularly became increasingly apparent. The commercial indices covered only a portion of the needed literature, and this library had in the past cataloged only books and a few selected reports. We decided that the only answer was an information system designed to collect, organize, store, retrieve, and disseminate the literature in the automotive safety and air pollution subject areas. Early in the dis-

cussion stage, corporate officers agreed that a systems approach to the literature was the only possible answer. So, in 1965, the concept of the System on Automotive Safety Information (SASI) began to take shape.

"System" has become a shibboleth. But we believe that in order to produce results for our users, we must know what we are doing, why we are doing it, when it must be done, how it will be done, and who will do it. When these questions are logically answered, a workable system develops.

SASI as an Information Center

The question of "What?" was answered broadly in our charter—to collect all published information on automotive safety and air pollution. But we needed more specific definitions of this "what", and were fortunate to have a long list of partially answered reference questions from several sources within the corporation to which we could refer. The variety and complexity of the questions posed were, and are, far greater than any of us who have worked in other disciplines are used to. This variety and complexity are the very reasons SASI was designed as an information center rather than as another library. SASI was physically placed in the Research Laboratories Library to take advantage of the broad-based literature collection (the largest in the corporation), but SASI serves the entire corporation while the library primarily serves research personnel. Our scope of service was thus set. SASI serves any General Motors employee anywhere who has need of automotive safety or air pollution information.

Another basic difference between SASI and the library is that SASI was designed to offer information to answer questions in whatever form they were requested, not just to offer references to possible sources of information. This ability to retrieve information is based on the depth of indexing, far exceeding the depth of cataloging normally followed in the more traditional library.

We expected to be able to translate our knowledge of working methods gained in years of experience with other bodies of literature, notably chemical, metallurgical and ordnance. Predictably, our first questions were: What indices are applicable? Where is

the main corpus of the literature now gathered? Who are the experts in this field?

Our travels and letters and telephone calls produced no real answers. Portions of the literature are gathered and controlled, but in ways which make the results unresponsive to our users' needs. Experts in controlling this literature are evidently nonexistent. The lack of bibliographic control of the automotive safety literature is unbelievable. No one place seemed to have organized the literature in a way that could be translated to serve our purposes. SASI was committed—by our users' needs—to overcoming what appeared to be the failure of traditional techniques to furnish what was needed.

Until very recently, much of the literature was of interest only to four companies, a few safety organizations, and even fewer government bureaus. This may partly explain the wide scattering of sources and lack of control. However, we have come to believe that the true reason lies in the multidisciplinary approach required in automotive safety.

The Interrelations of Information

When we consider only the vehicle and its power plant and fuel, we need literature from all areas of engineering, of design, of chemistry, of metallurgy. As we move to the driver and passenger, we need literature from human engineering, from medicine, from psychology, and from physiology. When we consider roads and their effect on automotive safety, we need literature from fields ranging from civil engineering through optometry to traffic engineering. When we begin to consider the vehicle, the driver, and the road as an indivisible system, we need to add to the literature already considered the literatures of law, of systems engineering, of operations research, etc. When we begin to apply basic physical laws to traffic flow, when we construct mathematical models of our systems, and when we begin to computerize these models for manipulation, we realize that we must collect an interrelated world of information.

SASI, needing access to all this literature, had to include portions of books, individual articles, letters, etc. So we completely index any form of information gathered—articles, books, news releases, reports, clippings, pho-

tographs, charts, letters, transcripts of broadcasts—anything that might prove useful. Not only must we collect this world of information, but we must bring the disciplines together for the first time in a different way. We must be able to manipulate the contents of the documents so as to produce output information—not previously available—in whatever form our users may require.

A flysheet is given to our users; it outlines the SASI operation and what they may expect from our services. For convenience, SASI's field of operation was divided into five parts. The *first* area of concern, *motor vehicles*, includes all parts of the vehicle as they apply to automotive safety as well as general design information, reliability, legal aspects, and concepts like handling. The *second* area, *traffic engineering and science*, includes traffic flow, road design as it applies to safety, roadside hazards, and all other aspects of the vehicle-road-other vehicle interfaces. The *third* area, *accident analysis*, includes not only formal accident analysis techniques, but all literature on statistics and causes and location of accidents, accident prevention, and people working in this broad field.

The *fourth* area, *air pollution*, includes not only literature on the causes of pollution and preventive techniques, but sampling methods, proposed control limits, state and federal laws governing pollution and its control, and the electric and steam cars. The *fifth* area, *drivers*, includes driver instruction and education, licensing, punishments for violations and law enforcement techniques, human engineering, alcohol, vision, biomechanics, and all man-vehicle interfaces.

Information Sources

Where does all this information come from? The sources are widely varied; they range from foreign newspapers through

foundation publications to private reports and correspondence. The information in the form of books is extremely limited, although many books have chapters of interest. The bulk of the information is found in newspaper and periodical articles, in journals, in technical meeting papers, in reports, in letters and memoranda, and even in radio and television broadcast transcripts.

How do we locate this information? We scan regularly all the indexing and abstracting services to which we have access. The most valuable from this list are: *Engineering Index*, *Index Medicus*, *Applied Science and Technology Index*, *British Technology Index*, *Chemical Abstracts*, *Psychological Abstracts*, *TAB*, *STAR*, *International Aerospace Abstracts*, *Readers' Guide*, *Business Periodicals Index*, *Aerospace Medicine and Biology*, *APCA Abstracts*, *Applied Mechanics Review*, *Dissertation Abstracts*, *Electrical and Electronics Abstracts*, *Highway Research Abstracts*, *HRB Publication Index*, *Monthly Summary of Automobile Engineering Literature*, *Monthly Catalog of U.S. Government Publications*, *New York Times Index*, *Wall Street Journal Index*, *U.S. Government Research and Development Reports*, and *Technical Translations*. Beside these, we scan periodicals in the field for lists of new literature, and we check for references and bibliographies in all items acquisitioned as they are included in the system to insure that our coverage is as complete as possible. We have found in footnotes and bibliographies attached to articles many citations not located in any other source, and we feel that if an author finds them important enough to cite, they must be located and scanned for pertinence to our collection. In all honesty, it must be noted that some items are found by chance, since what we are looking for is spread throughout the scientific, technical, and popular literature, and often appears in periodicals not indexed in any source.



Mr. van Allen is Safety Reference Librarian and Mr. Gibson is the Librarian at the General Motors Research Laboratories Library, Warren, Michigan. The System on Automotive Safety Information described in this paper is represented by the acronym, SASI.



There are other usual sources of bibliographic information which must also be regularly scanned. We cover such items as LC proof slips, *Forthcoming Books*, publisher's announcements, and all other standard announcement media. Some of our engineers are startled to find *Index Medicus* of such great use, but we have discovered it to be a prime source of reference in the areas of impact tolerance of body areas, impact resistance of bone and tissue, types of injuries produced in various types of accidents, and other factors not usually associated with automotive engineering.

What do we do with all these references once we locate them? We order hard copy or photocopies, or borrow all items for transfer to aperture cards. From the time of reference location to the completion of full processing for the system, a temporary record card is kept to prevent unneeded duplication. Once we have a readable complete copy in hand, we determine that it fits SASI's fields of interest, a decision that often cannot be made from the citation alone, nor from the terms under which it was indexed by a commercial source since their index terms may not be indicative of content for our use. If it does fit, we read it, write an abstract or use portions of the author's or editor's abstract, and assign descriptors. At least ten per cent of the literature is foreign, and we still have not fully solved the translation problem for those languages not read by staff members.

Spectrum of Descriptors

The matter of descriptors was one of the most difficult facing solution when SASI was organized. The type of requests have ranged from a request for "that Swedish report on fires" (and that was all the information known—incidentally, we did find the report) to full-scale searches like that on the impact tolerance of the human chest. To retrieve information in answer to this broad spectrum, we have had to index literature in whatever depth might be required. If the item requires fifty descriptors for proper denotation, we use fifty. If the item requires only one descriptor, we use one. And not only was it imperative to index by the personal and/or corporate authors, it was necessary to index by personal and corporate

names whenever they appeared meaningfully in the text of the item being indexed. A quotation attributed to a given man has often proved as important in answering a query concerning his work as have several items written by the same man. Corporate names become important when the question calls for what work a given corporate group is performing. Trade names are needed as index terms, because when a user asks for information on a specific-named item, he wants only information on that item and not on the generic-named assembly. In the case of trade names, the generic term is also included in the descriptors for other levels of searching.

Several thesauri exist which border on the field of automotive safety; it may be fairer to say that several thesauri exist for each field encompassed by the broader area of automotive safety. None of these offered a complete correlation with our expressed needs, the needs of our users throughout the corporation. An early attempt to unify thesauri from several disciplines proved that the most feasible approach would be to construct our own. This has been done, basically as a one-man effort, with about 2,800 descriptors chosen to date directly from the literature with modifications made to make them familiar to our automotive users. Since there are differences even between the automobile companies in the naming of basic components, our thesaurus reflects, in this sense as well as others, the expected word usage among our own General Motors users. The vocabulary includes only subject descriptors (corporate names, personal names, and trade names are otherwise controlled for filing purposes) and is completely open-ended except for the exclusion of synonymous terms. The arrangement of the cross references was adapted from the Engineers Joint Council's *Thesaurus of Engineering Terms*, but the actual cross references are unique, reflecting not only generic relationships, but also those tenuous relationships found only in the automotive safety field.

This open-ended method was selected instead of attempting to build a rigid hierarchical structure so that the thesaurus can reflect usage and future changes in usage rather than attempting to force literature into preselected indexing pigeonholes.

SASI Files

A filing number is assigned each item: two digits for year of publication followed by accession number within that year. Multi-lith mats are typed to produce 5" x 8" cards, two-up, and multiple copies of the cards are produced. Cards, cut and sized, are returned to SASI and final processing is accomplished by stamping an arrow on each card opposite each of its filing points and filing the cards in the appropriate files. A typical card is shown in Figure 1.

Separate files are maintained under five broad headings. The NUMERICAL FILE is our shelf list, and it is on these cards that added notations are made as to form of holding (book in library collection with Dewey number, hard copy in SASI files, aperture card, etc.). The SOURCE FILE, filed by journal and periodical title and date (or issue number) enables us to determine which journals, publishers, etc., furnish information of concern to us. It also enables us to immediately find the item that a user recalls

as having seen about six months ago in a specific journal when he does not remember the author or title, and often proves much easier to use than the subject file for this specific purpose. The PERSONAL NAME FILE contains cards indicating holdings by or about and quotations from a given individual. As mentioned above, quotations by a man are often as important as articles by or about him. In this file are gathered together all SASI holdings by the author, enabling us to trace his corporate affiliations and work progress, all biographical data about him as separate items from the holdings, and all material in which he is quoted. Linking of names even allows tracing of projects when report titles differ each month. The CORPORATE NAME FILE is used to retrieve all items by personnel of, or about, a given corporation or government body. The SUBJECT FILE, arranged in alphabetical order as is the thesaurus, is used for searching and retrieval by subject and trade-name. Interestingly, this file is also used for browsing by many of our engineers, since

	<i>(Year & Accession Number)</i>	<i>Abstractors' Code</i>	<i>General Motors Research Laboratories</i>
<i>File number</i>	SASI 66-910	X	GMRL
<i>Author</i>	VANDERSTEMPEL, T. M.		
<i>Title</i>	A device to lessen injuries in fixed object collisions.		
<i>Source</i>	Traffic Engineering, v. 37, no. 2, 32-36, November 1966.		
<i>Abstract</i>	Describes a new barrier designed by Fletcher Platt of Ford consisting of two hollow cylinders, sand between, and a central rod for anchoring. Vehicle structure impact characteristics, barrier resistance, human tolerance to deceleration, and force distributions are discussed.		
<i>Descriptors</i>	PLATT, FLETCHER (Ford Motor Co.) MICHIGAN, ANN ARBOR BARRICADES AND BARRIERS COLLISION—VEHICLE-BARRIER DECELERATION TOLERANCES—HUMAN DECELERATION—ENERGY ABSORPTION	STAPP, JOHN PAUL (Col.) ENERGY ABSORBING FRONT STRUCTURES	

Figure 1. SASI File Card

This specific card is filed under twelve headings—number (1), source (1), personal name (3), corporate name (1), and subject (6).

the abstract appearing on each card gives them the basic information from the item, and complete copy is available immediately from our holdings.

All files have been structured not only for SASI staff use, but for the use of engineers and technicians who may wish to conduct their own searches or attempt to formulate their own research extensions. Most users find the file cards, which contain SASI number, author(s) and affiliation, title, source, abstract and descriptors, easy to use. A search does not have to be fully structured before it is begun, since with all this information available on each card, new subject and name approaches to the search at hand present themselves throughout the search, no matter which entry point to searching is first chosen.

To date, SASI has processed just over 20,000 items. Since we expect an ultimate literature base of some 350,000 to 400,000 items, storage became an immediate problem. An early study indicated that 70-75 per cent of our holdings are, and probably will continue to be, items of 16 pages each or less. Accordingly, we chose aperture cards for storing the information: up to 8 exposures per card. Rarely are more than two aperture cards used per item. Longer items are obtained in microform, preferably microfiche or, if available, strip or roll film.

Since the bulk of our microforms were to be aperture cards, it was necessary that we produce these in-house. SASI's equipment consists of the Filmsort 2000 Processor-Camera, Filmsort Uniprinter 086 Copier, and Filmac 400 Microfilm Reader-Printer. The camera allows us to make aperture cards containing either four or eight pages of copy (or less) per card. The copier is used in two ways. First, the original aperture card is used only as a master record and for duplicating, ensuring that it will not be scratched nor mutilated. A duplicate deck of aperture cards is used for ordinary reading purposes. Secondly, if any off-site user, and SASI serves General Motors personnel around the world, has a reader available, it is cheaper and faster to send a duplicate aperture card than to send full hard copy of the items needed. It is also possible that at some later date we will want to keypunch the duplicate card deck for mechanical sorting.

Staff and Output

Since the operation was begun in organized form in July 1966, SASI's staff has grown to eight—three professionals and five supporting personnel. Any of the staff can perform any of the mechanical or system search functions required, allowing us the flexibility needed to answer rush questions—often several questions simultaneously. The planned ready-access to the files for users also relieves much staff pressure.

SASI's output takes several forms as determined by the needs of the user. The only exceptions are those studies or bibliographies initiated by SASI when we can predict a need that has not yet reached the operating engineer, and even then they are designed to give the engineer all available information in a readily usable form. Output may be as simple as a number when the question concerns how many rear-end collisions occurred last year; or as complex as a state-of-the-art report, complete with annotated bibliography (for example *Friction Brakes, A Review of the Literature*). Summaries of statistics, one specific article referenced in an engineer's private reading, or a full-scale literature search may also be forms of output.

When a bibliographic search is done for a user, Xerox copies of the cards are often presented to save typing and to give him a full and meaningful description and abstract of each item found. He may use these card copies to request full copies of specific items or he may begin a temporary file for his own use.

The most often requested output form is a selected bibliography, accompanied by hard copy of that material found to be most pertinent to the question. Our users are rapidly learning to state their needs as exactly as possible, and to interact with us on extended searches. The engineer seeking information on the electric car rarely wants the almost 1,500 items our files contain on this subject. He actually wants evaluated information, which we are prepared to offer. It sometimes requires an amount of persistence on our part to determine what it is the user really wants, but the effort is worthwhile. The user of an information system returns only because he consistently receives what he wants. Apparently, our users are finding the service use-

ful, as we have noticed a high degree of repetitive action.

While no formal SDI system is yet in operation, SASI was designed with this in mind. We have begun to serve a small group of constant users in this way in a pilot program. It appears to date that much of the material being found for these few would be of use to others, and our scanning of current periodicals could be extended to cover notification to our users of new items in their personal fields of interest. Methods of accomplishing this without added personnel are being sought.

All operations in SASI have been designed for eventual computerization, should this prove feasible. Indexing, for example, is done so that no re-indexing would be required. However, at present, we feel that we can retrieve information more efficiently—which means faster, at less cost, and in a manner more responsive to user needs—through the manual means now employed than we can by using a computer. The same is true of the SDI system. Our users' profiles change rapidly from very specific to quite general, and better service is provided

by interposing a human mind between the raw material and the user than in any other way.

It is interesting to note that in the first full year of operation, requests for service came from 38 of the 48 divisions and staffs of General Motors Corporation, and from an additional 17 Research Staff Departments. The total of requests was 1,383, not including those many telephone calls and personal visits served with little or no searching time, nor those visits by engineers and technicians using our files themselves.

Reaching for a Goal

SASI is not the only group collecting safety information in the country, nor are we the only organization using the techniques described. But visits to other collections have proved that the SASI concept in its entirety is unique. We intend to maintain our unique position through the level of service offered our users by training them to demand "a little more" from us so that we continue to stretch to reach a goal not adequately defined as yet in the literature, a goal of complete service.

The advent of the computer has greatly increased the potential of large-scale interlibrary exchange of cataloging data. Differences in data elements and format, however, can present a large obstacle to the effectiveness of such exchange programs. In view of this problem, a meeting of Atomic Energy Commission and Department of Defense agency librarians was held in July 1965 to devise a common set of data elements and a common machine readable format. The agreements reached have facilitated data exchange between these agencies and provide an example of the kind of cooperation required to make the best use of computer potentialities.

Standard Format for Data Exchange

MARY ELLEN JACOB

LIBRARIANS ENGAGED in the control and storage of information are vitally interested in data exchange programs. Most of them, while aware of the need for common cataloging data and authorities, are not well versed in the problems inherent in deciding on a specific machine readable format. Too often the people advising them are concerned only with what their particular machine installation and programming language can handle. Little thought is given to the problems others might encounter in trying to use the same format under other conditions. To be truly useful, any exchange format must take account of these problems and must be made as universal as possible.

The need for common data elements is readily agreed to by most librarians and is exemplified by the use of such guides as the Library of Congress' *Rules for Descriptive Cataloging*, the Atomic Energy Commission's *Descriptive Cataloging Manual*,



Miss Jacob is a staff member at the Livermore Laboratory, Sandia Corporation, Livermore, California.

and the Committee on Scientific and Technical Information's *Standards for Descriptive Cataloging of Government Scientific and Technical Reports*. The guidelines provided, however, are usually adapted to local needs, and the resulting variations can cause many problems when librarians try to use each other's cataloging data.

Selection of Data Elements

Before exchange can really be considered, librarians need to sit down and agree, item by item, on those data elements necessary to common cataloging descriptions. Local variations must be eliminated if the data exchange program is to operate effectively.

To achieve a common data exchange format, a group of Atomic Energy Commission and Department of Defense agency librarians met in July 1965 at Sandia Corporation in Albuquerque, New Mexico. They spent two days ironing out the difficulties caused by variations in data elements and machine formats already in use. Most of the time was taken up with deciding which data elements were essential to include and which could be left out. The participants were concerned mainly with technical reports, although many used the same cataloging methods for books.

The following data elements were finally decided on: author, personal and

corporate; title; date of publication; pagination; publisher; report numbers; contract numbers; collation; descriptors and/or subjects; limiting statements concerning use or distribution; series notes; supersedes notes; general notes; classification; and abstract.

It was realized that not all agencies would have all the above data—many, for example, did not include abstracts—but it was agreed that the data which was available could be exchanged.

Coding of Data Elements

Once the basic data elements had been defined, the next problem was to decide how they should be coded. It was decided not to use numeric codes because they would require an explanatory key. Alphabetic mnemonic identifiers were chosen because they would be more easily understood by the average user of the data. The identifiers are as follows:

ABST	Abstract
ANNO	Announcement code:
	External
	Internal
	None
AUTA	Personal author analytics
AUTH	Personal authors
CLAS	Classification of document
COLL	Descriptive information, i.e. illustrations, diagrams, etc.
CONT	Contract numbers
CORA	Corporate author analytics
CORP	Corporate authors
DATE	Date of publication
DESC	Descriptors
LIMI	Limiting statements, patent cautions, etc.
NOTE	Notes not covered elsewhere
PAGE	Pagination
PLAC	Place of publication
REPT	Report numbers
SERI	Series notes or titles
SUBA	Subject analytics
SUBJ	Subjects
SUPE	Supersedes note or numbers
TITA	Title analytics
TITL	Title, primary title first

Design of Machine Format

It is really impractical to consider the same machine format for internal use by all installations, unless they all use the same equipment and programming languages. Some formats can be handled very well by some machines but not by others. Variable length records—each only as long as the data it contains—are handled easily by the IBM 1410, which is a character machine, but are more difficult to accommodate on the IBM 7090 or the CDC 3600, which are word machines. Character machines can handle data in single character units, but word machines must consider records as if comprised of units of a fixed number of characters—say six or eight. By the same token, the programming language AUTOCODER, used with IBM machines such as the 1410, handles variable length records easily, while COBOL (Common Business Oriented Language) requires that each data field be defined.

Internal record marks or special characters can also pose problems. When COBOL is used with the IBM 1410, for example, an internal record mark will stop a move instruction—since the instruction, an “MCRM,” calls for moving data through the first group or record mark—and will result in truncated data. While most machines and languages can be made to handle a variety of special problems such as these, it usually requires complicated programming and is thus inefficient. Software packages supplied by the manufacturer, principally sort routines, are almost impossible to modify to accommodate certain variations in format.

An exchange format must be as simple and self-explanatory as possible. With this requirement in mind, the group decided on an eighty-character format adaptable to both card and tape use. All tape records, unless previously agreed on, are unblocked—that is, one block consists of one record. Certain areas of the record are needed for control information and identifiers, but the data field is as large as possible. The format decided on is as follows:

Cols. 1-6	Control number, 6 digit code to insure keeping all related images for a document to-
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gether, any numbering system may be used.

- Cols. 7-10 Mnemonic code, 4 digit alpha code, identifying type of data
- Cols. 11-12 Entry sequence code, digits 00-99
- Col. 13 Card sequence code, digits 0-9
- Cols. 14-15 Card classification
- Cols. 16-20 Blank
- Cols. 21-80 Data field

The basic numbering system is as follows:

- CORP 01 1 First card of first author
- CORP 01 2 Second card of first author
- CORP 02 1 First card of second author

For AUTA, TITA, CORA, and SUBA, a special numbering system is used:

- AUTA 01 1 First author of first paper
- AUTA 01 2 Second author of first paper
- AUTA 02 1 First author of second paper
- TITA 01 1 First card of first title

- TITA 01 2 Second card of first title
- TITA 02 1 First card of second title

Conclusions

When Sandia's Livermore Laboratory was redesigning its record format, an attempt was made to incorporate some of the features of the exchange format. The data field, which had originally consisted of forty-six characters, was enlarged to sixty characters. Although it had not yet been implemented, Sandia's future system (which will incorporate on-line processing) will also include most of the mnemonics of the exchange format.

Exchange of data in this format is currently taking place, and so far no major problems have been discovered. It is hoped that the example set by this early exchange format can be followed by others. Project MARC of the Library of Congress seems to be pointing in this direction. Data exchange programs will continue to be of vital importance to all librarians. As long as common sense and compromise are used, such programs can be successful and can provide for larger and more comprehensive ones in the future.

Developments in Photoreproduction

LORETTA J. KIERSKY

THE MICROFORM of immediate great interest today is the cartridge containing 16 mm microfilm. It commands attention in a field that up until now has been served with 35 mm microfilm on reels. The cartridge offers a self-service, self-threading device that marks an advance in reducing damage caused by dust, dirt or finger prints. The cartridge is a light-tight container 4 × 4 inches in size in which a roll of microfilm has been placed. It insures the integrity of the file because the user cannot remove any of the microfilmed images.

At present, specialized information collections make use of the cartridges manufactured for Recordak, 3M Company or Bell & Howell. All three cartridges are not interchangeable and the same type cartridge must be used throughout a system. The Eastman Kodak Company refers to its sealed container as the Recordak Magazine.

Miracode is the registered name used to mean "Microfilm Information Retrieval Access Code" in a Recordak system designed by Eastman Kodak Company, Rochester, New York 14650. The basic unit of this automated, high speed, retrieval system is the Recordak magazine which contains a 100 foot roll of 16 mm microfilm. The system includes a control console, a microfilm access file and a Recordak Lodestar Reader-Printer. The Miracode System is capable of making a highly sophisticated search by author, by descriptors, by accession number or any other category. A brochure *If You Don't Have a Photographic Memory, Get One* is available from the Company.

The 3M Company offers the Filmac 400 C Cartridge Reader-Printer for high speed look-ups and printouts. The scanning speed is 10 inches to 400 feet per minute with an enlarged print that is easily obtained in 6 seconds. In addition to this standard size machine, 3M offers a portable, tabletop 16 mm microfilm cartridge reader.

Miss Kiersky, librarian at Air Reduction Company, Inc., Murray Hill, New Jersey, is SLA's Special Representative to the National Microfilm Association and to the U.S.A.S.I. Sectional Committee on Photographic Reproduction of Documents PH-5.

The reader is called MICRO-TEL, and it comes in a compact attaché type carrying case made of plastic with aluminum trim. It has a focus control and also a film traverse control to permit directional operation which at the same time operates brakes to prevent film damage. It has a non-glare, green, translucent screen $8\frac{1}{2} \times 10$ inches in size. The magnification is 18× the original. It operates on a standard 110–120 volt outlet. The projection system includes the 18× coated lens, a 50-watt lamp, a heater filter and a cooling fan. The price will depend upon various options that may be selected, for example adding a 24× lens, or a screen index strip, and also which basic machine model is selected. One model the Porta-Viewer Cartridge Reader, Model C-BI with a battery pack, is listed at \$522.

Carrousel Cartridge Units

Two newly designed storage units that provide compact storage for 16 mm microfilm cartridges are available from Information Design, Inc., Palo Alto, California 94303. One Carrousel Model ID-100, stores the cartridges in a modular, honeycomb type unit (Figure 1). The standard model holds 360 cartridges.

Individual units that will hold a minimum of 12 cartridges, or a maximum of 576 cartridges can be obtained in any one of three colors, if color coding is a requirement. IBM tape cartridges, or roll film boxes may also be stored in this type of housing. The Carrousel is 18 inches square, 36 inches high, and rotates on roller bearings. It is constructed of high impact polystyrene, and weighs 50 pounds. The price is \$150.

The second storage unit in this line is the Storage Console ID 109, which has four suspension drawers, each containing 48 compartments. This unit stores 192 cartridges of 16 mm microfilm. It occupies six square feet

of floor space, and was designed to become a microfilm information storage and retrieval station. A microfilm reader-printer can be placed on its desk top and a Carrousel unit can be placed on the desk top also, either in combination with the reader-printer or with another Carrousel unit. It is constructed of wood with a Formica top and tubular metal legs. It weighs about 90 pounds and costs \$225. This company has a 35 mm cartridge and a converter under development which will permit users of 35 mm roll film reader-printers to have the convenience of cartridges. Appropriate 35 mm Carrousel units will be available also when the converter is introduced. The 35 mm Cartridge Converter Model 102 has been designed for use with the 3M Company Model 400 Reader-Printer.

Enlarger-Printer

Since the opaque Microcard carries a positive image it presents problems in meeting requirements for enlarged copies of its im-

ages, or for obtaining duplicates of the cards. The electrostatic enlarger-printer called the Dennison Reader Universal Enlarger-Printer makes enlarged prints from aperture cards, microfiche, microjackets and also micro-opaques. It is available from the Dennison Manufacturing Company, Framingham, Massachusetts 01701. The machine is essentially the standard Dennison electrostatic copier which has been adapted to handle negative or positive micro-images. A different optical system and other modifications have been incorporated into its design. The reduction ratios, 15X and 18X conform to the nationally accepted standards of COSATI (Committee on Scientific and Technical Information), DOD (Department of Defense) and NMA (National Microfilm Association). Copy cost scales downward depending upon the volume. For example at 2,000 copies the cost per copy is about five cents and at 10,000 copies it is less than three cents per copy. This cost compares very favorably with costs per copy from wet or thermal copiers

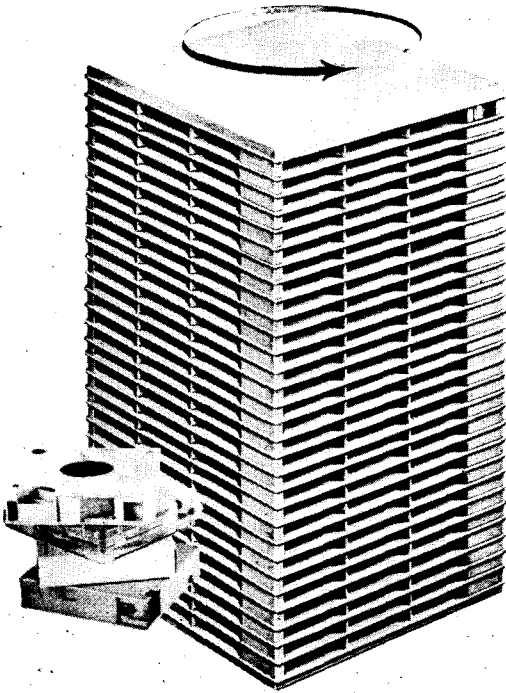


Figure 1. Carrousel Model ID-100

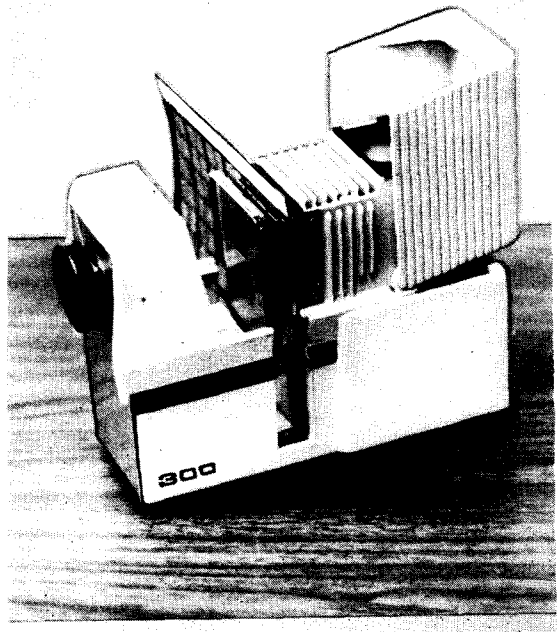


Figure 2. T-M Micro Projector Model 300

by being lower per volume. The machine is $45 \times 28 \times 21$ inches in size and weighs 300 pounds. It operates on 110 volts and produces about 7 copies per minute. The price is \$3,295. Dennison is currently developing a variety of copiers and we may expect to see other versions later this year. They plan to continue to give attention to the enlargement of images on micro-opaques.

Micro-Image Projector

A portable low cost projector for viewing microfilmed images is available from the Taylor-Merchant Corporation, 25 West 45th Street, New York 10036. This small machine called the Desk Drawer Triform Microfilm Projector, Model "300" has been designed for operation from a desk (Figure 2). At present it accepts microfiche and aperture cards. An adapter for roll film is now being developed. The machine projects the microform onto a sheet of paper $8\frac{1}{2} \times 11$ inches in size, from a short distance away and will also project it onto conference wall screens at greater distances, a convenience for group discussions. The projector, constructed of die-cast aluminum, weighs less than 3 pounds and is $8 \times 6\frac{1}{2} \times 3$ inches in size. It operates on 110 volts and has a fan-cooled 100 watt lamp which is intensified by means of a 3-element condenser system. The machine offers the possibility of a self-contained system for viewing microfilmed data or texts on microfiche at an office desk, a group conference, a library carrel, or at home. It may also serve a useful purpose in eliminating waiting time if the main microfilm reader or reader-printer is in use. The price of the Model "300" is about \$50.

Desk Top Units

The Atlantic F-66-A is the latest desk top reader for microfiche and aperture cards that has been added to the line offered by Atlantic Microfilm Corporation, Spring Valley, New York 10977. It has a dual lens system with magnification ratios of 19:1 and 22:1 for reading microfiche and microjackets, and 11:1 and 15:1 for reading aperture cards. The non-glare screen is $8\frac{1}{2} \times 11$ inches in size. This portable machine occupies less than a square foot of desk space and weighs 15 pounds. It has single knob controls for adjusting the focus and for positioning the

microform. The price is \$149. A roll film attachment that will accept 16 mm or 35 mm microfilm is available at \$40.

A desk top portable planetary camera called Regiscope Microfilmer Model "M" will microfilm any document, including bound volumes, up to 12×12 inches in size. This is the size of its copyboard. The camera has a lens preset to focus at all distances from the copyboard surface to 4.5 inches above it. The 16 mm negative microfilm has a reduction ratio of $30\times$, the resolution is 189 lines per millimeter. About 2,000 images may be microfilmed on a 100 foot roll.

One touch on a control button automatically exposes a single frame per second and then advances the film into position for the next recording. A foot pedal control is optional. A light flashes on only during exposure, thus controlling the amount of heat and glare. This planetary camera weighs 54 pounds and is $25\frac{1}{2} \times 16\frac{1}{2} \times 19$ inches in size. It requires 110-120 volts A.C. for operation. It is available at \$875 from Regiscope Corporation of America, 7 East 43rd Street, New York 10017.

Indexed Cartridges and Specialized Services

The developing activities of commercial companies in offering data banks with a basic store and a custom tailored supplementary store, show a definite trend in the direction of increased package services. Some of these include a choice of reader or reader-printer. Others supply only the microfilmed information. Subject specialization is the major feature of many of the new services.

The catalogs and specifications sheets of 2,600 manufacturers of interest to the construction industry are offered by Showcase Corporation, Detroit, Michigan 48202. The information is contained on 16 mm microfilm in 56 cartridges which are indexed and updated every 90 days. The total package including the reader occupies only a corner of a desk.

Extensive coverage using the indexed cartridge as the search unit is offered by Information Handling Services, Englewood, Colorado 80110. Some of the available files contain vendors catalogs, new products data, military specifications and military standards. Either a Recordak Model PES Reader-Printer

or a 3M Company Filmac 400 C Reader-Printer may be selected as part of the 16 mm microfilm package. This company also offers a satellite system on 8 mm microfilm in cartridges, and a small portable desk top reader. The 16 mm microfilm cartridges and the 8 mm microfilm cartridges are not interchangeable. Updated cartridges in both systems are supplied at regular intervals during the year. A file of the literature and specification sheets of 300 manufacturers of interest to architects has been put on microfiche by Commander Publishing Company, Inc., Hartford, Connecticut 06013. Each microfiche contains 60 pages of information. The two indexes, one by manufacturers' name, the other by products, will be updated every 60 days and the complete new file of microfiche updated on an annual basis.

The first of the microfiche information services was offered in 1961 by the Thomas Publishing Company, New York 10001. This service is called Thomas Micro-Catalogs. It now offers a basic file and supplementary files of specialized interest. It also includes a reader in the package. Costs depend entirely upon the number of building blocks of specialized files added to the basic system.

Random Access

A random access file system that may be expanded to accommodate any desired card or microfiche capacity has been designed by Randomatic Data Systems, Trenton, New Jersey. This system was first put into operation in a company in Plainfield, New Jersey.

The Randomatic 7500 is a desk console system having a maximum of five file tray units. It may be obtained initially with two trays and the additional trays may be added as needed. Multiple console units may be also interconnected and controlled from a single keyboard.

The keyboard punch consists of a ten-button keyboard for microfiche selection and coding as well as a punch for notching cards in a binary form along the bottom edge. File select keys permit single or multiple access to the file trays. Straight numeric or alphanumeric keys are available and the coding can be designed to fit any application. In addition to the standard coding other specialized code programs are available for applications requiring more than the standard Randomatic Code. The input, whether cards or fiches, can be retrieved almost instantly and can be refiled at random.

File tray units hold from 1,200 to 1,500 cards depending upon the thickness of the card. A tray will accept cards of paper, film or plastic. These may be standard $3\frac{1}{4} \times 7\frac{3}{8}$, 4×6 or 5×8 inches in size. A single file tray could contain over 100,000 images on microfiches.

Additional equipment such as a microfilm reader-printer and remote viewing and print out stations can be included in a system to fit any application. Randomatic also has the ability to automatically select a card out of the central file, by means of the cable connected keyboard at the distant location. A basic single tray unit system may be obtained for about \$2,000.

LTP Reports to SLA

PREPARATION of a manuscript by William R. Hawken reporting the results of an analytic and comparative study of typography and legibility is being supported by a \$6,250 grant from the Council on Library Resources, Inc. It is expected that the manuscript will be published this summer.

Typography-legibility-reproducibility studies made for the *Copying Methods Manual* (ALA, 1966) indicated the need for further work directed toward the establishment of better standards criteria for microforms of research materials. Much of this work has already been done, reaching two distinct but interrelated phases—typography legibility studies and reproducibility studies. The grant will permit completion of the first phase, *Typography and Legibility: An Analytic and Comparative Study*.

LTP has adopted a new pricing and distribution plan for *Library Technology Reports* in its continuing efforts to broaden the availability of this publication. Retroactively effective December 1, 1967, the price for a complete set of back issues of the *Reports* (three years, each of which consists of six issues) is \$95 when the complete set is ordered with a subscription for the current year (\$100). Thus, the new subscriber can get all materials published in the *Reports* to date, plus the current year subscription, for \$195, as opposed to the old pricing schedule which would require an outlay of \$325. It is hoped that this reduction of \$130 will encourage new subscribers to purchase the entire set starting with the first issue.

Through the new distribution plan, reports on single topics will be issued in a series of portfolios priced at \$35 each. Topics available in portfolio form will include: Steel shelving, manual typewriters, electric typewriters, typewriter ribbons, electric erasers, record players, catalog card reproduction, steel filing cabinets, contemporary steel office desks, contemporary posture chairs, photocopiers, microform readers, microform-reader-printers, and circulation control systems.

Such topics as card catalog cabinets, contemporary steel swivel chairs, wood straight-back chairs, and plastic straight-back chairs, are anticipated.

Materials in the portfolios will be exact duplicates of the materials as published in the *Reports*. Each portfolio will be up to date at the time of purchase—portfolios held in inventory by LTP will receive the same supplements and revisions as are issued from time to time to subscribers of the *Reports*. However, once a portfolio has been purchased, no effort will be made by LTP to update the material held by the purchaser. To update a portfolio, a purchaser would buy either the particular issue of the *Reports* (\$20) which contained the updating materials, or a new portfolio which has been kept up to date by LTP (\$35).

The largest bookbinder and rebinder in the country, Hertzberg-New Method, Inc., Chicago, has purchased a Universal Book Tester, a device that was developed through a joint program of the Special Libraries Association and LTP, and financed by a grant from the Council on Library Resources, Inc. With the UBT, Hertzberg-New Method is able to determine how long any type of binding will last.

The Federal Library Commission has authorized the drafting of an experimental contract for binding books for federal libraries based on LTP performance standards for library binding. The Library of Congress is planning to use it for fiscal 1969. It is expected that the contract will later serve as a model for all federal library binding contracts.

MRS. MARJORIE E. WEISSMAN
General Editor

Library Technology Program
American Library Association, Chicago

EDITOR'S NOTE: SLA's Special Representative to the ALA/LTP Advisory Committee is Don T. Ho, supervisor of Technical Information Libraries, Bell Telephone Laboratories, Holmdel, New Jersey.

SLA Hall of Fame 1968

PRESIDENT ELIZABETH R. USHER has announced that two members who have made outstanding contributions to the growth and development of Special Libraries Association over a period of many years have been named to the SLA Hall of Fame in 1968.



Eleanor Beatrice Gibson has been described as quiet, efficient and effective through her thirty-one years of membership in SLA activities. In addition to her continuing activity at the Chapter and Division levels and in Association-wide committee work, she has also been active in many other professional organizations. Miss Gibson has described her SLA activities as a privileged duty, and cites the mutual learning derived from cooperative efforts with her colleagues in the Association. She first served as editor of the Connecticut Valley Chapter's bulletin, 1939-40. After transferring to the Upstate New York Chapter she served as a member or chairman of many committees, and again also edited a Chapter bulletin, 1957-58. Top level offices in the Upstate New York Chapter were Vice-President, 1958-59, President, 1959-60, and Director, 1962-63. Two divisions have benefited from Eleanor Gibson's interests: Insurance and Metals/Materials. In 1950-51 she was Secretary-Treasurer of the Insurance Division. From the time of her charter membership in the Metals Division she has been chairman of six committees of the Division. The top offices of the Metals Division were filled with distinction as Vice-Chairman, 1960-61, and Chairman, 1961-62. She has contributed to two Association Conventions: as Registration Chairman in 1941 at Hartford and as Exhibits Chairman for the Fiftieth Anniversary Convention in Atlantic City. In 1962 the University of Toronto was the site of her John Cotton Dana Lecture.

Miss Gibson was born in London and traveled to the U.S. with her parents before her first birthday. More distant travels to Australia, Japan, New Guinea and the Philippines came during her two tours of duty as Captain, U.S. Army WAC in 1942-46 and 1950-51. She holds an A.B. from Cornell University (1928), and an M.S.L.S. from Syracuse University (1957) with additional advanced studies at St. Joseph's College, West Hartford, Connecticut, and at the Carrier Institute of Business, Syracuse, N. Y. Her business career began at Aetna Life Affiliated Companies, Hartford, Connecticut in 1928; where she served as librarian of Aetna's Research Division (1933-46). From 1947 until her retirement in 1967, Miss Gibson was librarian of the Carrier Corporation's Logan Lewis Library in Syracuse. "Retirement" includes part-time assistance in the library of Bristol Laboratories, Syracuse. The ADI Upstate New York Chapter has also benefited from Miss Gibson's services as editor of its Newsletter, and as director and archivist. The Central New York Chapter of STWP has also claimed her knowledge in her service as a director. In 1967-68 she has served as president of the Syracuse University Library School Alumni Association. Her other affiliations include ASLIB, New York Library Association, Women's National Book Association, National Management Association, and the College Art Association of America. In 1958-59 she was president of the Syracuse University Chapter of Beta Phi Mu. Miss Gibson has also been a long-time member of the Aircraft Owners and Pilots Association. In addition to

several papers published in *Special Libraries*, she is the co-editor of a best seller—the second edition of SLA Bibliography no. 3, *Guide to Metallurgical Information*, published in 1965. Eleanor Gibson has been described as one of the modest people who do the heavy work of an association without fanfare. Throughout her career as a special librarian she has been concerned with the profession, working to strengthen both the profession and Special Libraries Association.



Anne Lea Nicholson "has played decisive part in a noteworthy professional contribution by displaying imagination, stimulation and leadership. . . ."* These words of the citation, which were read at the presentation of the SLA Professional Award to Miss Nicholson in 1950, are accurately descriptive of her thirty-one years of membership in Special Libraries Association. Her nominators this year have cited her activities at every level of the Association: chairman and member of many committees, president of two Chapters (Connecticut Valley and the Philadelphia Council), Chairman of the Chemistry Section,

Chairman of the Science-Technology Division, Treasurer of the Association, and 1965 Philadelphia Convention Chairman. Through all of these levels there has been evident her strong and continuing attitude that each member must support his professional association with professional pride and with dignity of service to others. Anne Nicholson has always shared generously of her time, her insight, and her professional knowledge. She has often demonstrated the value of objective evaluations in the presentation of recommendations to the Board of Directors as she has urged new developments and activities for SLA. She has always urged that all members participate in timely and forthright communications with the Association's officers to insure continuing development and growth. Born in New Jersey, Miss Nicholson is a graduate of the Westtown School (Pennsylvania). She holds a B.A. (1930) and an M.A. (1931) from Bryn Mawr College where her major subject was physics with a minor in physical chemistry. Further graduate work in physics at Bryn Mawr and at the University of Virginia followed two years as Fanny Bullock Workman European Fellow at the Physico-Chemical Institute in Copenhagen, Denmark (1931-33). From 1937 to 1946 Miss Nicholson was librarian of the Research & Development Department, Naugatuck Chemical Division, U.S. Rubber Company (now Uniroyal, Inc.), Naugatuck, Connecticut. From 1946 until her retirement in 1967 she was librarian for the Technical Division. Pennsalt Chemicals Corp., King of Prussia, Pennsylvania.

One year after joining the Association the first of her many contributions to SLA began as Director-at-Large of the Connecticut Valley Chapter, followed by her term as the Chapter's President. Some of Miss Nicholson's more important offices have been the Association Treasurer (1958-60) and the 1965 Philadelphia Convention Chairman. During her term as Treasurer she applied her keen analytical approach in the analysis of the Association's finances from 1942 to 1959 in relation to the growth of membership expenses, income, and accumulated and accrued operating surplus. Committee activities at the Association level include the Constitution & Bylaws Committee, 1946-48 and 1960-64; Finance Committee, 1948-50 and 1958-64; Awards Committee, 1950-51, and Committee on Committees, 1957-59. As a member of SLA's Philadelphia Council, she twice served as Director of that Chapter, 1949-50 and 1956-59. In addition to service on many Chapter committees, she was Chairman of the Philadelphia Sci-Tech Group, 1948-49. Her term as Chairman of the Chemistry Section, 1950-51, was followed immediately in the Science-Technology Division as Vice-Chairman, 1951-52, and Chairman, 1952-53. From 1958 to 1967, Miss Nicholson was the SLA Representative to the Office of Critical Tables Advisory Board, National Academy of Sciences/National Research Council. She

was a contributor to the Association's publication, *Handbook of Scientific and Technical Awards, United States and Canada, 1900-1952*, which was published in 1956. Her selection as the recipient of the 1950 SLA Professional Award was in recognition for her key role in the preparation, editing and publication of the *Numerical Index to the Bibliography of Scientific and Industrial Reports, Volumes 1-10, 1946-1948*. This book has been described as "a reference tool of enduring value."*

* *Special Libraries*, vol. 41, no. 6, 231-32 (July-August 1950)

The SLA Hall of Fame

William K. Alcott* (1959)	Josephine I. Greenwood (1963)	Mrs. Elizabeth W. Owens (1966)
Mary Louise Alexander (1966)	Daniel N. Handy* (1959)	Rebecca B. Rankin* (1959)
Sarah B. Ball* (1959)	Margaret Hatch (1964)	Mrs. Margaret Miller Rocq
Dorothy Bemis (1960)	Mary Jane Henderson (1964)	(1962)
Rose Boots* (1962)		Ruth Savord* (1960)
Florence Bradley (1960)	Thelma Hoffman (1961)	
Herbert O. Brigham* (1959)	Josephine B. Hollingsworth	Anna B. Sears (1959)
Alberta L. Brown (1961)	(1959)	Lura Shorb* (1959)
Marguerite D. Burnett (1959)	Mrs. Ruth H. Hooker (1965)	Fannie Simon (1962)
Eleanor S. Cavanaugh* (1959)	Pauline M. Hutchinson (1960)	Howard L. Stebbins (1966)
	Dorsey W. Hyde* (1959)	Mrs. Kathleen Brown Stebbins*
		(1963)
Alta B. Clafin* (1959)	Mrs. Lucile L. Keck (1963)	
Betty Joy Cole (1963)	Dr. John A. Lapp* (1959)	Mrs. Irene M. Strieby (1959)
John Cotton Dana* (1959)	Guy E. Marion (1959)	Rose L. Vormelker (1963)
Dr. Jolan M. Fertig (1964)	Alma Clairvoe Mitchell* (1959)	Marion E. Wells (1964)
Eleanor B. Gibson (1968)	Linda H. Morley (1959)	Mrs. Marian Manley Winser*
		(1959)
Mrs. Marie Simon Goff (1965)	Anne L. Nicholson (1968)	Laura A. Woodward* (1959)

* Deceased

Partners in Research: The 1968 Conference Theme

"Special Libraries—Partners in Research for Tomorrow's World" is the story line of the 59th Annual SLA Conference in Los Angeles. From the Pre-Conference Planning Session for Continuing Education through two general sessions sparkling with impressive arrays of technical papers to the Post-Conference Seminar on Management Skills and Techniques, the vital issues of special librarianship's role in various postures and relationships will be examined. No one will question that partnership for the special librarian is multidimensional, interrelated, colorful and catalytic.

The formal opening for the Conference takes place at the heart of one of the most formally bejewelled landscapes Los Angeles can offer, the Dorothy Chandler Pavilion of the Music Center complex, which is itself the result of a partnership in benevolence, gracing the city with an artistic cultural center. The reception and buffet in the Music Center Foyer will move into formal Conference initiation with welcomes and introductions in the spacious and beautiful auditorium. Dr. William H. Pickering will deliver the keynote address. He directs the operations of California Institute of Technology's Jet Propulsion Laboratory, which appropriately functions at a key junction of the many-branched network making up



View From Atop Los Angeles Occidental Center Building

Bob Grosh

our national space system. He is past master of farsighted mapping for new projects and experiments, and he has demonstrated his respect for reliable information, in the midst of the information explosion.

Challenges for special librarians from users and from management will be explored in the first technical papers session Monday morning. A total of twelve papers will be presented in three sections running simultaneously. The papers consider the challenges of the future for the special librarian, the challenge to expect from the new breed of users, and the challenge to expect from library management tomorrow. The final technical papers meeting will be devoted to national data banks, describing some accomplishments of national standard reference data, the collected information for national censuses, coordinated national information systems, social science data, and the threat to the human being in large-scale data banks systems. Both the look to the future at what will be needed and the look at what existing technologies can provide now are meaningful steps in planning for effective partnership.

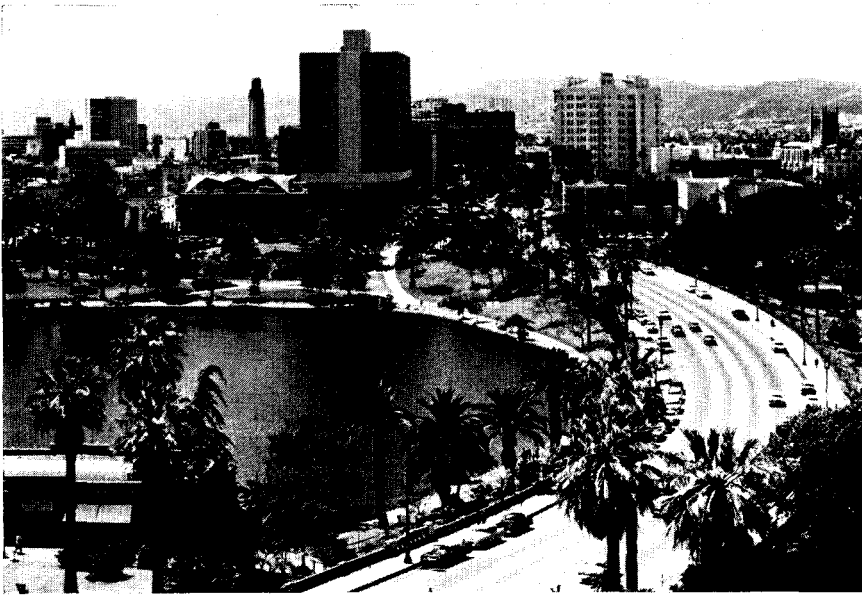
The special library community of Southern California has long enjoyed the dominance, number-wise, of science-technology with large defense contractors in aerospace and electronic data processing drawing freely from California's expansive institutions of higher education, and, in turn, stimulating research and development and providing field work problems as well as laboratory facilities. The education establishment and scientific research industries share in a mutually beneficial interaction. Petroleum, motion pictures and the communication businesses are glamorous rivals, as a glance at the tours scheduled throughout the Conference program affirms. The City of Angels abounds with things to do in free time, a commodity as hard to come by during this 59th Conference as it is for the year-round inhabitant.

Included in program tours are several short walking tours, and a boat trip to an off-shore drilling installation, or a bus ride up the coast to the Pacific Missile Range or to St. John's College in Camarillo, shorter bus trips to a variety of attractions including the Huntington Library, movie studios, the universities and aerospace companies. Participants in the Watts community rebuilding program will bring a report to us. If none of these appeal, the Information and Hospitality Committees have been hard at work collecting descriptions and directions for things to do in and around the heart of the megalopolis.

Mechanization of information retrieval systems is discussed either directly or implicitly in virtually every meeting of every group. Having passed the phase of the talked-about novelty, automation is under active experimentation or intense analysis and planning in many situations, and operating systems will be much in evidence. Both Dr. Robert M. Hayes and Dr. M. E. Maron, Directors of the Institute of Library Research for the University of California, will participate, for the machine is clearly a part of our partnership.

Every division has surpassed expectations to provide exercises in decision-making choices that defy the most sophisticated methodologies. There are a total of 128 meetings packed into five full days in addition to open houses and socializing, and both a Pre- and a Post-Conference happening. The entire program for this *first Conference*—but SLA's 59th Annual Meeting—reflects the excellent planning of Miss Helen Waldron and her Conference Program Committee; even the most apathetic appetite must be whetted.

DORIS H. BANKS
Conference Vice-Chairman



Practical Tips for Conferees

Weather, clothes, busses, taxis and other native customs

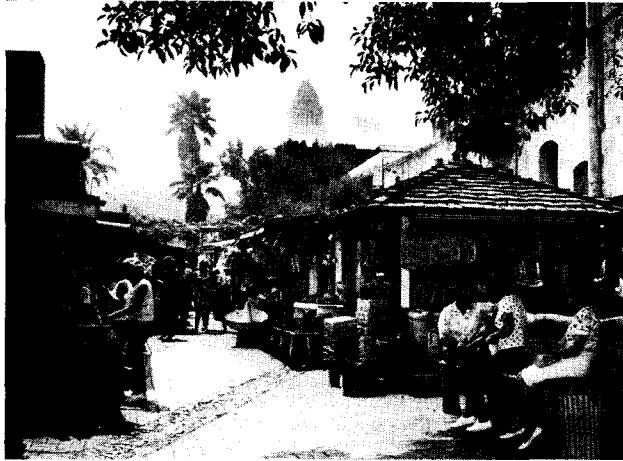
THE WEATHER IN LOS ANGELES has the reputation for being unusual always. Nevertheless, we will risk predicting that June will be a cool spring month with morning fog. By noon the hot desert sun will have burned off the fog, and summer clothes and a dip in the pool might be in order. No matter how gloomy the morning, it is unlikely to rain more than a drizzle in June. Those of you who are experienced conventioners know that hotels have their own climates, and on the hottest day a sweater may be necessary to combat the cooling drafts from the air conditioning. At night in Los Angeles you always need a light coat or wrap, no matter how warm the day.

There is no place on earth where you will see such informality and variety in dress as here. Within a block of your hotel you may see slacks and gold mules, Hawaiian shifts, mini-skirts and net stockings, tailored silk suits, cotton sun dresses, Indian saris or oriental sheaths with slit skirts. If you keep your eyes on the sidewalk, you may see gold-

jewelled sandals, tall black boots, high French heels, broad flat walking shoes, tennis shoes or plain bare feet—our teen-agers. Whatever you wear, you'll fit right into the picture.

Our advice to the girls is to leave your fur coats, rain coats and opera hats at home and bring a lightweight knit suit or two, some cottons—dark or light—perhaps a lightweight jersey dress, a sweater, a light coat and something dressy for cocktail parties. Don't forget a bathing suit if you like to swim. No matter how glamorous the shoes you wear to meetings in the hotel, bring some comfortable flats for sightseeing.

For the first time in our recollection the banquet will be "black tie optional." This gives you lots of leeway. We will be happy for the festive touch if you feel like wearing a long formal dress, but if you'd rather wear a cocktail dress or a mini-dress, we'll be happy too. For the men we suggest that if you don't want to bring along a dinner jacket, you wear a dark suit and black



Olvera Street

bow tie to the banquet. You'll fit right into the picture and make the gals happy too.

As far as transportation is concerned, remember that Los Angeles is a spread-out sprawling city. When planning your day, it will pay you to use a map. Transportation can consume a great deal of time and money. The basic taxi fare is 50 cents for the first one-quarter mile and 40 cents for every mile thereafter. There is a small additional charge for time involved which will add to your cost if you are unfortunate enough to be delayed in traffic. Just a few examples of simple trips which you might want to make will give you an idea of transportation costs.

The distance from the Los Angeles International Airport to the Statler Hilton is about eighteen miles. This takes about 45 minutes by bus or taxi. The taxi fare for such a trip would be at least \$7.50 without tip. The airport bus fare for the same trip is \$1.15 and busses run at least every thirty minutes to and from the Statler nonstop.

Some evening you may want to dine on restaurant row on La Cienega. You could take the bus going west on Wilshire to La Cienega and transfer at La Cienega to the northbound bus. The bus fare is 46 cents. A cab for the same trip would be about \$4.50 or more depending upon how far north your restaurant is. If you can arrange to share a cab with friends, the cab company

will permit five passengers and you can share the fare.

In case you are planning to make a trip to the University of California at Los Angeles (UCLA) which is about fourteen miles west of the hotel and about a mile north of Wilshire, you might take the UCLA bus straight out Wilshire which will take you right to the campus. The bus fare is 54 cents as compared with taxi fare of about \$6.00.

The new Los Angeles County Art Museum, which is about eight miles west of the hotel on Wilshire, can be reached easily by bus for 38 cents. Taxi fare is \$3.50 or more.

Another practical matter which will be of interest to those of you who like your drinks more fortifying than ice tea is that June 4 is an election day in California. This means that all cocktail bars and liquor stores will be closed from 7:00 AM until 7:00 PM. Suitable preparations to meet this emergency may be in order.

Finally, a word of warning about jaywalking. This is an offense which can easily earn you a ticket in Los Angeles. But, if you are driving, remember that pedestrians always have the right of way—even if they are jaywalking.

BARBARA L. WIGHT
Transportation and Tours Chairman

ELIZABETH S. ACKER
Publicity Chairman

Special Libraries in Greater Los Angeles

ON FIFTY MILES a day you could not begin to cover all the special libraries in Greater Los Angeles during the week of the SLA conference. Special libraries in and around the city are as *numerous* as they are *special*.

Many Conference sessions will be held in libraries; some are scheduled as stops on tours, and others you will hear about from their librarians as they speak in divisional meetings. A few of the important libraries are described below.

Art and Museums

For members of the Museum and Picture Divisions there is the LOS ANGELES COUNTY MUSEUM OF NATURAL HISTORY (900 Exposition Boulevard, adjacent to the University of Southern California campus). Its collection of more than 40,000 volumes and as many pamphlets is open to those interested in archaeology, anthropology, paleontology and related sciences.

THE COUNTY MUSEUM OF ART LIBRARY (5905 Wilshire Boulevard, 937-4250) is located in Hancock Park adjoining the famous Tar Pits. Although the building was completed in 1965, the library collection dates from 1920. Surrounded by outdoor sculpture and fountains it presents a spectacular appearance. A special tour is planned for the Museum Division for Monday, 9:00 A.M.-noon. The library will be open by appointment Tuesday through Friday, 10:00-4:30 P.M.

The most extensive museum library in the west is midway between Los Angeles and Pasadena, at the SOUTHWEST MUSEUM (Highland Park). Its 120,000 volumes include rich collections of Pre-Columbian codices, Arizoniana, Indian art and language, and early imprints of southwestern states. You will be welcome at this unique library Tuesday through Saturday, 1:00-4:30 P.M.

The HENRY E. HUNTINGTON LIBRARY

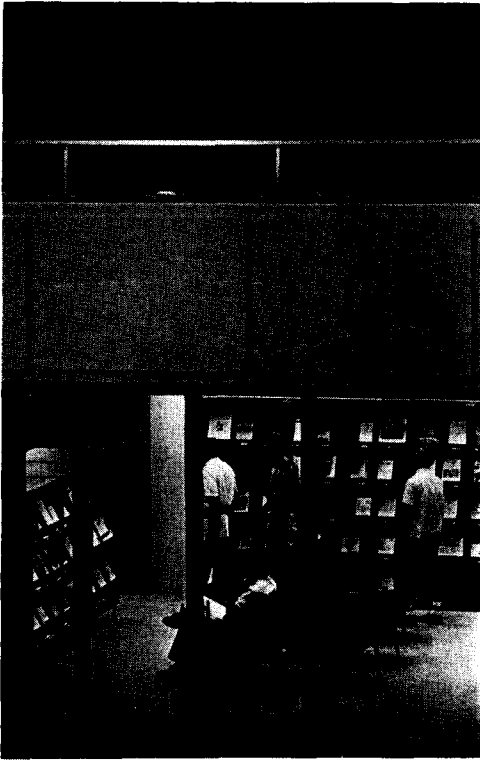
AND ART GALLERY in San Marino will be host to the Publishing Division on Tuesday, 1:00-4:00 P.M., and on Thursday, 2:00-5:00 P.M. to the Picture Division. This great private library, turned public, enjoys a national reputation as a center for research in the humanities. Its collection is in excess of one-half million volumes. When you visit this library allow plenty of time for the residence gallery, rich in eighteenth century British landscapes and portraits, for example: Gainsborough's *Blue Boy* and Lawrence's *Pinkie*. The library is open Monday—Saturday, 8:30-5:00 P.M.

Second to this great library is the EDWARD L. DOHENY MEMORIAL LIBRARY on the campus of St. John's College in Camarillo, a one hour drive from Los Angeles. This little jewel of Spanish architecture houses a varied and rich collection accumulated by one of the country's great woman book collectors, Estelle Doheny. The Museum and Picture Divisions will be toured and entertained on Monday, 2:30-5:00 P.M. The collection is rich in fine press books, a Gutenberg Bible, rare manuscripts, a set of the "signers," and choice Californiana. If you can't make it on Monday, try another day.

Another of the country's great private collections, now a part of the UCLA's sprawling library complex in the WILLIAM ANDREWS CLARK MEMORIAL LIBRARY (2520 Cimarron, near Western Avenue and east of Adams), open Monday through Saturday, 8:00 A.M.-5:00 P.M. The beauty of its building and the superb collection offer a real treat to book lovers. The collection is known for Shakespeariana, age of Dryden, and Wilde's works and manuscripts. The Eric Gill collection highlights its twentieth century fine printing.

Studios

The Picture and Advertising Divisions have planned a studio omnibus tour for



World Affairs Library—UCLA

Wednesday, 3:00-5:00 P.M. The first stop will be at WALT DISNEY PRODUCTIONS LIBRARY (500 S. Buena Vista, Burbank). If you cannot join the tour, you will be welcome Monday—Friday, 8:00 A.M.-5:00 P.M. The second stop will be in Culver City at the METRO-GOLDWYN-MAYER RESEARCH DEPARTMENT LIBRARY (870-3311, ext. 1474), and then to Los Angeles to 20th CENTURY FOX RESEARCH LIBRARY (897-2211). Both libraries will welcome visits 9:00 A.M.-6:00 P.M., by appointment. Each of these studio libraries is unique, but they are alike in that their enthusiastic staffs feel they play a leading role in each picture produced and they can show evidence of their contributions.

A central source of information for all facets of the movie industry is in the heart of Hollywood at the ACADEMY OF MOTION PICTURE ARTS & SCIENCES (9038 Melrose Avenue, 275-1146). The collection is archival with post-production materials.

For the librarian with law interests there is the LOS ANGELES COUNTY LAW LIBRARY (301 West First Street) which has seven branches, and close to one-half million volumes including a rare history of law collection. For the finest in private law firm libraries we recommend O'MELVENY AND MYERS (433 South Spring Street). There are many and varied economic and business firms within walking distance of the Conference Headquarters hotel that have libraries well worth a visit.

Medical

Medical libraries are scattered and numerous. Those serving medical schools are: VERNIER RADCLIFFE MEMORIAL LIBRARY, Loma Linda University at Loma Linda (about a one hour drive east of Los Angeles near San Bernardino); U. C. IRVINE, CALIFORNIA COLLEGE OF MEDICINE (now at 1721 Griffin Avenue in Los Angeles) soon to be moved to Irvine to serve the newest medical school at the University of California; UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE (2025 Zonal Avenue), USC's new medical library with a capacity for 200,000 volumes is scheduled for completion in July 1968; and the extensive BIOMEDICAL LIBRARY on the University of California at Los Angeles campus. However, if you must restrict your tour to one not-so-far-away medical library, visit the LOS ANGELES COUNTY MEDICAL ASSOCIATION, five minutes from the Statler Hilton along Wilshire Boulevard to Westlake Avenue. You will be impressed not by plush facilities, but by its friendly atmosphere and fine rare book room. Incidentally, this is the library of our Conference Chairman, John Connor.

Science and Engineering

Chemistry has a way of working itself into many areas of research, petroleum being one. Librarians with chemistry as a specialty will want to visit petroleum plant libraries as well as AMERICAN POTASH AND CHEMISTRY CORPORATION, TECHNICAL INFORMATION CENTER (201 Washington Boulevard, Whittier) would be a good start and an opportunity to see Termatex in action.

With California's oil bedded deep in its

deserts and down under the bordering Pacific, petroleum libraries in oil refining firms have rich holdings in geology and oceanography as well as engineering. The Information Center at CHEVRON RESEARCH COMPANY in La Habra is well worth the trip. ATLANTIC-RICHFIELD TECHNICAL LIBRARY in Wilmington will be host to the Documentation, Nuclear Science and Petroleum Divisions on Wednesday, 8:00-10:00 A.M. Here you will see a collection with emphasis on refining.

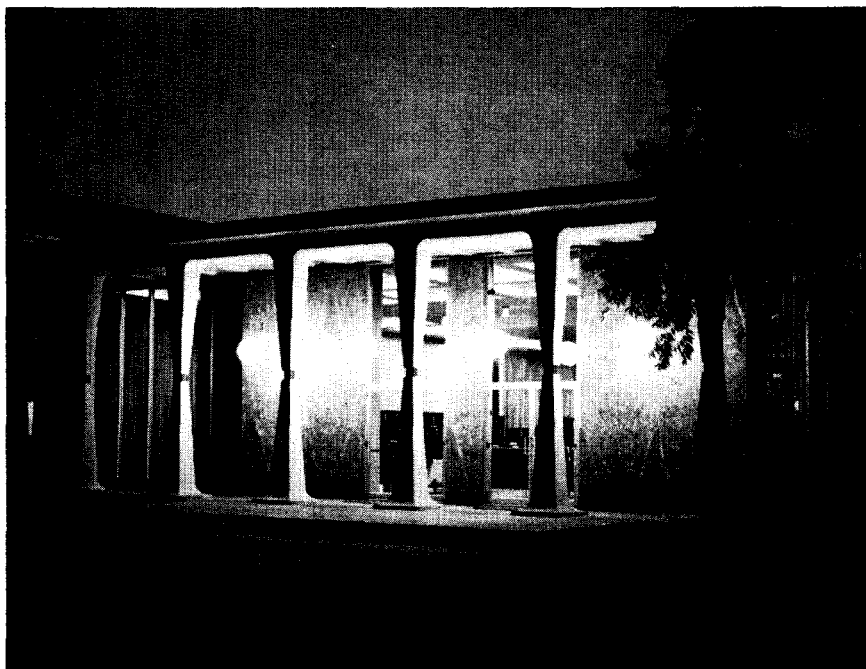
C. F. BRAUN & COMPANY (Alhambra, 182-1131) is primarily an engineering company. Its Reference Library reflects the interest of the firm's founder, and author and bookman. The setting is designed for comfort and service, and the collection is intended for breadth in reading and depth in research.

The really "special" libraries in Southern California are those serving aerospace sciences. They grow, merge, split and change names to keep pace with their developing companies. The Metals/Materials and Aerospace Divisions have a treat awaiting them on Wednesday, 10:00 A.M.-4:00 P.M., as

guests at the MATERIALS LABORATORY AND MICROFICHE CENTER of North American Rockwell Corporation. As this unique library is not open to the public, join the tour on Wednesday.

Over the hills and across the valley, about a one hour drive from the Statler Hilton, is another member of the North American family of libraries, the SCIENCE CENTER LIBRARY (Thousand Oaks, 398-4545), visitors by appointment. This collection of general science literature is "open" as the Center does not engage in classified research. Its concern is with scientific research. You will be impressed by the beautiful buildings and landscaping.

In the U-shaped complex of AEROSPACE CORPORATION (El Segundo), stands an architect's gem designed for comfort, convenience and service. The library assists 1,800 scientists and 500 administrators with a collection of close to 40,000 volumes, and a large multilanguage collection of periodicals. As the business of aerospace advances, ballistics, missiles and space systems from concept to countdown are the concern of this



Aerospace Corporation Library

unique library. There are six libraries in Southern California serving various facilities of the HUGHES CORPORATION. The largest is in Culver City (391-0711). Make an appointment for a visit.

One of the largest general research libraries in the area is that serving RAND CORPORATION in Santa Monica (393-0411). Its major strengths are in astronautics and computer sciences.

While in Santa Monica don't miss SYSTEM DEVELOPMENT CORPORATION'S LIBRARY (393-9411). Here you will find concern for anything systematizable from administration to space. To see its SAGE system in action is worth a visit. Call for an appointment.

If you want to see one of the West's most unique research libraries don't miss the MARINE RESOURCES LIBRARY at the Department of Fish and Game on Terminal Island, San Pedro (TE 2-7222). You will be amazed at the controlled bulk of over 1,000 periodicals

concerned with the library's speciality coming from far away countries of Africa and Asia as well as those near by.

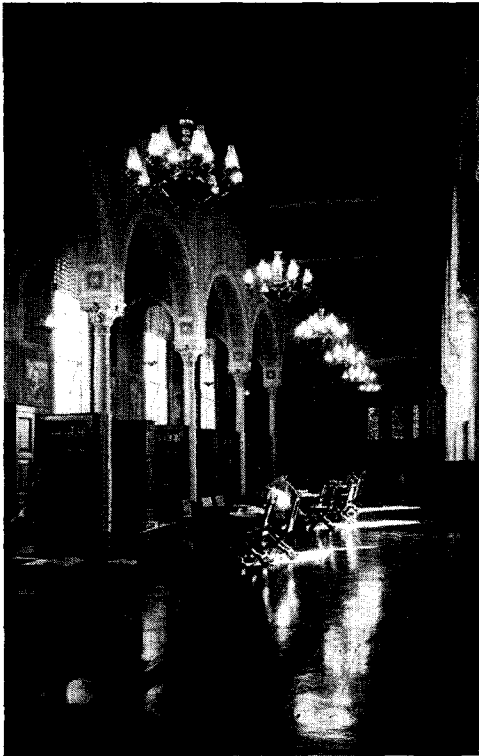
Universities

Academic libraries in the areas of interest to special librarians are far too numerous even to list. UCLA libraries highlight the tour itinerary: The BIOMEDICAL LIBRARY will be toured by the Biological Sciences Division, Wednesday morning. The Picture Division will be guided through UCLA libraries Wednesday, 9:30-11:15 A.M. The Business & Finance, and Transportation Divisions will tour the UCLA campus on Wednesday, 2:00-9:00 P.M. The Geography and Map Division will be on campus all day (9:00 A.M.-5:00 P.M.) to visit the Map Library and the Latin American Center and other collections of related interest. Join with one of these tours or try it on your own, but don't miss UCLA.

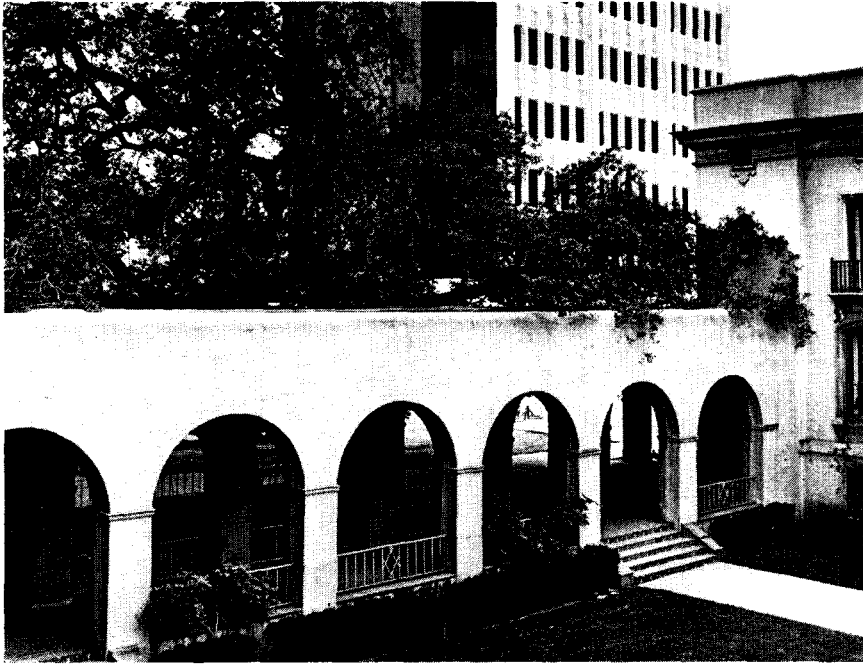
University of Southern California's growing urban campus in south central Los Angeles is engaged in a building program involving six major libraries. Recently completed is the Von KleinSmid Center with its WORLD AFFAIRS LIBRARY. This special collection in international relations and public affairs is in excess of 100,000 volumes and includes United Nations, United Arab Republic, and Israeli documents.

Equally worth a visit is the CROCKER LIBRARY in the new Graduate School of Business Administration. A lofty Romanesque hall provides the background for the HOOSE LIBRARY OF PHILOSOPHY in Mudd Memorial Hall. This quiet retreat contains many rare books and manuscripts and the important Gomperz collection of European philosophy, 1700-1850. These are just a few of the fine libraries on the USC campus. Arrange your own tour, and know that you will be welcome.

Across Los Angeles, in the heart of Pasadena, there is the ROBERT ANDREW MILLIKAN LIBRARY at California Institute of Technology. This nine-story new building (completed July 1967) has centralized six separate collections. If you have dreams or plans for building, no matter what size, do visit this great building. With open hours 8:00 A.M. to 2:00 P.M. you can't miss.



Hoose Library of Philosophy—USC



Robert Andrew Milliken Library—California Institute of Technology

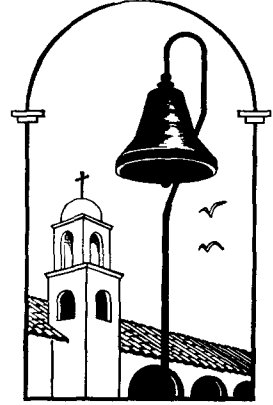
Public

Within walking distance of the Statler Hilton is the LOS ANGELES PUBLIC LIBRARY which with its branches has a total circulation second only to the New York Public Library. The Insurance Division has planned a tour for Thursday, 2:00-4:30 P.M. that will wind up at Dawson's Bookshop in the shadow of the hotel. The library has twelve subject departments, each of which is a special library. The Science and Technology, Business and Economics, Art and Music, and History Departments are among the special collections which are outstanding. Unusual are the Municipal Reference Department (624-5211, ext. 3791) housed in the City Hall, the Police Library (624-5211, ext. 3288) at 150 North Los Angeles Street, and the Water and Power Library (481-4612) in the prize winning Water and Power Building opposite the Music Center. In these three libraries all phases of municipal activities and public administration are covered.

Regrettably, space and time do not permit a more complete description of our many interesting libraries. We have attempted to list a sampling in a variety of subject categories and have tried to include those which will be on your path as you attend various Conference functions, but many handsome and important special libraries have had to be omitted. For a more complete list see our new edition of the *Directory of Special Libraries of Southern California*, copies of which will be available at the Conference Information Desk. You may want to consult this or the *American Library Directory* in planning your library tour during or after the Conference. It is always advisable to make an appointment unless the library is obviously public.

SISTER REGIS REYNOLDS
School of Library Science
Immaculate Heart College
Los Angeles, California

Voyeurs, the Exhibitionists Are Waiting!!!



IN A RECENT LUBRICIOUS NOVEL on the bestseller list (our own library had fourteen reserves!), one of the characters divides people into two classes, exhibitionists and voyeurs. At the risk of oversimplification, these terms might be used to describe the two classes of people who will be in the various exhibit areas of the Statler Hilton Hotel during the Super Los Angeles Conference of SLA—those that are there to be seen and those that are there to see.

Those exhibitors who have gone to the expense of purchasing booth space and bringing to the Conference their staff to man their booths have done so to acquaint you with their new titles, new products, or new services as the case may be. You have probably already dealt with many of them. This is the chance to become personally acquainted with a person who formerly was but a name at the bottom of a letter or a disembodied voice over the telephone. This is the chance to renew or make new personal acquaintances with the men and women who deal in the products and services without which none of us could operate.

The exhibits are as much a necessity in keeping abreast of current developments which may assist you in your library operations as are the programs themselves. That vital nucleus of an organization, whether it be a library, an information center, or whatever, is its own unique amalgam of books, periodicals, reports, documents in historic, electro-

magnetic or other format, in original or microsize, in an assemblage that has been developed to best meet the needs of the organization. These components are added, filed, issued, copied, returned or recalled, refiled by a variety of methods, using a variety of paraphernalia, oddments, machines, mechanical or electrical, etc.

The exhibitors are there to be seen, to be visited, and to discuss the elements of your collection, and methods you are using to handle these elements. They will be happy to see if they can help you with problems you may have, either with the elements or the methods. You owe it to yourself and to your organization to visit the exhibits and keep current with the new services and products which may benefit your library. So cast off those inhibitions and meander through the conveniently located exhibit areas as an unabashed voyeur. Your eyes might pop wide open with seeing something that might just answer that particular question or solve that particular problem that you left back at the library.

*VOYEURS, THE EXHIBITIONISTS ARE
WAITING!!!*

WILLIAM L. EMERSON
Exhibits Chairman

SPECIAL LIBRARIES

LETTER TO THE EDITOR

SOME THOUGHTS ABOUT CODEN*

CODEN is the name of a system for assigning five-letter code names to each journal which has come to the attention of its compilers. Because of the potential number of different five-letter combinations (26^5) it can be assumed that the system has room for all journals now published or about to be published in the foreseeable future.

CODEN is being compiled with the aid of computers; duplication of previously assigned codes has thereby been avoided. The compilation appears to be based on bibliographic citation rather than on the examination of actual journals. This method introduces various difficulties for CODEN users working in a library situation.

The Belfer Graduate School of Science Library, part of the Yeshiva University system in New York City, is preparing for the automation of serial records. We decided to use CODEN as the code which will identify the records of each journal; among the reasons for this decision was the knowledge that CODEN is being used by such services as Chemical Abstracts. We assumed, possibly over-optimistically, that CODEN would be used in the future as a tool in scientific communication, permitting a radical simplification of journal citations, interlibrary loans, union lists of all descriptions etc. By preparing machine-readable records and by adopting CODEN as our code system, we hoped to come within easy reach of the developing bibliographic services which prepare machine-readable information keyed into the same code.

As we began using CODEN, we discovered a multitude of difficulties which fall, roughly, into four groups:

1) *Simple Mistakes.* We have found, for

*CODEN for periodical titles; prepared and maintained for the ASTM Special Committee on numerical reference data by the Wyandotte-ASTM punched card project, L. E. Kuentzel, ed. Phila. American Society for Testing and Materials, 1966. 2d ed. in 2 vols. \$85.

example, index entries which did not appear among the title entries. Other errors of this kind will undoubtedly be found by others and, we trust, are being sent on to the editors for correction in the third edition.

2) *Inconsistencies and Language Difficulties.* While the introduction promises one way of identifying all translation journals, the promise has not been kept in fact, giving rise to confusion. Journals which have multi-language titles may have a different CODEN for the title in each of the languages. Each request concerning a foreign language journal receives a new CODEN even if a CODEN has already been assigned under a different form of entry. Without apparent reason, some journals have different CODEN for each series, others do not; some have different entries for each of their sections, others do not.

3) *Multiple Entries.* Publications of societies, particularly the German academies, have separate CODEN for each of their cover titles; where "title varies" appears in the Union List of Periodicals, different CODEN have been assigned instead of using the simple tool of added entries. For a librarian looking for one volume in a long run of bound journals, this method is worse than useless.

4) *Lack of Definition.* The multiple entries mentioned above are unintelligible because they are not defined by years of publication. Many other entries which reflect changes in scope, title, or sponsoring agency, would become clearer if the years of publication information were included.

As we found more and more problems, we began asking other librarians in New York how they were coping with CODEN. Each one has developed his own solutions—some make up new codes, some pick one CODEN entry and ignore all others for that journal, some devise numerical codes. Their methods work admirably in their own libraries but each sensible solution, applied in one library only, helps to undermine the future usefulness of CODEN. It would behoove the library profession to explore the potential advantages of CODEN and to seek cooperative solutions to

the present drawbacks of the system before giving up the struggle by default.

I would like to suggest that the effort should be made; if it is to be successful, it will have to be based upon librarians' actual experience with specific titles and their CODEN. Undoubtedly, such an effort would cost money, but funds for the standardization of other aspects of library work have been found in the past. Undoubtedly difficulties will arise as efforts are made to correlate entries derived from citations with those used by libraries.

While the difficulties are vexing, the idea of CODEN is great because it is so simple. Librarians should spare no effort in making CODEN work. If made to work reasonably well, CODEN could provide a universal language for all dealings with journals and information appearing in them.

The rewards of a workable, and possibly universal system of title abbreviations are without doubt greater than the difficulties which must be overcome.

MRS. LEA SAXL
Librarian, Belfer Graduate School of Science
Yeshiva University, New York

Five-Letter CODEN

The goal of compiling five-letter codes, or CODEN, for the titles of all the world's periodical publications in science and engineering has been aided by a \$26,900 grant from NSF to ASTM. CODEN for 40,000 titles have already been compiled and published. The target date for publication of the complete list expected to exceed 100,000 titles is August 1969.

SLA Placement Service at Conference

The SLA Placement Service will be available to SLA members and to employers registered at the Conference in Los Angeles. Hours and location of the Placement Service will be listed in the Conference Program.

Résumé forms for members who are interested in vacancies can be obtained from the Membership Department, Special Libraries Association, 235 Park Avenue South, New York, N. Y. 10003. The completed résumé forms must be returned by May 20. The Placement Service will arrange interviews at the Conference.

Employers with vacancies may request a "Job Opening" form from the same address as above; the deadline for their submission is also May 20. Job descriptions for the vacancies will be posted at the Conference.

Nominations Please!

The words of Francis Bacon, "I hold every man a debtor to his profession" take on important significance for all SLA members as we approach the nomination of officers for 1969-70. Professional responsibility involves dedicated service to our Association at all levels of its activities. Our elected officers are the articulate voice of the total membership. Potential candidates for elected office should be knowledgeable of all phases of Association activities, dedicated to its aims and ideals, representative of the membership's diversified professional interests and various geographical areas. The nominating committee asks for your carefully considered suggestions.

Suggested nominations for 1969-70 (including President-Elect, members of the Board of Directors, and Chairman-Elect of the Advisory Council) may be sent to the 1968-69 Nominating Committee Chairman: W. Roy Holleman, Head Librarian, University of San Diego College for Women, Alcalá Park, San Diego, California 92110.

Have You Heard . . .

UDC77: Photography

A new section of the first English *Full Edition of the Universal Classification* was published in March. Entitled UDC77: *Photography*, it covers the classification of all documents in the photographic field from the scientific, technical and artistic points of view. The English version of UDC is being prepared and published as BS1000 by the British Standards Institute. Copies of BS1000-(77) may be obtained from the BSI Sales Office, 101/113 Pentonville Road, London N1. Price is 20s each; postage 1s extra to non-subscribers.

Classification System for Slide Collections

The development of a machine-manipulable classification scheme for slide collections has been assisted by a grant of \$18,841 from the Council on Library Resources to the University of California, Santa Cruz. The projected classification system is expected to accommodate visual materials of all academic disciplines. The project uses punched cards and relatively low level data processing equipment. The one-year project is headed by Mrs. Luraine C. Tansey, Slide Librarian.

American Film Heritage

An initial goal of the American Film Institute's Archives Program is to establish a referral service so as to promote a speedier flow of information between film resource centers and the public. Its National Film Collection will be a united effort to complete the holdings of American films at LC, which will become the official depository to maintain preservation negatives or prints. Concurrently, AFI and LC will begin a comprehensive program to create a National Film Catalogue, which will include information on all films ever produced in the United States. Today, less than one-half of American films are centrally catalogued. The Institute's address is 1707 H Street NW, Washington, D. C. 20006.

Recruitment and Guidance

Two new leaflets are available from ALA's Office for Recruitment. *A Bibliography for Librarian-Recruiters* lists materials of interest to librarians active in recruitment. *A Bibliography for Guidance Counselors* lists articles, films, and books which are designed to acquaint counselors and potential recruits with the library profession. Single copies are available free from American Library Association, Office for Recruitment, 50 East Huron Street, Chicago, Illinois 60611.

Continuing Education

The campus of the State University College at Geneseo, New York, was the site of a panel discussion "Continuing Education for Special Librarianship" on April 6. Participants in this meeting of SLA's Upstate New York Chapter were Mrs. Marta Dosa, Dean Vincent Giuliano, Diane Ironside, Dr. Irving Klempner, and Dr. Leslie I. Poste.

Texas Workshop for Non-Professional Assistants

Training in fundamental library techniques for non-professional assistants, now working in special libraries, was offered by SLA's Texas Chapter at the University of Houston in early February. Because in many special libraries, clerical assistants are called upon to deal with specialized areas of information, the course was taught in subject areas. Instructors were active members of the chapter: Business and General Reference (Charles Suessmuth), Science Reference Sources (Mrs. Carrie Eagon and Retha Shirkey), Interlibrary Loan Procedures (Al Bradley and Mrs. Marvine Brand), Circulation of Material (David Henington), and Filing Techniques (Dolly Reynolds).

Miami Valley Union List

The libraries of Dayton, Ohio and the Miami Valley have published a computer-produced *Union List of Serials in the Libraries in the Miami Valley*. Serial holdings of twelve academic, two public and twenty-five special libraries are included in the list, which contains 8,800 titles. Copies are available at \$15 from the Wright State University

Library, Colonel Glenn Highway, Dayton, Ohio 45431.

Chemical Abstracts Advisory Panel

The formation of a six-member Library Panel to serve as an adjunct to the Chemical Abstracts Service Advisory Board was announced recently. It is hoped that the panel will provide CAS management with valuable critiques of the various library-oriented programs now developing within CAS. Members of the Library Panel include SLAers Fred E. Croxton (Redstone Scientific Information Center), Roger M. Martin (Shell Development Corporation), John Sherrod (National Agricultural Library) and James L. Wood (CAS).

Physics Information System

The American Institute of Physics has announced its program to develop a national information system in physics and astronomy. AIP will study all aspects of the communication of physics knowledge: traditional publication, informal written communications, use of the telephone, laboratory visits, and professional meetings. Administering AIP's Information Division is Dr. Arthur Herschman, former editor of *The Physical Review*. A total of \$1.18 million dollars has been requested for grant support from NSF for a two-year project.

Indexers Wanted

To encourage improved quality in book indexes, the formation of a society of indexers was discussed at a meeting at Columbia University on February 20. An organizational meeting is planned for late April. For further information contact Dr. Theodore Hines, Columbia University, School of Library Service.

Grant Information and Opportunities

The first volume of *Grant Data Quarterly* was published late in 1967. The publication is designed to fill the need for a comprehensive source of up-to-date information concerning financial aid programs. It attempts to facilitate communications between grant applicants and the sponsoring organizations

with appropriate support programs. The journal and its supplementary *Selected Reports* are published by Academic Media, 10835 Santa Monica Boulevard, Los Angeles, California 90025. Annual subscription is \$35.

Guide to NSF Programs

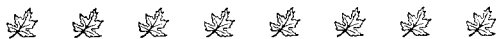
A new brochure released by the National Science Foundation gives details on all its grant programs. A total of fifty-three support programs and four national research centers are described in *Guide to Programs* (NSF-68-6). Single copies are available at no cost on request to Administrative Services, NSF, Washington, D. C. 20550; copies in quantity may be ordered at 50¢ each from the Superintendent of Documents.

Health-Science Library Construction

The U.S. Public Health Service has awarded more than \$8.2 million in grants to assist construction of medical libraries at seven medical schools: Boston University, Brown University, George Washington University, Jefferson Medical College, University of Nebraska, Rutgers—The State University, and Wayne State University. These libraries will have a combined capacity of 1.35 million volumes, and will provide space for a combined maximum of more than 3,000 readers. The awards made under the authority of the Medical Library Assistance Act are administered by the National Library of Medicine.

International Trademark Classifications

The U.S. Patent Office has begun to assign the international classification to trademarks in addition to the U.S. classification. Publication of international classification was begun in the March 5, 1968 issue of the *Official Gazette*. The inclusion of the international classification will enable the U.S. government to accede to the Nice Agreement of June 15, 1967 without modification of the existing trademark law.



60th Annual SLA Conference

June 1-5, 1969

Montreal, P. Q., Canada



COMING EVENTS

FID Moscow Meetings—September 1968

The FID Conference (General Assembly, Council and Study Committees) will meet September 9-14, 1968, in Moscow. Following the FID Conference the International Congress on Scientific Information will meet there on September 16-18.

Its theme is "National and International Information Service Systems and Their Role in Scientific and Technical Progress." Three symposia are featured: 1) National and International Information Systems and Evaluation Criteria for Information Systems, 2) Software for Processing Scientific Information, and 3) Hardware for Processing Scientific Information. Persons wishing to make significant contributions to these symposia are invited to submit papers, together with abstracts in English or Russian, before May 1, 1968 to:

The Organizing Committee
FID Conference and International Congress
VINITI
Baltiyskaya U1., 14
Moscow, A-219, USSR

Persons submitting papers to the Congress are also requested to send a copy of their papers to:

U.S. National Committee for FID
(USNCFID)
National Academy of Sciences
2101 Constitution Avenue
Washington, D. C. 20418

Preliminary registration forms are available from the USNCFID Secretariat. A limited number of awards for partial support of travel to the Moscow meetings will be awarded by the USNCFID; requests for such support must be received by May 15.

Third IATUL Seminar

The International Association of Technological University Libraries has announced its Third Seminar on the Application of International Library Methods and Techniques. The seminar, under the direction of Dr. L. J. van der Wolk, will be held September 2-7

at the Delft Technological University Library. Included in the seminar topics are: International Centers for Less Used Material, International Access to Patent Literature, International Standardization, and International Cataloging Principles. For information write to Miss T. Hall, c/o Library Technological University, 101 Doelenstraat, Delft, The Netherlands.

SLA/ASIS San Francisco Spring Seminar

The San Francisco Chapters of SLA and ASIS are co-sponsors of "A Spring Seminar on Information Science." The seminar will be an all day meeting on April 27 at the Ampex Corporation, Redwood City, California. The proceedings will be recorded on video tape through the cooperation of the Ampex Corporation. Registration information can be obtained from San Francisco Chapter, ASIS, P.O. Box 3525, Stanford, California.

Instructional Materials Centers

Librarians and audiovisual coordinators are invited to participate with school administrators and curriculum coordinators in a conference sponsored by the Syracuse University School of Library Science on April 26. The conference title "Selecting Materials and Equipment for Instructional Materials Centers" reflects the co-sponsorship by the library school, the School of Education and the Center for Instructional Communications. The conference coordinator is Professor Dorothy McGinniss, School of Library Science, Syracuse University.

STWP Conference

The Fifteenth International Technical Communications Conference will be held May 8-11 at the International Hotel, adjacent to Los Angeles International Airport. The conference is under the auspices of the Society of Technical Writers and Publishers. Panel topics include: Computer Assisted Technical Writing; Achieving Graphic Arts Quality with Computers; Training of Technical Speakers, Reference Library for the Technical Artist. Address registration inquiries to Mr. Tom Nixon, STWP 1968 Conference, P.O. Box 55089, Sherman Oaks, Calif. 91403. The \$45 registration fee includes a bound copy of the Conference Proceedings.

Indiana University Intersession

The Graduate Library School of Indiana University has announced an intersession course on June 5-19 on "The Computer and Its Use in Information Handling." The course provides insight into the application of computer logic and programming techniques to the processing of bibliographic materials and information. Students will have first-hand opportunity to write a program to be run on the university's research computer. Enrollment information can be obtained from the Graduate Library School, Indiana University, Bloomington, Indiana 47401.

Multi-Media Resources

Often librarians who must administer multimedia resources are unprepared to treat them as library materials. In the past, guidelines available for librarians have been few. The University of Oklahoma School of Library Science will sponsor an Institute for Training in Librarianship on Problems in Administration and Organization of Multi-Media Resources on July 8-26. Although the institute is intended primarily for academic or public librarians, other applicants who are directly involved in library administration of media will be given consideration. The institute is supported by a grant under Title II B from the U.S. Office of Education. Request application forms from the Institute's Director: Mrs. Evelyn Clement, School of Library Science, University of Oklahoma, Norman, Oklahoma 73069.

Law Library Institute

Marquette University Law School and the University of Wisconsin—Milwaukee, School of Library and Information Science are the co-sponsors of a law library institute from July 15 to August 10. Director of the institute is Professor Roy M. Mersky, law librarian at the University of Texas, Austin. Two courses will be presented: Legal Bibliography and Law Library Administration. Participants will be selected with the advice of the Committee on Education of the American Association of Law Libraries. For further information write to Director, School of Library and Information Science, University of Wisconsin—Milwaukee, Milwaukee, Wisconsin 53201.

Institute on Government Publications

The Division of Librarianship, Emory University will offer a three-week Institute on Government Publications, July 29-August 16. In addition to practices and problems of acquiring government publications, their organization and control, consideration will be given to their use and to services to promote the use of such publications. The institute is funded under Title II B by the U.S. Office of Education.

Non-Book Materials

The handling of non-book materials will be the topic of a special institute August 19-30 at the University of Wisconsin—Milwaukee, School of Library and Information Science. The aim of the institute is to acquaint librarians with the latest techniques in handling unconventional library materials such as museum objects, audiovisual materials, pamphlets and newspaper clippings. The institute is limited to thirty participants and is supported by a grant under Title II B from the U.S. Office of Education. Dr. Florence DeHart, assistant professor at UWM will be the institute director.

Library School Teachers to Use Modern Equipment

A two-week institute will present a laboratory approach to library science education at the University of Pittsburgh in August. The institute is open to teachers of librarianship at both the graduate and undergraduate levels as well as teachers of library technicians. Participants will learn to use automated typewriters, terminals in a 360/50 computer operation, and video tape recorders. Usage will include both public and technical areas of library work. Director of the institute is Dr. Jay E. Daily, Professor of Library Science at Pitt.

1968 ALA Conference

An advance registration form for the June 23-29 ALA Conference in Kansas City is printed in the April 1968 issue of the *ALA Bulletin*. This form should be mailed before May 31 to the American Library Association, 50 East Huron Street, Chicago, Illinois 60611.

MEMBERS IN THE NEWS

BORIS R. ANZLOWAR, editor of *Unlisted Drngs*, has been elected president of the American Translators Association for the two-year term, 1968-1969. ATA will hold its 1968 convention in Boston in November; the address of the Association's office is P.O. Box 489, Madison Square Station, New York 10010.

Mrs. BARBARA CONROY has been named director of the Staff Development Project for the Central Colorado Cooperative Public Library System. The project will conduct in-service training for public librarians and their staffs of the system's member libraries. Mrs. Conroy was president of SLA's Colorado Chapter in 1966-1967. She was formerly head of Sociology and Business Department of the Denver Public Library.

CARL R. COX, director of Library Systems Development for the State University of New York, has been named professor and librarian of Hunter College in the Bronx of the City University of New York. His appointment, effective April 1, is in preparation for a change in status of Hunter-Bronx on July 1, 1968. At that time the college will be renamed Herbert H. Lehman College, and will be an independent unit of the City University.

JAMES HUMPHRY III for the past ten years chief librarian of The Metropolitan Museum of Art, New York, will join the staff of The H. W. Wilson Company as a Vice-President on August 1, 1968. His duties in his new position will be general and administrative. Mr. Humphry has been a member of the Wilson Company's Board of Directors since 1965; prior to this he was for several years chairman of the ALA/RSD Committee on Wilson Indexes. He was the 1967 Convention Chairman for SLA.

ROBERT R. KEPPLER has been named librarian of the Applied Physics Laboratory of the Johns Hopkins University in Howard County, Maryland. His previous post was chief of library services of the International Atomic Energy Agency in Vienna, Austria.

B. B. LANE, senior information analysis specialist for Battelle-Northwest at Richland, Washington, will head the staff of a new information center. A Heavy Water Reactor Information Center has been established by the U.S.A.E.C.'s Heavy Water Reactor Program Office which is operated by Battelle-Northwest for the A.E.C. Mr. Lane is a former president of SLA's Pacific Northwest Chapter.

JESS A. MARTIN, chief of the Library Branch of the National Institutes of Health, is adjunct lecturer in medical literature for the spring term at the University of Maryland's School of Library and Information Services.

ROY J. M. NIELSEN has been appointed head librarian of the Lawrence Radiation Laboratory, Berkeley, California. The laboratory is operated by the University of California under contract with the U.S.A.E.C. Mr. Nielsen succeeds ROBERT S. MEYER who is now an independent library consultant.

PATRICK O'BRIEN, reference librarian of the *Newsweek* Library, has been promoted to chief of the Reference Section. Mrs. FRANCINE FLYNN TILLER, formerly reference librarian in the Economics Division, New York Public Library, is now reference librarian in International Relations at *Newsweek*.

Dr. PATRICK R. PENLAND has been appointed associate professor of Library Science in the University of Pittsburgh's Graduate School of Library and Information Sciences. He has taught at the University of Toronto and at Southern Connecticut State College.

JOHN SHERROD, former assistant director for systems development of the U.S.A.E.C., has been named the director of the National Agricultural Library. The former director of NAL, FOSTER E. MOHRHARDT, is now program officer for the Council on Library Resources.

LEON TAYLOR has been appointed reference librarian in the Technical Information Branch, U.S. Army Materials and Mechanics Research Center, Watertown, Massachusetts. He comes to this position from the Gerstenzang Library of Science, Brandeis University.

RALPH A. ULVELING, who retired in December 1967 after serving the Detroit Public

Library as its director for 26 years, has joined the faculty of the Department of Library Science, College of Education, Wayne State University with the rank of professor.

ROSE VAINSTEIN, director of the Bloomfield Township Library in Bloomfield Hills, Michigan, has been appointed professor of library science at the University of Michigan effective with the fall term.

RONALD L. WEIHERR joined the staff of Baker Library, Harvard Graduate School of Business Administration on February 1 as assistant librarian for Planning and Development. Mr. Weiherr had been business and public administration librarian at the University of Missouri, Kansas City.

RUTH M. WHITE, ALA Headquarters librarian since 1963, became executive secretary of ALA's Adult Services Division and its Reference Services Division on February 16. EDWARD G. STRABLE, who has been executive secretary of RSD, will continue in his position as executive secretary of the American Library Trustee Association.

JEAN WILSON has been appointed acting head, Department of Special Collections at the Davis campus of the University of California for the period November 1967 to December 1968. Miss Wilson was librarian of the Asia Foundation, San Francisco.

SLA AUTHORS

KLEMPNER, Irving. Diffusion of Abstracting and Indexing Services for Government-Sponsored Research. Metuchen, N. J., Scarecrow Press, 1968.

RAJKAY, Leslie. The Thermal Embrittlement of Medium- and High-Chromium Steels. *ASTM Proceedings* 67: 158-169, 1967.

SLATER, Margaret and KEENAN, Stella. Results of Questionnaire on Current Awareness Methods Used by Physicists Prior to Publication of *Current Papers in Physics*. Rept. No. AIP/CPP 1. New York, American Institute of Physics, Sept. 1967. 36p.

James A. Doherty Joins SLA Staff



JAMES A. DOHERTY has been appointed Manager, Accounting Department of SLA. Mr. Doherty, who assumed this post January 15, 1968, has broad experience in accounting, especially in the publishing field. Born in Ballina, County Mayo, Eire, Mr. Doherty is a graduate of St. Muredache's College in Ballina. He has attended Fordham University, New York, and Central State College in Edmund, Oklahoma. From 1951 to 1955 he served in the

U.S. Air Force. His military service included a tour of duty in Korea plus assignments at the Headquarters Tactical Command, Langley AFB, Virginia, and at the Special Weapons Command, Shreveport, Louisiana. During this last assignment he was introduced to library operations from a position behind the desk of the post library. Before joining the SLA staff Mr. Doherty had been accounting manager for Crowell-Collier and MacMillan, Inc. He is married to the former Mary T. Meenaghan. The Dohertys reside in the Bronx.

RECENT REFERENCES

Bibliographic Tools

BALL, Joyce, ed. and GARDELLA, Roberta, comp. *Foreign Statistical Documents, a Bibliography of General, International Trade, and Agricultural Statistics, including Holdings of the Stanford University Libraries.* (Hoover Institution Bibliographical Series: XXVIII). Stanford, Calif.: The Hoover Institution on War, Revolution and Peace, Stanford University, 1967. vii, 173p. pap. \$5. (LC 57-14234)

Material is listed alphabetically by country, then by type of publication, then in reverse chronological order with the latest material first. Efforts were concentrated mainly on publications using a Western European language either as the first or second language; and only general material in other languages were included if such material was held at Stanford.

BARTON, Lela V., ed. *Bibliography of Seeds.* New York: Columbia University Press, 1967. 858 p. \$16. (L. C. 66-20492)

Makes available a comprehensive reference to seed literature for worldwide use in seed research, seed technology, and agricultural practices of some 30,000 citations. The preparation of this bibliography was carried out with the assistance of a grant from the American Seed Research Foundation, and the publication was aided by Grant GN138 of the National Science Foundation. Plant and subject index.

CALDWELL, Lynton K. et al., eds. *Science, Technology, and Public Policy, a Selected and Annotated Bibliography; Volume I, Books, Monographs, Government Documents, and Whole Issues of Journals;* Prepared for the National Science Foundation by the Program in Public Policy for Science and Technology, Department of Government. Bloomington, Ind.: Indiana University, 1968. xii, 492p. pap. Apply. (Single copies available from Office of Planning and Policy Studies, National Science Foundation, Washington, D. C. 20550)

The purpose of this bibliography has been to produce a comprehensive classified, annotated and indexed list of the leading work in the field, as rapidly as circumstances permit. Listing of authors and the classification of publications have been guided by the National Union catalogue of the Library of Congress Index. Volume II to be issued later in 1968 will cover periodical articles. When completed the bibliography will be more than 1,000 pages and will cover significant works on science policy published in English over the past 20 years.

DANIELSON, Wayne A. and WILHOIT, G. C., Jr. *A Computerized Bibliography of Mass Communication Research, 1944-1964.* New York: Magazine

Publishers Association, Inc., 575 Lexington Ave., 1967. xix, 399p. figures, tables. pap. Apply.

A publication sponsored by the Education Committee of the Magazine Publishers Association. This bibliography is to provide magazine executives and others with a comprehensive introduction to the literature on mass communication appearing in 48 social science journals for the 1944-64 period. KWIC Index.

GIBSON, Mary Jane, comp. *Portuguese Africa: A Guide to Official Publications.* Washington, D. C.: Library of Congress, Reference Department, General Reference and Bibliography Division, 1967. xv, 217p. pap. \$1.50. (LC 68-60004) (Available from Superintendent of Documents, Government Printing Office, Washington, D. C. 20402)

Contains 2,831 entries for government records from mid-19th century through 1964. They cite publications of Angola, the Cape Verde Islands, Mozambique, Portuguese Guinea, and the São Thomé e Príncipe Islands, and documents of the government of Portugal pertaining to Portuguese Africa. Index, to subjects and individual authors.

HIGSON, C. W. J., ed. *Sources for the History of Education, a List of Material (including School Books) contained in the Libraries of the Institutes and Schools of Education, together with Works from the Libraries of the Universities of Nottingham and Reading.* London: The Library Association, 1967. x, 196p. 96s; 72s to members.

The list includes books on education, school textbooks and children's books published or first published from the fifteenth century until 1870, and government publications relating to education issued up to 1918, these last in a separate section. From 1801 the textbooks and children's books are given in a separate sequence, owing to their considerable number. Subject and author index to government publications.

KINNEY, Mary R. *The Abbreviated Citation—A Bibliographical Problem.* (ACRL Monograph no. 28). Chicago: American Library Association, 1967. vi, 57p. pap. \$2.25. (LC 67-29849)

This work is primarily a current bibliographical guide to major reference sources in the English language in selected subject fields in which there is identification of abbreviated titles of serials, standard works, and research reports. Contains 109 entries, annotated, arranged by subject categories.

KULA, Sam. *Bibliography of Film Librarianship.* (Library Association Bibliographies, no. 8). London: The Library Association, 7 Ridgmount St., Store St., 1967. 68p. pap. 18s to members; 24s to non-members.

This bibliography is a selection from the literature of the film and the literature of librarianship of those books and articles that deal in some measure with film librarianship. Contains 239 entries, revised and completed to December 1965. Glossaries of film terms, author and title index, a subject index.

PORT OF NEW YORK AUTHORITY LIBRARY. *A Selected Bibliography of the Port of New York Authority 1921-1966*. New York: 1967. 110 p. pap. Gratis.

The Bibliography is revised biennially in order to keep it current. In this 1966 revision, the entries have been reorganized into two parts. The first section is about Port Authority, its structure and administration. The second section is authored by Port Authority staff and reflects the many activities of the organization. The material listed in the bibliography is available only on interlibrary loan. Author index.

SLACK, Robert C., ed. *Bibliographies of Studies in Victorian Literature, for the Ten Years 1955-1964*. Urbana, Ill.: University of Illinois Press, 1967. xvi, 461 p. tables. \$9.75. (L. C. 67-20150)

This volume collects and reproduces the annual Victorian Bibliographies for the years 1955 through 1964 published in *Modern Philology* and in *Victorian Studies*. In this reprint the periodical pagination of each annual bibliography has been preserved at the top of the page, to permit use of cross references in the original issues.

STECKLER, Phyllis B. ed. *American Book Publishing Record, B/P/R, Annual Cumulative 1966, A Record of American Book Production in 1966 as Catalogued by the Library of Congress and Annotated by Publishers' Weekly in the Monthly Issues of the American Book Publishing Record, Arranged by Subject According to the Dewey Decimal Classification and Indexed by Author and by Title, index compiled by Margaret McFarland*. New York & London: R. R. Bowker Company, 1967. ix, 1606 p. \$25, U.S. and Canada; \$27.50, elsewhere. (L. C. 66-19741)

Second edition of a cumulative record of 30,050 books published in 1966, by 1,660 publishers. Books published abroad, but distributed by a U.S. agent are also listed. Arranged by subject heading, catalog card number and classification number; price; publisher; and a brief annotation. Title and author indexes.

Who's Who in American Politics, a Biographical Directory of United States Political Leaders, 1st ed., 1967-1968, ed. by Paul A. Theis and Edmund L. Henshaw, Jr., New York: R. R. Bowker Company, 1967. xiii, 748, 24 p. \$25, U.S. and Canada; \$27.50, elsewhere. (L. C. 67-25024)

The new directory contains biographical profiles of some 13,000 political leaders at all levels of government and representing every active political group in the country. Completely nonpartisan in scope.

Cataloging and Classification

BATTY, C. D. *An Introduction to the Seventeenth Edition of the Dewey Decimal Classification*. (A Programmed Text). Hamden, Conn.: Archon Books; London: Clive Bingley, 1967. 136p. \$4.50.

This book is intended to teach the rudiments of

practical classification with *Dewey's Decimal Classification*, seventeenth edition. Alphabetical index.

CORRIGAN, Philip R. D. *An Introduction to SEARS LIST of Subject Headings*. (A Programmed Text in Library and Information Science Series no. 3). Hamden, Conn.: Archon Books & London: Clive Bingley, 1968. vii, 94p. \$4.

This book offers self-teaching of certain practical aspects of library work through programmed instruction. Extensive use is made of linear programming in the early sections, to introduce readers to the general scope of Sears. Problems in the book have been selected so that either the eighth or ninth editions of Sears can be used. Revision concept index.

Dewey Decimal Classification and Relative Index. Devised by Melvil Dewey, Edition 17, Vol. 2 (Revised) Auxiliary Tables Revised Relative Index. Lake Placid Club, N. Y.: Forest Press, 1967. xiii, 1255-2480p. Free to every purchaser of the 17th ed. (L. C. 65-10445)

Original index for the 17th edition proved unsatisfactory, and at the instance of the Committee the publishers arranged for this revision, prepared in accordance with the Committee's recommendations.

NASA Thesaurus Subject Terms for Indexing Scientific and Technical Information, in three vols. (NASA SP-7030). Washington, D. C.: National Aeronautics and Space Administration, Office of Technology Utilization, Scientific and Technical Information Division, 1967. pap. \$8.50 for 3-vol. set. (Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402)

Alphabetical listing of terms by which the documents in the NASA information system are indexed and retrieved. The alphabetical listing of subject terms contains all valid or postable terms and cross-references. Each postable term also includes the four-digit thesaurus category code, and a scope note, where appropriate. Terminology is based in large part on the actual indexing vocabulary developed by NASA in 1962-1966. A high degree of term compatibility with the vocabulary of Project LEX has been a major objective in the development of the NASA Thesaurus. Four appendixes have been developed as ancillary aids in the selection of vocabulary terms from the alphabetical listing of subject terms. The appendixes are: hierarchical display, category term listing, permuted index, and postable terms.

Dictionaries

GRAY, Peter. *The Dictionary of the Biological Sciences*. New York: Reinhold Publishing Company, 1967. xx, 602p. \$14.75. (L. C. 67-24690)

This general dictionary lists mutant names and gene symbols (nearly 2,000 of each) for plants, animals, and micro-organisms. It arranges in dictionary manner words that are likely to be sought

for their own sake as words, but reverting to a thesauric style for those that will be sought primarily for their meaning. Lists books consulted in the compilation of this dictionary.

Directories

Biographical Directory of Fellows & Members of the American Psychiatric Association as of October 1, 1967. New York: R. R. Bowker Company, 1968. xx, 869p. \$27.50, U.S. and Canada, \$30.25, elsewhere. (LC 63-12595)

Fourth edition published in cooperation with the APA. Contains approximately 15,000 entries. Biographical data including several hundred psychiatrists in Canada, Central America and the Caribbean countries. Entries arranged alphabetically by name, a state-city index facilitates the location in a particular geographical area.

COLGATE, Craig, Jr., ed. 1968 *Directory of National Trade and Professional Associations of the United States.* Washington, D. C.: Columbia Books, Publishers, 424 Southern Bldg, 15th & H Sts., N.W., 1968. ix, 144p. pap. \$7.95. (LC 66-14346)

Contains 4,000 listings of national associations. Including for the first time, information on future annual meetings, up to five years ahead. Listings are alphabetical, giving name of the association, its date of founding, address, chief executive officer. Index has: Necrology; Lost associations and convention hotel capacity of U.S. and in Bahama, Canada and Mexico.

SPAULDING, Seth, comp. *Programmed Instruction: an International Directory.* Pittsburgh, Pa.: The International Education Clearinghouse, University of Pittsburgh; Paris: Unesco, 1967. xii, 189p. pap. \$2. (Available from University of Pittsburgh Book Center, 4000 5th Ave.)

This directory assembles basic information on who is doing what in programmed instruction in over sixty countries. A section on terminology lists twenty-five words commonly used in programmed instruction in twenty languages.

Information Handling Techniques

MEADOW, Charles T. *The Analysis of Information Systems, a Programmer's Introduction to Information Retrieval.* (Information Sciences Series). New York: John Wiley & Sons, Inc., 1967. xv, 301p. figures. \$11.50. (LC 66-28760)

The book is divided into three parts, Part I, Information Retrieval and Communications; Part II, Organization of Information; Part III, Processing of Files and File Sets. Exercises at the end of each chapter provide an opportunity to practice the ideas presented. Glossary and index.

Librarianship

WINCHELL, Constance M. *Guide to Reference Books*, 8th ed. Chicago: American Library Association, 1967. xx, 741 p. \$15. (L. C. 66-29240)

The eighth edition lists about 7,500 reference books, scholarly works in English and in foreign languages. New arrangement in keeping with the subject organization of libraries and the content of courses in library schools. Closing date was 1964, except where new titles were received early in 1965. Index includes author and subject entries, and some title entries.

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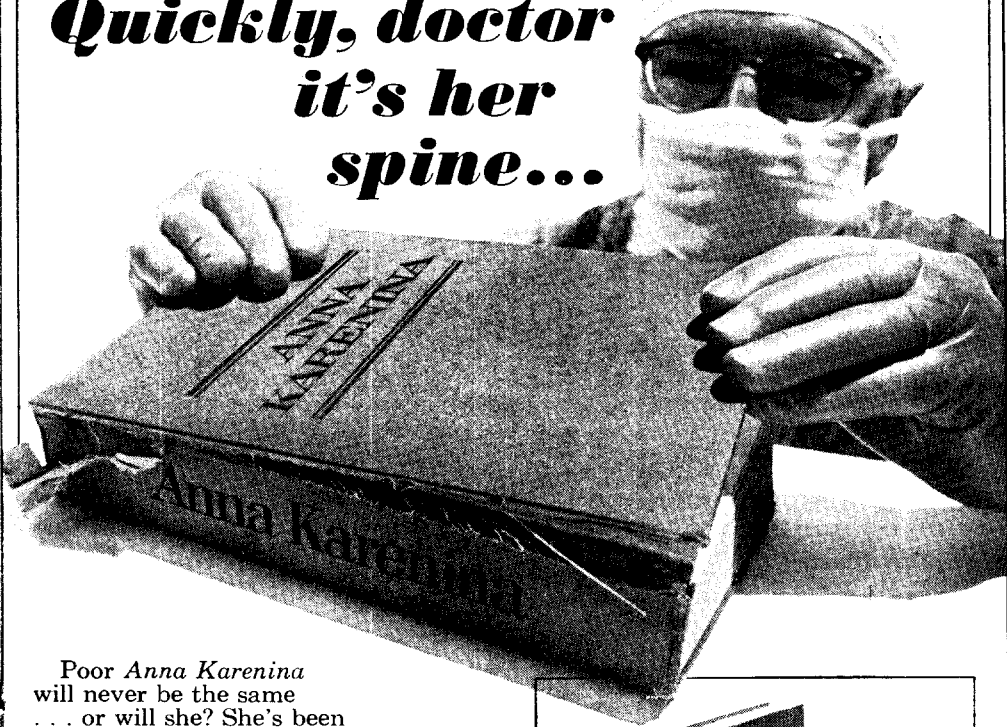
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