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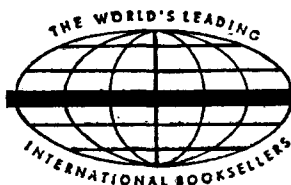
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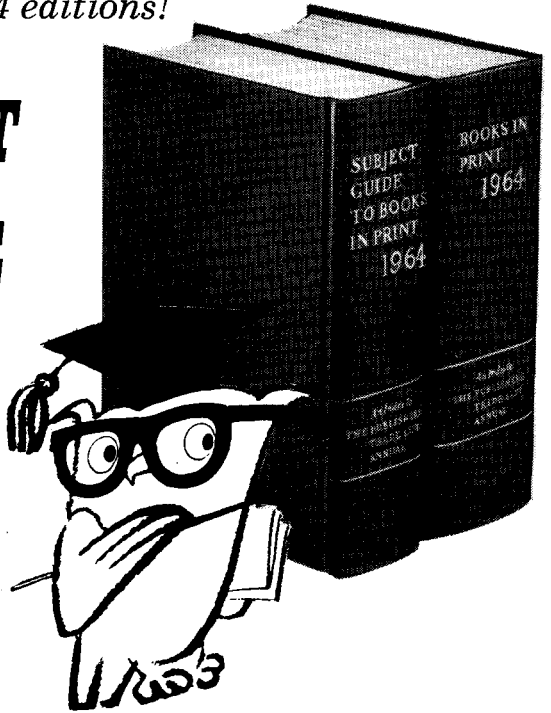
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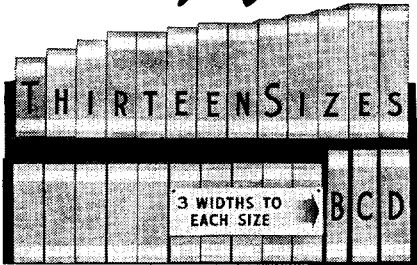
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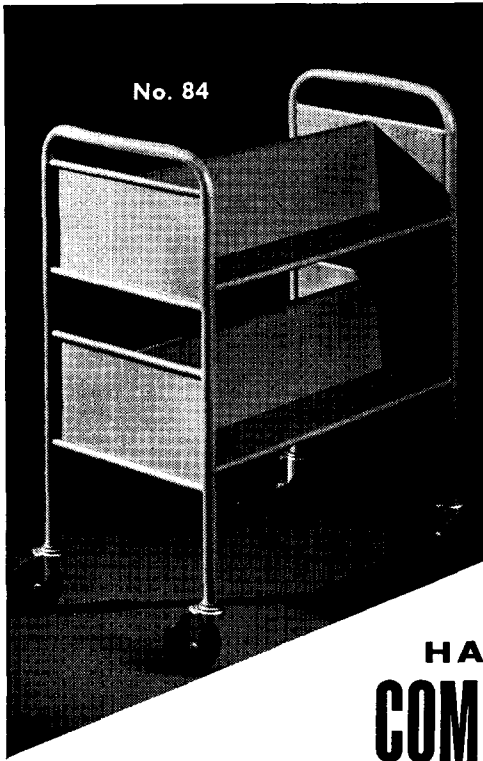
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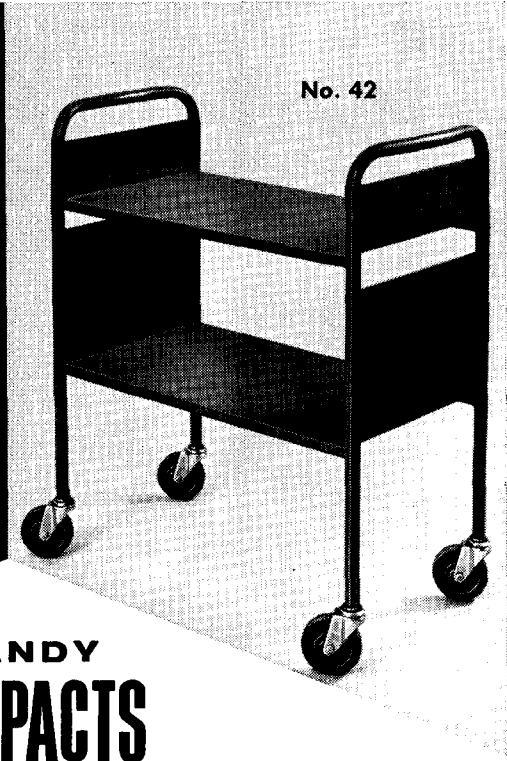
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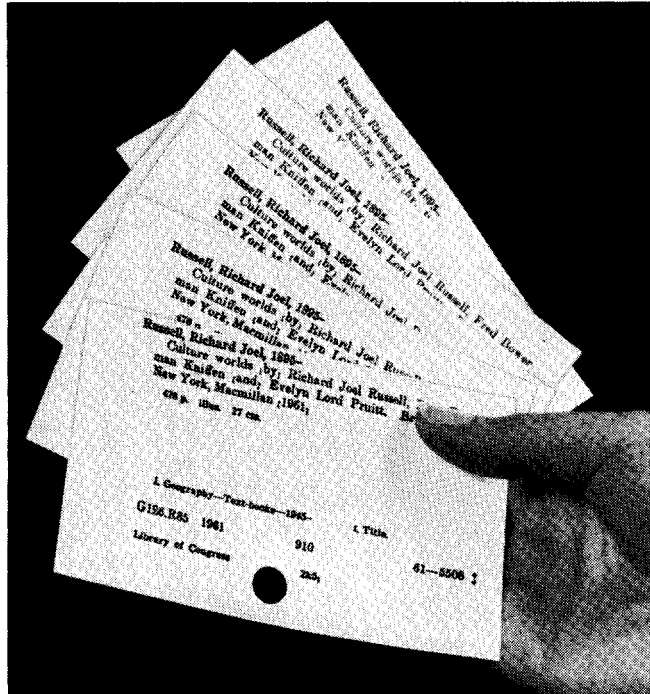
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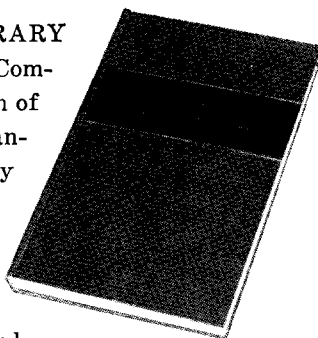
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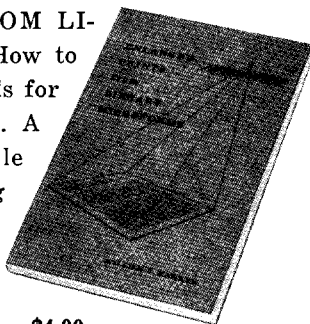
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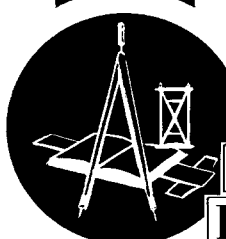
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# SPECIAL LIBRARIES

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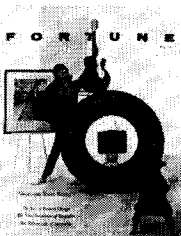


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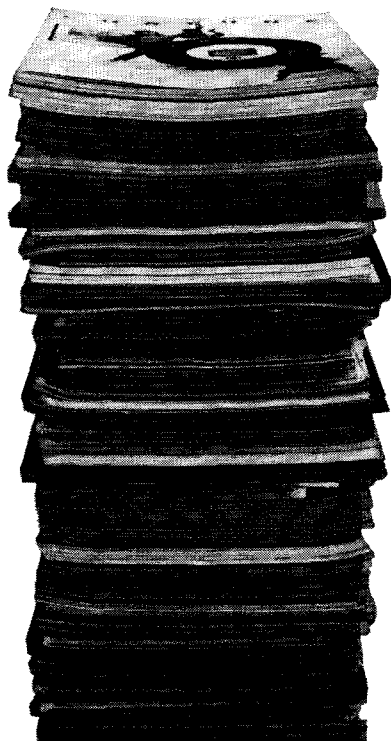
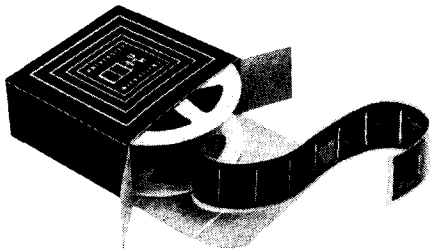
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**SPECIAL LIBRARIES**

# The Education of a Catalyst

DR. DON R. SWANSON



*Sievers*

WILL ROGERS (or someone else) is said to have once said, "It's the things everyone knows that just ain't so that cause most of the trouble in the world."

Everyone knows that the essence of special librarianship is creative catalysis. Everyone knows that the ideal special librarian is an indispensable research assistant who serves as a vital link between a scientist and the world's store of recorded knowledge. Everyone knows that the best possible chemistry librarian is one who begins his library career with a Ph.D. in chemistry.

The above image of a creative, catalytic, inspirational, indispensable, dedicated, research-assistant type of special librarian with a degree in a specialty and a degree in library science is not wrong, but I think it is somewhat troublesome and gives a distorted impression of the intellectual content of librarianship. It seems to suggest that librarianship has no soul of its own and must borrow one from the professions it serves. I believe that librarianship can and should acquire a stronger professional image than it now has by recognizing and making a more positive claim for its own soul, though without necessarily returning any of those it has successfully stolen or borrowed. . . .

## Education for Library Design and Planning

There is a science and a technology of information theory, information processing, and systems analysis; it is largely on this foundation that the intellectual content of special library education should rest. I hasten to add that there are other elements of the foundation (in the humanities, especially), but those just named stand in greatest need of

being established in their rightful place. In referring to education, I am intentionally distinguishing it from vocational training. Education succeeds only when it opens many doors for the student and when the skills he learns are those that are transferable from one specialty to another.

I suggest that these transferable skills can best be recognized if we consider the process of *planning* or *designing* information systems and libraries, as distinct from the *operating* of such systems. The difference can be as important as that between architecture and carpentry. Unless librarians take notice of this, the intellectual core of librarianship and the task of designing future libraries may be abdicated to engineers who function as planners and architects, with librarians left only the role of operators.

There is no quick and simple definition of information systems design, analysis, or architecture. There is no ready made branch of engineering or mathematics that can be taken off the shelf and immediately applied with useful results. Yet unquestionably the techniques of systems design have their roots in mathematics and engineering, and library school curricula should take this into account. It does not follow though that these roots are so deep that librarians must abandon hope of competing with engineers in designing new systems.

The special librarian is in a peculiarly advantageous position to act as a creative catalyst in the planning and design of better information systems. He is closer to the user of such systems and has, or can obtain, a better understanding of system requirements than can most engineers. In this sense I am suggesting a new kind of catalysis. Instead of the special librarian working side by side as a research assistant to the user of an information system, catalyzing and inspiring him to

---

*Dr. Swanson was a physicist with Thompson Ramo Wooldridge, Inc., before becoming Dean of the Graduate Library School, University of Chicago, in February 1963. This is the keynote he delivered at the 55th Convention of Special Libraries Association, June 8, 1963.*

ever higher achievements, he should direct his catalytic inspirations toward the system itself and simply exploit the user to promote his own understanding of the services the system should produce. It is this opportunity to work closely with a "captive" user, i.e., a group of known and continual users, to achieve understanding of "systems requirements," in terms of the ideal end products of the system, that distinguishes the special librarian from other librarians.

(I trust chemists will forgive such corruptions as referring to one reagent as an object of catalysis. By catalyzing the "user" I mean the reaction between user and recorded information. By catalyzing the "system" I mean all reactions that must take place from conception to implementation of a new system.) The significance of catalyzing the system rather than the user may be obscure unless I can give at least a few illustrations.

There is a story in the SLA recruiting item "Special Librarianship—Information at Work" of a medical librarian who responded to an urgent call from surgery by delivering a vaguely specified journal article just in the nick of time; the journal later was returned to the library annotated and bloodstained. This story, it seems to me, stops where it should have begun. Even though the tale itself be true [Editor's Note: It is.], it introduces an implausible air of drama into librarianship and omits the intellectual excitement potentially present.

The incident could have been used to provoke a long string of interesting questions, which might then be helpful in planning a better information service. These questions, which might be used by the new kind of catalytic librarian I'm talking about, could be of the following kind. First of all, was it not perhaps fortuitous that the request for the information came just in time rather than just a bit late? Do these requests for emergency reference materials occur very often and when they do, is it possible that a real need exists for a system that can respond in time periods as short as a minute or two? Is it possible that a group of doctors, if dedicated to the task, could identify a small, special purpose, collection of books, journals, and reports that would be potentially useful

for emergency reference purposes? If this were done, might not the importance of this particular collection justify indexing it to a far greater depth than is customary for the rest of the biomedical literature? How much better access would such depth of subject control really provide? What kind of special purpose reference files, possibly mechanized, should be set up to permit extremely rapid searching and location of specific information? Would the importance of so doing justify a 'round the clock telephone service for an entire metropolitan area? If this were done, would any need exist for either delivery or viewing of reference materials by the requester? What would be the cost of direct closed circuit TV inspection of the materials in this collection from a remote point, and would the need for so doing justify such cost? Could this purpose be as well served by rapid physical delivery of materials? Would automation of such a system permit economies to be achieved? Would it be possible to further develop the requirements for such a system by arranging to collect over a six-month period all conceivable emergency inquiries that might be addressed to it? If this could be done and if a study of these inquiries was then made, most of the foregoing questions could be readily answered, and others would arise, such as, is it clear that a need exists for a central reference service or does the nature of the questions imply that a new kind of printed reference book would better serve the ultimate purpose of the system? Considering a possible requirement for indexing in considerable depth, could such a reference be provided with a new kind of index that efficiently permitted numerous access points to each article and multiple coordination of terms? Are any bibliographic tools needed that do not presently exist? In what ways do existing tools need to be improved?

The medical librarian able to both ask and answer questions of this kind might have a catalytic influence in causing a new and significant service to come into being. It should be clear too that neither an engineer, physician, nor any other specialist would necessarily be better equipped than a librarian to serve as the catalyst.

### Examples of System Planning Concepts

The example just outlined covers only a small part of the picture, though some of the questions clearly have more general implications. Other questions of a broader type can also illustrate the kind of "systems catalysis" to which I refer. Of particular importance in a special library is a whole series of basic questions dealing with the selective dissemination of newly published articles and reports. This is a process in which reports are brought to a potentially interested user without his placing a specific request for them. This is done regularly and on the basis of a good understanding of the recipients' needs, interests, and requirements. A large body of evidence exists to indicate that such a service can be performed effectively and efficiently; information systems doing just this have been in operation for many years, though they are not ordinarily regarded as part of library operations. Experiments with automatic dissemination have recently attracted attention to this process, but the automation is of secondary importance. Of greater importance is whether the special librarian is alert to the potential value of active and direct dissemination, is well informed on the available evidence on efficacy and cost, and is prepared to illustrate the process by a small scale or pilot operation. A really major improvement in service of this kind may be costly, but this is not inevitably the case.

Another broad class of questions can be built around the concept of feedback and control. This concept is as well known in the engineering profession as it is alien to librarianship. It is quite central to the planning of any system. No industrial engineer would think of designing a factory without including an adequate mechanism for ascertaining the quality of the product produced and a mechanism for acting on that information to correct any defects. Yet, for the most part, systematic feedback and control is absent from libraries. Even special libraries do not tend to have well organized and regularly collected information on the quality of information service they produce. The importance of working closely with the user of an information system and acquiring good understanding of his subject arises primarily from a

need to acquire his perspective on how the informational materials of his field can be most usefully organized. Yet how many systematic attempts have there been to design libraries in such a way that their bibliographic tools could adapt themselves in the course of time to better reflect the users' views? How many even keep track of what each user has used, so that he can more conveniently find something he has once seen? Some automatic systems for selective dissemination permit a feedback of requester comments on the information delivered so that the responsiveness of the entire procedure can be improved. Such a possibility is not peculiar to an automated system.

I realize that any librarian could immediately supply many good reasons why neither selective dissemination nor any kind of feedback and control is practical for their own particular case. This may be true, but it is my suspicion that the number of special libraries thought to be not susceptible to improvement in either of these areas is just equal to the number not systematically studied with that aim in mind. The catalytic function in systems planning can be brought about to some extent by a change in perspective and *frame of mind*, without the need for specialized engineering knowledge. Certainly the sophisticated mathematics of servomechanism theory is not needed in a library to exploit many of the constructive ideas that follow from the notion of feedback and control. It is unquestionably true though that exposure to mathematics, engineering, physics, and other sciences develops an intellectual discipline that is conducive to productive ideas in the field of systems planning and analysis. Pursued to sufficient depth, it is also the kind of education that leaves open the greatest number of doors to future shifts in areas of specialization. It leads to the skills that are transferable.

### The Study of Automation

What I have said to this point has an important bearing on the issue of automation, but in an indirect and unusual sense. A now apocryphal story illustrates my point. In the 1940's a progress-minded factory manager was persuaded by a thorough study of an

accounting operation that he could realize substantial savings through improved procedures accompanied by the use of punched card equipment; a changeover was made, and the looked for improvement in operations came about. A decade later, a clever staff of computer salesmen and application engineers persuaded him that even more savings could result from doing the job somewhat differently and using a computer instead of punched cards; again the change was made and was a success. Shortly thereafter a team of operations-research analysts was able to prove that still further savings would result if the end product were modified and if the computer were replaced with people.

The story dramatizes the fact that often the benefits of automation result from a careful study of the system itself rather than from the introduction of machines. In the course of such study many questions tend to be answered that no one before thought of asking. Before a job can be done by machine, it has to be specified accurately and in exhaustive detail. Furthermore, in any change there must be economic justification. These two factors lead to a desperate hunt for shortcuts and the examination with a particularly critical eye of the purposes and end products that are assumed to be necessary. If the systems analyst occasionally looks to others as though he were spouting irrelevant questions like popcorn, he might be forgiven if the alternative is to question nothing and simply mechanize an operation without ascertaining whether any of its products need changing. There is little advantage to mechanized shortcomings over manual shortcomings.

Good systems planning is so important a *fringe benefit of automation* that it can profitably be undertaken even by those who have no foreseeable prospects of affording a computer. The mere study of computers and computer programming leads to other valuable, though less tangible, fringe benefits. Such study forces an intellectual discipline on one's pattern of thinking that can be of potential benefit to creative and imaginative planning. In a sense the art of computer programming is an extension of the art of precise communication, which in turn is an extension of the art of clear thinking.

It has been my experience in teaching courses in library systems planning that the capable, imaginative, creative humanities student unsullied by prior contact with mathematics can, under the influence of a three to six months study of systems planning, automation, and computer programming, channel his highly developed abilities in these directions and contribute imaginatively to the planning of future libraries. It is this group that will eventually help to bridge the gap between the "two cultures," and it is this group that will participate in the higher rewards our society tends to bestow on scientific and technical achievement in contrast to achievement in the humanities.

There are also librarians who place so high a value on humanism, or so they think is the reason, that they shun automation (and hence even the study of it) as a threat to human values. These people understandably find comfort in some of the well-known technological facts of present day life, such as the inappropriateness of most existing computers for most of the large scale and important library operations, the enormous costs of automation for many applications, and the numerous examples that can be cited of dubious and extravagant machine applications. Furthermore, their anxieties are partly justified by a complementary group of extremists, who—with only unbounded enthusiasm in place of competence—make exaggerated claims about the potential and immediate practical value of automation. This latter group is what probably provoked Ralph Shaw<sup>1</sup> into challenging automaticians to produce a single example of an economically sensible computer application to information retrieval. Whether the challenge is answerable or not is beside the point; whatever salutary restraining effect it might have, it also provides unfortunate support to those who find in it an authoritative excuse for "ostrich-ism" toward automation.

Even if high price prevents automation from making large scale inroads into libraries for five or ten years, its potential value is unquestionably a reality, and its eventual application inevitable. The study of and planning for automation is justifiable by direct and short-term benefits. Nothing in

these remarks should be construed as deprecating the vital role the humanities also play in librarianship and library education.

### Implications for Special Librarianship

The interpretation of creative catalysis oriented to the design of new and improved systems would be of little interest to most special librarians if it had significance only for the planning of curricula in library schools; but I think that the implications are broader and may be summarized as follows.

All special librarians should develop a perpetually inquisitive and critical attitude toward the purposes, end products, and services performed by their libraries. They should continually seek short cuts to their goals and not assume that either engineers or computers must be available to conceive and design new and significant kinds of information services. They should attempt to reduce their work to formal rules that a less skilled person or a machine could perform, and in this way acquire skill in formulating system requirements and in designing systems, rather than just in operating systems. Such deliberate dehumanizing of one's own job runs deeply contrary to instinct, for who among us doesn't try to create an image of utilizing the highest form of intellect and judgment, and of delicately weighing scores of subtle factors for each decision made. However, my suggestion had nothing to do with what librarians may choose to disclose or not disclose to others of any discoveries they may make of their own machine-like behavior. That decision is a matter of pragmatism, strategy, and lifemanship, and clearly requires a high level of judgment.

Though an attitude alone may be somewhat helpful, it cannot in general substitute for further education. Those who can in some way take advantage of opportunity for contact with and additional training in mathematics, systems planning, and engineering, and in particular the study of computers and automation, should do so.

Those who have ambitions toward special librarianship who have yet to acquire a college degree should be counselled, in my opinion, to major not in the subject specialty of the library in which they think they are

interested, but rather in mathematics, or possibly physics, with a strongly supporting humanities program. Mathematics is not regarded here as a specialty whose already developed tools can necessarily be of use to librarians. It is instead a discipline that deals with the description of the world about us in abstract terms. This ability to communicate and think abstractly lies at the heart of designing improved systems. A good piece of evidence on the importance of mathematics lies in recent contributions by mathematicians to searching of chemical substructures.<sup>2,3</sup> Other disciplines deserve recognition as related to library and information science. The behavioral sciences have contributed particularly in the area of user studies and in the experimental design of such studies. In theories of indexing and classification one can find significant relationships to structural and descriptive linguistics. The importance of mathematics, the ability to deal with and communicate abstractly, as one foundation of librarianship, seems to me persuasive. The detailed role of engineering, automation, and other specialities in library education is not fully clear to me, and I hope that my opinions here will be accepted in the spirit of provoking further thought and debate.

The single most hopeful "keynote" on which I can conclude is to invite your attention to the SLA organization chart (*Special Libraries*, March 1962, p. 160). In its splendid resemblance to an eight-level freeway interchange, it is clear that it could have been conceived only by an intellect vastly superior to that existing among today's engineers—and thus it is an effective countermeasure against any attempts by the latter to infiltrate the ranks of special librarianship.

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2. SUSSENGUTH, E. H. Structure Matching in Information Processing. Ph.D. thesis, Harvard University, 1964 (Computation Laboratory, Harvard University, Scientific Report No. ISR-6).
3. SALTON, G. and SUSSENGUTH, E. H. A New Efficient Structure-Matching Procedure and Its Application to Automatic Retrieval Systems. *Automation and Scientific Communication: Short Papers*, Pt. 2. Washington, D. C.: American Documentation Institute, 1963, p. 143-6.

# Creative Organization: The Librarian as a Manager

## I: The Genesis of Two General Session Programs

E. W. GONZALEZ and F. E. McKENNA

ALL 15 DIVISIONS joined in two unique joint sessions during the St. Louis Convention. This programming was initially conceived during the breakfast meeting of the incoming Division Officers at the 1963 Denver Convention. It was an immediate result of recommendations by the Convention Program Committee.

As a corollary of the Convention theme, "The Special Librarian as a Creative Catalyst," the topic for the joint session was chosen to be "Creative Organization: The Librarian as a Manager."

One might begin a recipe for this experiment in Convention planning in this way:

Take 15 wide-awake Division Chairmen at 7 a.m.

Knead vigorously with next year's Convention planners.

Allow dough to ferment for 12 months while seasoning with voluminous correspondence.

Ensnare live-wire SLA members as discussion leaders; roust them out of bed early on a Convention morning to be briefed on techniques for leading discussions by a recognized exponent of management principles.

Hold breath firmly while waiting for an audience to assemble.

Stir audience with catalytic speaker; strain audience by size of library staff size into smaller rooms, and add Discussion Leaders as co-catalysts. . . .

In the hope of developing ideas that would reach across the "subject" boundaries of SLA's Division structure, the program was planned on the hypothesis that mutual interests and mutual problems could exist

because of library *size* rather than library *subject areas*. Consequently, some planning for this session was dependent on the staff sizes of Convention registrants. Staff size has frequently been a matter of conjecture regarding SLA membership as a whole, as well as a question concerning members who do attend conventions.

The St. Louis registrants (approximately 20 per cent of the Association's membership) presented the following staff sizes (professionals plus non-professionals):

STAFF	PER CENT
1-3	31
4-7	25
8-24	19
25-200	25

In retrospect, the 1-3 grouping and the 4-7 grouping appear to have been fairly homogeneous as far as "managerial problems" are concerned. The 8-24 grouping could perhaps have been better divided into 8-15 and 16-24; while the 25-200 group should definitely have been divided into two ranges: 25-40 and 41 plus. (These staff lev-

*This presentation is a recapitulation of the orientation lecture and workshop sessions, June 9, and the panel discussion and feed-back session, June 10, 1964, held at the Special Libraries Association's 55th Convention in St. Louis under the sponsorship of the Division Relations Committee. Mr. Gonzalez, who is Director, Technical Communications, Grove Laboratories, St. Louis, served as Convention Program Chairman and cooperated with Dr. McKenna, Supervisor, Information Center, Air Reduction Co., Inc., Murray Hill, New Jersey, who is Chairman of the Division Relations Committee.*



*Sievers*

Leaders of the workshops held immediately after the second general session: (back row) William K. Beatty, Edward G. Strable, Robert W. Gibson, Jr., Donald A. Redmond, Gordon E. Randall, James L. Olsen, Jr., Efren W. Gonzales; (middle row) Dr. F. E. McKenna, Mrs. Margaret H. Fuller, Charlotte Georgi, James B. Dodd, Eleanor B. Gibson, Mrs. Katherine Faber, Forrest H. Alter, Mrs. Irma Johnson, Eunice V. Salisburg; (front row) Sara Aull, Phillip Leslie, Lois W. Brock, Phillip Rappaport, Mary C. Dunnigan.

els, as related to the comments synthesized from the reports of the discussion leaders, might well be considered in future studies of problems of the profession.)

The conception and evolution of this program was based on the assumption that all Convention registrants would participate completely and actively, rather than passively as can occur for a general session. To this end Division officers were asked to suggest discussion leaders not only for their ability but also to provide a representative coverage of libraries by staff size and by Division affiliation.

To provide a unified approach to the topic, the session was introduced through an orientation lecture by an outstanding and experienced exponent of managerial principles, Daniel M. Green, M.D., Vice President for Research and Development, Grove Laboratories, St. Louis. To provide for a uniform approach to the discussion of managerial problems, the discussion leaders met with Dr. Green before the general session for a briefing on techniques of discussion groups and specifically on questions relating to the topic of the general session.

Specifically excluded from consideration were "work techniques" or "how-to-do-it"

questions. The major emphasis was to be the dual responsibility of the special librarian/manager in establishing: 1) clear objectives toward which all staff members must be working, and 2) performance standards so that both manager and subordinate may have available the same measuring device to evaluate performance in relation to established objectives.

Topics for discussion and development were furnished to the discussion leaders in advance; for example:

1. What objectives are necessary?
2. How are such objectives to be reached?
3. Who is responsible for attaining the objectives?
4. Is the special librarian a member of the management team?
5. What organizational abilities are required in a special library?
6. What are the requirements for creativity in the organization of a special library?
7. Can you list the objectives that you have established for your special library?
8. What would happen to the parent organization if the objectives of the special library were not met?
9. How would you obtain a written job description with its performance stand-



- ards for use both by you and by your superior?
10. Which of your responsibilities are *different* from those of the other managers in your organization?
  11. How do *you* know that you are doing a *good* job?
  12. How do *you* know that you are doing the *right* job?

Several tools were also furnished in advance to the prospective discussion leaders. Among these were *A Guide to Successful Conference Leadership* (New York: American Management Association, 1948, 15 p.) plus an outline of Dr. Green's orientation lecture.

To enhance the personal participation of all Convention registrants and to increase the cross-fertilization of ideas, a synthesis of the Tuesday discussion groups was presented as a part of the Wednesday morning session. To this end the discussion group leaders met on Tuesday afternoon to compare and consider the conclusions of their groups; a representative cross-section of the discussion leaders then presented the summary on Wednesday morning.

To reproduce the spontaneity and responsiveness of the discussion groups is not possible, but it is possible to share some of the vitality of these sessions with those who were unable to be present in St. Louis. Dr. Green's paper, is presented herewith, followed by a summarization of the group discussions.

## II: The Structure and Functions of Management

DANIEL M. GREEN, M.D.



Sievers

**M**OST OF MAN'S creative achievements are erected upon a base of broad yet detailed knowledge of the principles and practices of his particular field of work. The artist must be thoroughly familiar with colors and their blending; the architect, with the strength and uses of building materials; the writer, with the meaning and grammatical usage of words.

So, too, creativity in management, the employment of imagination and initiative in getting the job done, must have a foundation in the principles of management structure and functions. To this end, I would like to review the more important of these principles and their application.

### Definition of Management

While the term "management" has been defined and described in many ways, all of the essential activities of management are encompassed in the expression:

*Dr. Green is Vice-President, Research and Development, Grove Laboratories Division of Bristol-Myers Company, St. Louis, Missouri.*

Management is getting things done through people

From this definition a number of corollary conclusions can be drawn:

### 1. MANAGEMENT IS AN ATTITUDE

It is goal-oriented; an attitude that concentrates on a) *accomplishment* of specific objectives and b) through the intermediation of *people*.

Management is *not* administration; it is *not* paperwork; it is *not* giving orders. It is *not* any particular set of charts, plans, or procedures, since the same goals can be attained in many ways.

Furthermore, management is *not* accomplishment through one's own individual effort, through machines, or through the use of consultant or service organizations, but through other *people* who, in effect, become the extension of the manager's brain, hands, feet, and senses.

**2. MANAGEMENT IS ALL THE PEOPLE WHO SUPERVISE OTHERS**

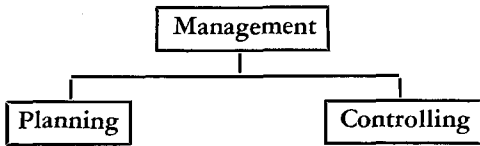
It is *not* a board of directors; it is *not* a management committee; it is *not* department heads as a group. All supervisory personnel, whatever their level, are an integral part of management.

**3. MANAGEMENT IS A PERSONAL RELATIONSHIP**

Because the accomplishments of a manager must be achieved through people, success or failure depends as much upon the manager, as a person, as it does upon each individual managed, as a person. To be successful, the manager must recognize that when he looks at the person to be managed, he necessarily looks at the mirror image of himself. Each of us must manage himself and be managed by others. To the extent that a manager knows and manages himself, to that extent will he be capable of better managing others.

**Functions of Management**

All management can be divided into two functions: 1) planning and 2) controlling.



Planning is the function by which we determine our present position, our future goals, how to get there, when we want to arrive, and how much we are willing to pay.

Controlling is the function by which the organizational plan is carried out, on schedule.

Planning and controlling are *not* synonymous with thinking and doing, respectively. *Both* planning *and* controlling require *both* thinking *and* doing. Of the two, planning is by far the more critical. A poorly controlled organization may eventually reach a well-planned goal. A well-controlled organization, if poorly planned, may have no goal to reach.

**Elements of Planning**

The essential elements of planning are the same as the elements classically contained

in the lead paragraph of a newspaper story. They must answer the questions **WHAT, WHEN, WHY, WHO, WHERE, HOW**. A plan that omits any of these elements is an incomplete plan and will probably turn out to be an ineffective and a costly plan.

**Elements of Planning:**

1. Objectives (WHAT is to be done, WHEN, and WHY?)
2. Responsibilities (WHO is to do WHAT and WHERE?)
3. Procedures (HOW it is to be done and HOW MUCH will it cost?)

For planning purposes, these elements can be grouped under three headings. The process by which these various elements are initially delineated and correlated is called *organizing*.

Organizing may be defined as dividing up all the activities that are necessary to accomplish a plan's various objectives and arranging them in groups that may be assigned to individuals. As a part of planning, organizing deals primarily with objectives and responsibilities.

**Steps in Organizing**

1. Determine and divide responsibilities for attaining objectives
 

a. Determine	}	Responsibilities
b. Divide		
c. Assign		
d. Delegate		
		Commensurate authority
2. Establish chain of command
3. Determine span of control

*The determination, division, and assignment of responsibilities* should reflect the nature of the particular objective or group of objectives to be attained.

The *chain of command* answers the basic question, "Who is the boss?" With respect to the delegation of authority it determines: 1) to whom and 2) how much?

The two basic principles in establishing the chain of command are:

1. The number of levels of authority should be kept to the minimum possible; and

2. Final authority should be delegated as far down the chain as possible.

The *span of control* is the number of individuals who can be effectively supervised by one person. It answers the question as to how many immediate subordinates a manager should have.

The basic answer varies with the organization and with the skills of the executive involved. If his subordinates cannot see him because he is too busy with "more important matters," his span of control is, for him, excessive. If his subordinates require more of his time than he thinks justified, then he had better question *their* capabilities. If, on the other hand, they cannot get as much time from him as they deserve, then he had better question *his own* capabilities.

### Procedures

Procedures comprise that element of planning dealing with HOW objectives are to be attained, including HOW MUCH it will cost. Specifically, a procedure is a written description of what seems to be the most acceptable way to do a particular type of job or work.

Procedures may necessarily include references to objectives (WHAT is to be done and WHEN) and to responsibilities (WHO is to do WHAT and WHEN). Such references are always subordinate to the primary function of procedures, which is to describe HOW.

#### Basic Principles in the Development and Writing of Procedures Are:

1. Every important objective deserves a procedure
2. Procedures should be written by participants
3. Procedures should represent a consensus of the best judgments
4. Procedures should be service-tested
5. Procedures are means, not ends

Procedures are among the best known and most commonly used of management tools. Most companies use them in the form of standard practices or standard procedure manuals.

### Major Elements of Controlling

1. Organization structure (indirect)
2. Immediate supervision (direct)

### Organization Structure

Organization structure is the indirect, more remote, and static element through which control is exercised. The graphic representation of the organization structure is called a table of organization or organization chart. It is an end result of the process of organizing.

#### Table of Organization Should Show:

1. Major responsibility of each manager
2. Lines and levels of authority
3. Relationship of each manager to his supervisor, his subordinates, and his associates

### Immediate Supervision

Immediate supervision is the direct, more dynamic, and proximate element through which control is exercised. It includes all the day-to-day contacts through which the supervisor endeavors to insure that the person supervised gets the job done. As such, its end result should be that the subordinate meet a certain standard of performance.

### Objectives, Responsibilities, and Performance

Few of us become members of an organization at the time of its birth. Most of us join at some more mature stage in which the objectives of the organization, its structure, and the procedures followed have become well-defined, even if subject to further evolution.

To logically and effectively manage, under such circumstances, it is necessary to define and understand clearly the interrelationships among objectives and responsibilities on the one hand, and the performance to be expected when these responsibilities are met, on the other.

In the determination, division, and assignment of responsibilities, it is essential to recognize that *the organization as a whole*

is the sum of its organizational units, no more and no less. Consequently, the over-all objectives, responsibilities, and performance necessarily equal the sum of the objectives, responsibilities, and performance of its various organizational units.

Conversely, the objectives, responsibilities, and performance of each organizational unit must necessarily represent a portion of those of the entire organization. It cannot have objectives or responsibilities different from or not contained within the organization of which it is a unit.

In essence, the objectives, responsibilities, and performance of each organizational unit can be construed as identical with the professional (as distinguished from the personal) objectives, responsibilities, and performance of the manager responsible for that unit. *The manager must identify himself with the unit he manages.*

**OBJECTIVES**

Objectives of the organizational unit  
are  
equal  
to  
Professional objectives of its manager

The objectives of the unit and its manager necessarily determine the responsibilities to be met in attaining these objectives. Even where these objectives appear reasonably obvious, they should be reduced to writing for clarity and permanency.

**RESPONSIBILITIES**

Responsibilities to be met in attaining objective  
are  
equal  
to  
Job description

The responsibilities of the manager in attaining his objectives can be construed as synonymous with his job description. (The job description, combined with position qualifications and an organization chart, constitute what is termed the position specification.)

**PERFORMANCE STANDARDS**

Performance standards  
are  
equal  
to  
Conditions that will exist when job is done  
are  
equal  
to  
Attainment of objectives

The performance expected of the manager is that he will meet his responsibilities and thereby attain his objectives. Expected performance must also be expressed in writing, as in a performance standard, which describes the conditions that will exist when the job is done and the objectives have been attained.

To be most meaningful and useful, job descriptions and performance standards should be restricted to those responsibilities that are *unique* to the job in question. Certain responsibilities are common to all supervisory functions, regardless of the nature of the job, such as operating within a budget, submitting reports, and so on. Inclusion of such common responsibilities in job descriptions and performance standards not only makes them wordy and complicated but obscures and dilutes the important responsibilities, which are those that make one job different from another. It is the discharge of these responsibilities that determine managerial failure or success.

While these definitions of job description and performance standard may appear to be an oversimplification of what is quite complex in practice, we have found not only that they are highly workable definitions but that they orient responsibilities and performance directly toward the accomplishment of specific objectives.

**Summary**

We have determined that "management is getting things done through people." We have seen that the two essential functions of management are planning and controlling. Planning involves the establishment of ob-

jectives, the division and assignment of responsibilities, and the development of procedures. Controlling, based primarily upon organization structure, requires immediate supervision on a day-to-day basis to ensure that a job is being done according to a pre-established standard of performance.

These few basic principles, once understood, are applicable to any type of organization and activity. Their creative application not only will help achieve the goals of the organizational unit but will go a long way toward providing the supervisor with the satisfaction that comes from a job well done.

### III: Summarization of Reports from the Discussion Groups

F. E. McKENNA

Is the special librarian a *manager*? If so, is the special librarian a *creative manager*?

These questions represented the first line of attack in all the discussion groups, regardless of staff size. An interesting and cohesive spectrum of replies to the first question developed during the discussions. Those who had the largest staffs were not primarily concerned with the first question—they considered themselves *as managers* (although some did question whether they were a part of management). The medium-large staff groups *felt* that they were managers; the medium-small staff groups *thought* that they were managers, but they had some doubts whether they were recognized as such by management as a whole. The small staff groups *wished* that they were managers, in their own minds *hoped* that they were managers, but were quite *sure* that no part of management accepted them as managers.

The tools of management are sterile in themselves; the manager as an individual *is* the creator. Without the personal ingenuity and intellectual integrity of the special library manager, without the librarian's current awareness of his parent organization as a whole, without his evaluation of the special library's contributions to management as a whole, the constant flux of change and development can be lost and the most effective creative managerial approaches can be nullified.

*Specific credit for furnishing material for this summarization is due the discussion leaders and the members of the panel for the General Session on Wednesday, June 10, 1964; for names see accompanying photograph on page 549.*

#### Facets of Managerial Awareness

Five important facets of managerial awareness were recognized by three of the four groups (those with large, medium-large, and medium-small staffs):

1. Special library objectives must be general yet they must be specific enough to be differentiated from the objectives of other departments of the parent organization. The objectives should be brief and not rigid.
2. If management is to be creative, it cannot be static. All the tools that management uses to define the job and the ways of doing it must be subject to continual evaluation and re-evaluation. These tools are the statement of objectives, job descriptions, performance standards.
3. A major problem of the special librarian is the ability to use a language that his superior can understand. That is, he must take the vocabulary or jargon of his own job (for instance the language used at SLA Conventions) and translate it into words his superior uses—words used at American Management Association meetings or in the publications of such organizations. A specific example is:

"Management" to special librarian: What are the objectives of our special library?

Special librarian to "management": Our special library is *the* primary information source for our organization.

"Management" to special librarian: What do you mean by special library service?

Special Librarian to "management": Our special library acquires materials and information for the current and future needs of our organization; we organize the materials and information for efficient use; and we bring pertinent materials and information to the attention of our clients as soon as available—and before they know of its existence.

The jargon of information systems may be more understandable than the jargon of libraries when library functions are explained to upper management (particularly if any of the groups are not strongly motivated in the use of the special library).

4. In addition, the special librarian must also be able to communicate in the language of his clients, who may not be members of management.

5. Special library management and its evaluation are difficult because many intangibles are involved. Upper management wants to know the cost of a given operation or project and what value will be received. One reason that machine storage and retrieval methods have become so prevalent is that the cost of the machine (expensive though it may be) and the cost of a given output can be determined with relative ease. It is not so easy to determine the cost of the human and intellectual factors provided by the special librarian. If the value of a project (or idea) can be determined in dollars and cents, it becomes easier to establish justification because management normally must evaluate all proposed projects in terms of the cost expended and the value received. The problem, then, is reduced to stating as much as possible of the special library work in dollars and cents. It is important to *differentiate between cost and value*. The ability to make this differentiation is one characteristic that differentiates a good manager from a mediocre manager.

For example, we know, on the average, how much it costs to file a catalog card. Do we know what is the value of the information on the card? We don't know the value in the same hard dollars and cents manner that we know the cost of card preparation. Similarly, do we know the value of the computer to information programs—or do we know the value of the special librarian to these same programs?

### Staff Size: 25-200

The groups representing the largest libraries were the most articulate regarding their managerial activities. As a manager the special librarian's sphere of influence extends to levels both above and below his own level.

Three management functions—in relation to the levels below the special library manager—were defined as *stimulation*, *communication*, and *recognition*. To encourage professional development of those at a lower level, the special library manager must exercise a normal management function to introduce higher management to the techniques and training methods that are specific for information work. Thus an atmosphere can be created that encourages professional development at the lower levels. The manager is responsible for continued training efforts and for the most effective utilization of the talent available to him. Yet it was emphasized that professional responsibility, and the ability for self-development, should be part of the performance standards expected of an individual. It was felt that many junior professionals lacked this sense of need for self-development.

There must be an *interest* by the manager in the individual staff member to instill in him a sense of pride of performance—not a sense of frustration. The individual must be informed of his duties, of the results expected, and the limits of his freedom to act or his authority; he must be encouraged to expand his capabilities, and he must be given a sense of achievement.

Communications to levels both above and below the special library manager must stress that long term rewards for the parent organization—not only the immediately visible results—are the true measure of effectiveness of the special library.

Performance standards and their relation to the rating system must be determined by the special library manager. Job descriptions must describe the job—not the present incumbent. Performance standards for professional employees should be defined without numerical rigidity (for example, the number of items processed per hour is not a

sufficient definition of productivity). Outside consultants (notably "efficiency" experts) may set impossibly high performance standards (and thus define an inadequate number of staff members) because they are unaware of the intellectual concepts of professional special librarianship. Here the special library manager must express his managerial function as an educator so that consultants do not presuppose that special library work is solely clerical or mechanical.

Perhaps only the special library manager knows the true value of his information services; the other segments of management often judge only the capability of the librarian as a manager of people without considering his ability to manage that valuable and unique intangible—intellectual information (as distinguished from production control information, sales information, etc.). (It was noted parenthetically that, by temperament, many good librarians were not necessarily good managers of people.)

Two specific criticisms were voiced (which also appeared in the discussion of some other staff sizes). One, aimed at the special librarian, was that he did not use terms that were familiar to other managerial levels. The other criticism, aimed at higher levels of management, was that the special librarian was frequently not informed of management's over-all objectives and that he could engage only in "defensive planning."

Several comments pointed toward the inadequacies of the "library administration" courses of 20-30 years ago in view of present day concepts of "management." Further discussion criticized the apparent deficiencies of management courses presented in library schools today, which may not consider the managerial problems of a special library existing as a unit of a larger organization rather than as a library as a creature unto itself.

#### **Staff Size: 8-24**

The medium-large staff groups felt that management procedures and functions presented no problem to them. They discussed hypothetical organization charts and developed step-wise objectives and responsibilities (while avoiding the discussion of "physical things").

Staff indoctrination was pin-pointed as a necessary part of managerial functions. They felt, however, that even when job descriptions and procedures existed, the next higher level of management did not follow through properly or adequately. A particular comment of this group was a criticism of the hazard "too many bosses" and its accompanying uncertainties even when all the proper managerial tools were in existence.

Library communications, including a public relations function within one's own organization, were emphasized as an example of *creative management*.

One method suggested for the evaluation of library services was an evaluation by the library's clients. It is interesting to note that such an "exterior" approach, without subsequent modifications by the special library manager, was specifically criticized in the medium-small staff groups.

#### **Staff Size: 4-7**

The need for "fair access" to higher levels of management was unanimously felt in the medium-small staff groups. All but a few felt that such access did exist, in *some* degree, and that they did have *some* part in policy determination, in planning, and in budget recommendations for their library as well as receiving *some* indication of new directions or objectives of their parent organization.

This group recognized particularly the problem that professional staff members become mired in details because of the size of staff. (This hazard was apparently not recognized in the smallest staff groups.) The medium-small staff groups agreed that the need for every clerical job must be evaluated, short-cuts tested, and ways found to cooperate with other groups within the organization but outside the special library.

The analysis of complete daily records (statistics) was recommended, including observation of trends and the creative preparation of forecasts.

The majority had written objectives, job descriptions, and procedure manuals. Although many of these were written by the special library manager, it was recommended that procedures should be written by the staff members themselves with subsequent

amendments and approval by the manager. The need for bringing out the best capabilities of the staff was emphasized; the professional spirit of a dedicated special library manager can, and should, imbue all staff members, both professional and nonprofessional.

Staff development—as a *creative* contribution of the special library manager—can be stimulated by enlarging the areas of competence of the individual staff members. It was observed—perhaps wryly—that one evidence of creativity was the ability to accommodate the common daily disruptions of schedules.

It was only at this level that the pros and cons of library committees were discussed, but with apparently no conclusive results.

The importance of the ability to differentiate between library “service” and “work” *per se* appeared at this level, with a conscience-searching question: “Are the conventional library services now provided really the types of services that should be provided by a special library?”

Librarians from this staff size were very articulate concerning the question: “How do you know that you are doing a good job?” The special library manager *cannot rely completely* on what their clients think about the job the librarian is doing. (Both groups from the largest libraries also recognized this important point.) A special librarian is useful in his professional competence only if he can use his professional training, experience, and capabilities both to determine the program and to carry it out. In a situation where the special librarian asks the users what they want, and then provides only those services (without deletion or addition), the special librarian functions neither as a librarian nor as a manager because he is relying on someone else to do his planning and decision making.

The opinions and advice of the users are important in determining and evaluating special library services, but opinions can not circumscribe the entire problem in either case.

It is also interesting to note that only at this staff level was emphasis given to the professional ideal that “each special librarian should recognize that any success he has in

raising his own professional standards tends also to elevate those of the entire profession.”

### Staff Size: 1-3

In the small-staff groups, the common denominator appears to be the difficulty in learning of decisions of “management.” Too often, “supervision” does not pass on information concerning the plans of the organization. Suggested remedies were: dependence on scuttlebutt, conversations with secretaries, conversations with “supervisors” other than one’s own, maintaining friendly relations with “everyone.” (In the notes of these groups the words “supervision” and “supervisors” appeared many times with little reference to “management” or “managers.” It would be interesting to determine whether this nomenclature is a result of the organizational level at which the smallest libraries exist.)

Only at this staff level did the spectre of sex rear its head. It was agreed that they were not invited to participate in conferences (even with “supervisors” on their own level) and that they were not always told of current developments “because we are females and not males.”

Initially in the discussions these groups felt that they were *not* part of management and that they *should not* be, because management makes the decisions as to the organization’s policies while they do not. After some discussion, it was admitted that they might be managers, but not “Management” with a capital “M.”

The group with smallest staffs apparently looks primarily to larger libraries for examples of management but does not look within their own parent organizations. (Is this an example of the dichotomy: librarian vs. non-librarian?)

Only at this staff level was the question of “politicking” raised as a necessity for obtaining organizational information because one’s immediate “supervisor” (sic) was either disinterested or unsympathetic to the library.

While procedure manuals, job descriptions, and library charters (objectives) were recognized as necessary ingredients of their functions, these tools were apparently not generally recognized as management tools in



the smallest special libraries—but well-defined procedures were recognized as paths leading to better “jobs” (sic).

The question of “doing a good job” included merit reviews, but these are usually processed by “nonlibrarian supervisors” (sic).

The participants discussed the use of statistics: Which? How? To what use? But at this staff level, their time is apparently consumed with daily duties so that statistics cannot be collected; or if collected, the statistics cannot be creatively assimilated.

The need for creative communications was recognized in the form of a constant selling job to both one’s “boss” and to the special library’s clients. Interestingly, in the small staff group there were the most frequent changes in “management,” that is changes in the “supervisor” (sic) of the special librarian. It was observed that these were often associated with job description changes.

A need—not recognized at this staff level—was that each special librarian (even in a one-man operation) was a *part-time* manager. That is, one-quarter of one’s time might be required to *manage* the other three-quarters of his own time.

### Recapitulation

The differing managerial problems at the different levels of staff-size can well suggest future approaches of the Association to questions of professional standards, consultation, education, and public relations. The spectrum of managerial recognition (which was indicated at the beginning of this report) may provide a partial key to the complex question of the special library’s status *vis-a-vis* its place in the organizational hierarchy.

An interesting observation of the mental approaches to such a unique joint session of the 15 Divisions is the manner of identification used by the participants during the discussions. Almost uniformly one heard: “I am a government librarian”; “I am a company librarian”; “I am a university librarian.” Much rarer than usual was the identification in terms of subject specialties: “I am an engineering librarian”; “I am a biology librarian.”

The reports from the smallest staffs (1-3) have been described by one reviewer as es-

entially “negative.” Such a negative trauma may be generated because the small staffs feel themselves so far down the ladder that it seems that they are left out of things. Perhaps a second level of this trauma is that they think “small” because there is no time to think “big.” Is it feasible for Chapters to sponsor sessions designed around this problem? Can A-B-C guidance be provided for questions such as: “How to think in the management frame of reference?” or “How to look at one’s parent organizations, one’s clientele and oneself with a magnified perspective?” Can “management” representatives from the parent organizations of the smallest libraries be incorporated into a management training effort for the small staff personnel? Can the goal for these efforts be accepted as the placement of the small special library manager in the managerial hierarchy at a level commensurate with the library’s value to the parent organization?

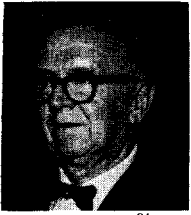
The language barrier is omnipresent. Communication on a person-to-person basis is one of the most critical experiences of each day’s activities with the clients of the library. Is “librarianese” always translated astutely into plain English? When addressing upper management, do the obligations for clear communication become even more critical than when addressing one’s peers?

When facing a problem and seeking a solution is it possible, at times, that one can present his situation to a forum of other librarians, a circle of professional friends, or even another individual librarian? How often do most of us go about solving problems on a do-it-yourself basis? Can *Special Libraries* and/or local regional and national meetings provide “clinics” at which those with problems can expose their problems (anonymously if need be)? Can the concept of “This Works for Us” be broadened to permit the question “*What Will Work for Me?*”

Whatever management tools are now used, or will be used, the ultimate value of the general sessions reported here will be best judged by the productive harvests to be reaped by each of us as we interpret and apply these summaries to our own problems—managerial, mechanical, and intellectual.

# The Creative Person

DR. WILLIAM STEPHENSON



*Stephenson*

**M**OST STUDIES in the United States have assumed that intelligence and creativity are highly related; only recently, with Getzels and Jackson (8), Guilford (10), and others have doubts

arisen about this strange assumption.

In England, in my student days, a distinction was always drawn in systematic work (Spearman (15) and Maxwell Garnett (7)) between intelligence on the one hand and cleverness on the other. Colleges and universities reinforce and reward the former, with its conforming responses of right answers to logical questions, and stamp out cleverness, with its humorous, smart, wrong-headed answers to all questions. To be creative is to laugh at conformity and correctness. It is not merely coincidental that Einstein played the violin atrociously, with laughter, or that Lord Rutherford, arch-empiricist of the atomic age, was boisterous, warm, good-humored. Creative people, indeed, are likely to be sunny, happy people, if not also traditionally temperamental. And such research as is available suggests that tradition wasn't far wrong—creative people tolerate ambiguities; emotion colors their intelligence; the worldly for them is tinged with the other-worldly; the idealistic and the practical are always a source of confusion for them (Drews (2) and others have had something of the kind to say).

Thus, it would seem that one's advice on how to be creative is advice that only the happy-go-lucky can heed with profit!

## The Special Librarian as a Paragon

If we are to believe Wright's *Manual* for special librarians (19), these men and women are not merely meant to be intelli-

gent but to excel in every self-effacing virtue—except the creative. The special informationist exists merely to serve others—and not merely to file information, but to be expert with reference material, manuals, data books, gazetteers, yearbooks, and the rest. Even in a narrow field the amount of information is prodigious and much more than any one person can ever hope to peruse. The special librarian has to have an uncanny eye for the important and a deaf ear to the unimportant.

Wright requires this person, besides, to be tactful, polite, willing, patient, dogged, with a passion for order, and a flair for looking in the right places; he has to have organizing ability and a gift for inspiring keenness in assistants. He has, also, to have a good logical mind and to be accurate and scholarly; he has to be widely read and must write well. He has to be a natural psychologist, Wright concludes, exuding self-confidence, and be able to keep up with all professional developments! When we add to this his functions with regard to report writing, public relations work, committee work, statistics compilation, correspondence, and the rest—surely he is a paragon of all unrequited virtues!

To all of these virtues, it is now asked what must the special librarian do to become creative?

## The More Difficult Problem

There is a more pressing problem first, however. One is puzzled by the assumption of unselfishness and everything else expected of librarians. What, indeed, motivates a person to be so helpful, so self-abnegatory, so other-worldly? No doubt there is gratification in being needed by others, even to answer remote and sometimes trivial questions. The psychoanalyst, no doubt, can find

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*Dr. Stephenson, who is Distinguished Research Professor of Advertising at the School of Journalism of the University of Missouri, gave this talk at the third general session of the 55th Convention of Special Libraries Association, St. Louis, June 10, 1964.*

a ready-enough explanation for those of us with a penchant for picking up unconsidered trifles. The greatest of librarians, however, so it seems to me, have been synopticians (or synoptists?), seeking to encompass all the knowledge of the universe, god-like, into one comprehensive system, entirely within their grasp. However, it is hard to think that delusions of grandeur are at issue amongst the general body of special librarians!

For my own part, I like to think of the special informationist as a scientist, in the true sense of the word, in that he begins with the self-same discussion of method-of-science that engages all of us in scientific fields. It is quite erroneous to suppose, as most people probably do, that methods of science are thoroughly understood. The truth is that philosophy and logic-of-science have much still to do to explain scientific method in all its protopostulatory respects (Rozeboom, 14).

The basic training for a special librarian (as distinct from that for a public librarian), it seems to me, should be in the history and methods of science. (In the case of public librarians, the basic training should be in mass communications instead, that is in art and entertainment, a very different matter.) What could be wiser for a special librarian than to be able to understand Lewis S. Feuer's *The Scientific Intellectual: The Psychological and Sociological Origins of Modern Science* (5)? If such could become the basic background of special librarians, then we need not worry one whit about what motivated them to become information experts. It would be enough to know that behind all science, government administration, colleges, and business there are servants with deep understandings of the ways of science over the centuries.

### The Creative Specialist

We can now return to the question of what specialists can do about being creative—other than to be born funny! Where there is controversy, there is always an opportunity to be creative, and it will be admitted, with Foskett (6), that there is more controversy

about *classification* than about anything else of consequence in library science. Classification is indeed a profound problem in many fields of knowledge and wherever people *try* to be scientific (the physicist scarcely has to try nowadays). The use of arbitrary, categorical classification is rampant still in much of present-day psychology, sociology, and social science generally. The probability is that the special librarian, therefore, might make discoveries in this field of concern that would be widely applicable, not merely as information theory but as principles for application in the sciences in general.

In the field of classification, therefore, one should find examples of creative work—so I told myself. I therefore searched the literature for what, in my view, is a good example of a creative piece of work done in library science within the past 20 years. I found it in the classification theory of Farradane (3), whose paper in volume six (1950) of the *Journal of Documentation* seems to me to augur well for information science.

Farradane observed that the established systems of classification—Universal Decimal Classification, the Bliss system and similar schemes—are purely deductive; all depend on initial groups of arbitrarily selected headings. The Kaiser system, on the contrary, has some inductive features; the Holmstrom and Ranganathan classification systems, though interesting in other respects, are basically deductive systems. As for Farradane, he would have a classification built up inductively in the “proper” manner of science, starting with “elements or items of knowledge” called *isolates*. Classification is a matter of defining the possible relations between these by verbs called *operators*; the classes become *analets*.

Farradane's isolates are not any “natural order of nature.” He is, indeed, critical of beginning with genera and their subdivision into species, particulars, and the rest: “classification from the general to the particular is essentially unscientific in its method . . . scientists do not proceed this way . . . rather, they begin with specific topics . . . the object in classification should be to follow the same path, to isolate ‘isolates’,”

and then to describe relations between them."

There are, Farradane said, relatively few operators—he originally listed only four (appurtenance, equivalence, reaction, and causation).

### What Do We Learn from This?

Mr. Farradane, who was a B.Sc., A.R.C.S., in 1950 and librarian at Tate & Lisle, the sugar concern in England, had at his command a general knowledge of logic-of-science and of symbolic logic (though his methods don't use it); and to support his views he had to delve into the psychology of perception, etc. He was clearly no expert in any of these disciplines, but he used them for his own creative work.

His initial paper in the *Journal of Documentation* apparently raised much interest as well as problems; he attempted to answer the latter in a subsequent paper (4). The difficulty concerned how to distinguish between empirical isolates and arbitrary categories—his isolates were "items of knowledge," depending intimately upon knowledge of the subject; they were not arbitrary headings. They were inductions, not deductions. To grasp these inductions is the very essence of being creative. Thus, one can recommend Farradane's proposals as a place one might go to be truly creative!

I have wondered what Mr. Farradane would do inductively with a field in which I am specially interested myself, that of factor analysis, a branch of statistical method. The special librarian would be faced with the decision either to use a standard scheme that purports to cover the entire field of knowledge, or to construct a private scheme for this particular field of factor analysis. Mr. Farradane would recommend the latter.

He does not assume that the "universe is an indivisible whole," or that "knowledge has to be integrated into a single pattern" as most librarians are wont to do, including Foskett (6). Classification from the general to the particular is essentially unscientific, Farradane asserts, except as a final stage of knowledge. Scientists study specific fields, working on specific problems; therefore the

approach to their literature should be to isolate the isolates, of which the scientist himself may or may not be cognisant, and then to describe the relations between them. The information specialist, therefore, has to be as creative as the scientist himself, to find isolates and to say what relates to them.

### Creativity

To return to the theme of the creative person—psychologists have had much to say recently about him. Drews (5) gives the reminder that creative people live comfortably with the idea that not everything is known and that truth is rarely seen other than through a dark glass. Rokeach (13) suggests that creative people are more open-minded than the uncreative. Deethrick (1), in line with my own early experience, indicates that current testing programs tend to overlook the creative individual; the highly intelligent student, who is likely to be more conforming, is more acceptable to teachers than the highly creative, who is perhaps a screwball and probably nonconforming. MacKinnon (11), who studied persons who had already proven themselves to be recognizably creative in writing, architecture, mathematics, physics, and engineering, found no correlation between intelligence and creativity.

Rogers (12) and almost all American psychologists are bent upon defining creativity in personality terms. The weakness of this, it seems to me, is that it examines creativity in a vacuum, as a false abstraction of the psychologist's own making; it largely overlooks the part played by skill, talent, hard work, and technical developments in all important creative work. The definitions of Givens (9), Drews (2), Stein (17), Rokeach (13), and others already mentioned all point out that creative people are curious, independent, original, enthusiastic, have great drive, are more impulsive, more emotional, are more flexible, more self-assertive than the non-creative.

One learns more about creativity by looking up the word "clever" in a dictionary; it has two distinct meanings. One has reference to being ingenious, which is what the psychologists should be talking about. The

other has reference to *skills and talents*, which the psychologists overlook. The creative person may well be emotional, good-humored, have enthusiasms, and all else; but he also knows more about more, has more skills of mathematics, logic, statistics, illogic, writing, symbolic logic, languages, philosophy, manipulative talents, and the like, all requiring hard and often arduous work for their acquisition. It is to these skills that he adds his ingenuity, seeing things uniquely, doing things creatively. The skills are as essential as the ingenuity; the one without the other is like a forest without trees.

All of this applies to art, history, and literature as well as to science.

### The Suppression of Creativity

We are apparently in the middle of the most creative period of history, and therefore it may seem odd that some theorists argue that creativity is being suppressed in much of what passes for Western culture. Surely we are involved in a vast technological revolution, whose hallmark is creation and invention. And how can any one doubt that we are in the middle of astonishing discoveries, wrestled out of nature by man's creative abilities? Psychologically and socially, however, the story is different; international communication is everywhere a terrible agonism of one country at the throat of another at the most elementary levels of human destructiveness. There is little that is creative in social, and indeed in psychological, science, as the current racial troubles in the United States so clearly indicate; it is about this, perhaps, that the theorists are concerned.

Indeed, there is a deep change, historically amongst scientists. The creative scientists of the 17th century were libertarian and hedonistic in philosophy, imbued with a deep wish to liberate mankind from the dark mythologies of original sin and to open to all men the wonders of existing without fear. There is an element of such existence, I believe, in creativity. Today's nuclear scientist has little of this in his makeup; he is purely a technician who makes technological advances more because of the nature of

things, like a man who stumbles upon a cache of precious stones in a cave, than because of deployment of a creative mind. He is now merely another of society's interest groups, going to church on Sunday and lobbying, as Feure (5) suggests, for a greater share in the national income, interested in power and prestige. Scientists are now hostile to the old libertarian ideals. So there may be good reason for those who, like Torrence (18), are drawing attention to the widespread repression of creativity, which is epitomized by the worship of intelligence and the down-grading of nonconformity in schools and universities.

This will seem a long way from my theme of the opportunities for creativity amongst information experts. Yet it is, I believe, really at the heart of the problem, which is why I have recommended the study of the history of science as basic to the training of any special librarian.

### An Ideal Creative Individual

If you ask me whom, amongst creative people, I would recommend as a model, I would be inclined to turn to a poet, Robert Burns. You will observe at once that he was of the hedonistic-libertarian breed of men of the 17th and 18th centuries. He was educated on a farm, but he read with skill the same books as English scholars of the time, spoke the same English, and imitated in his non-dialect writings the same English literary models. But he was no Englishman. The educated Englishman of his time was characterized as reserved, cold, and reluctant to show his feelings, like Mr. Allworthy of *Tom Jones*. Robert Burns showed his feelings openly. He could enjoy, play, and have fun, without any rigidity of morals, philosophy, religion, or other man-made barriers to existence, yet with harm to none and compassion for all.

His Scottish songs were created out of intimate and laborious labor and knowledge of song-making down centuries of Scottish folklore, as carefully indexed and cataloged as any information in a modern special library, by methods that Farradane would accept as genuinely scientific, but then worked over ingeniously, cleverly, creatively, to be-

come immortal songs. The hard work and skills of Robert Burns are all forgotten. His happy-go-lucky, boisterous, wench-bouncing temperament is only too well-remembered (and distorted in the remembrance of it).

But the two sides of creativity, of Burns the bibliophile and collector of folklore, the skillful writer of English no less than of his own Scottish brogue, of Burns the libertarian—all of this on the one side has to be considered as indicative of hard work and solid skills; and on the other side there are his enthusiasms and good humor. Out of the joining came lyrics of beauty unsurpassed. My formula therefore applies to the arts as well as to the sciences. Creativity is nine-tenths hard work and one-tenth a soft personality.

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#### Recent CLR Grants

The Library Technology Project of the American Library Association received a \$230,000 grant from the Council on Library Resources, Inc., to support its projects for the year. \$44,232 will underwrite a bimonthly information service, *Library Technology Reports*, which will make its first appearance January 1965. This subscription looseleaf service, reporting on library supplies, equipment, and operation, will cost \$100 a year. Individual issues will include results of LTP studies, supplementary reports on new developments, abstracts of pertinent literature, answers to questions submitted to LTP's information service, specification tables, and news items. A looseleaf binder for the 8½ x 11 sheets and printed guide separators will be included with a subscription. A separate \$21,600 grant was awarded LTP for continuation of its bookbinding study.

A \$3,500 contract was granted Photo Devices, Inc., Rochester, New York, for the construction of a prototype of a portable microfilm reader designed primarily for flat film but adaptable for roll film.

The International Federation for Documentation (FID) received \$10,000 toward support of its 31st Meeting and Congress at Washington, D. C., October 7-16, 1965.

Tape-controlled typewriters will prepare the printer's copy for a projected list of subject headings for the use of Latin American librarians in cataloging and cross-cataloging books. This Spanish-language list, which is being prepared by a continuing CLR grant of \$25,000 to the Pan American Union, will be based on the Library of Congress compilation, individual lists compiled by several Latin American libraries, and others.

# The Word Is Think

WILLIAM S. BUDINGTON

A FAVORITE ploy among science fiction writers is quotation from historical research as it might be written in the 25th century. They are thereby enabled to make impersonal, arch observations about the life of today. Thus, we read of prolific scientists buried "in their own intellectual excreta," and of librarians suffocated in an inexorable cascade of 3 x 5 catalog cards. These fossilized remains are categorized as those of primitive peoples who never attained the freedom and sophistication of later worlds.

Can we reverse the process of observation, estimate our present situation objectively, and project our path as it may or may not wind into our future? What, exactly, is today's special librarian, for example? Is he buried or suffocated or otherwise perishing? What is the nature of the world he lives in and serves? What of the demands upon him—now and likely in the very non-fictional future? And how will librarianship, assuming this title also survives, cope with itself and with its world? Is the special librarian the last, best hope of the profession, and what must he do to accomplish any degree of freedom or sophistication?

## Characteristics of Special Librarianship

At one time or other, all of us have been confronted with definitions of special librarianship, and some of us have perhaps been guilty of such mental and philosophical exercise. We think of special materials and special clientele, of special education, and special skills. But to most of us the thing that glows brightest and most meaningfully is the concept of special service. Libraries in times past have been established as warehouses and passive resources or as willing adjuncts to the educational process. The special library, as we envision it, has come into being as a service necessity. It is a consciously

developed response to expressed need, supplying essential informational backstopping to another, more primary activity. That activity must succeed, and the special library is among many elements doing its best to ensure that success.

This single-endedness is one of the dimensions that largely distinguishes special from other types of libraries. A second measure is the degree to which service is custom tailored to an organization and most particularly to the individual. Not only the ingenious devising of techniques and files is at work. The good special librarian gets under the skin of his clientele with an understanding empathy, which senses and foresees and satisfies the unexpressed need. A third trait of special librarianship is the compulsive drive required of those who serve. Poor or non-existent service, or any apology for it, is impermissible. "I don't know" or "We don't have such information on hand" are expressions that cannot stand; the gaps must be quickly filled, and there had better not be too many.

This is not to say that such purity of conscience and endeavor is unknown to librarians elsewhere. Rather it is to say that this is the essential spirit of special librarianship we are happy to share in the fullest degree. One of the characteristics of our branch of the profession today is its virility and proliferation. Not only are there more of us and demands for even greater numbers, but we see this spirit catching hold in other professional areas, whether it be in cataloging or general public library reference work or in the departmentalization of special resources and services for academic research and teaching. There is a sense of dedication to goals that intensifies and extends the activity far beyond the minimum or average range that may have existed.

*This is adapted from a talk presented to several SLA Chapters during the fall of 1963 when the author was President-Elect of Special Libraries Association. Now President, Mr. Budington is also Associate Librarian of The John Crerar Library in Chicago.*

Such responsive philosophy stems in part from the changing nature of today's living. The environment changes, and we must develop with it. Our principal concern is man's knowledge and how it grows, how it is handled and transferred, and how it is used. We think of science and fall silent, awed by the events of recent years and the enormous complication of their meanings and their records. Industrial research is matched by basic research, with government and stockholders providing mounds of dollars which may reach the moon sooner than the rockets they build. The world of education exhibits changes in the amount and direction of scholarship and the means of achieving it. Student bodies multiply, and machines take over some of the teaching. In economics and banking, merchandising and publishing, government and transportation there arrive daily reports of developments and alterations in ways and means of living and dealing with others. All of these ferments create demands for past knowledge and the integration of new knowledge. Our world of information changes literally while we watch, and watching is—or should be—our business.

### Problems Facing the Profession

Among our principal worries are these three: the proliferation of subject specialties, the deluge of publications partially resulting from this, and—darkest threat of all—the advent of new devices and professionalisms that loom above our tested and familiar ways and our very jobs. In the face of advances in knowledge, specialists occur almost spontaneously to meet new requirements. As has been pointed out, specialization is the scholar's defense against the flood of knowledge, with the totality of which he cannot possibly cope. We are dumfounded to learn that of all the scientists who ever existed, some 90 percent are still alive today. But it is also pointed out that this has always been true, that this is in accord with the laws of growth, and the world and science have coped with this situation. The deluge of publications hits closer to home, but they are recognizable in form; we cull and we select and hopefully acquire the best, in general and special areas.

In our own small world, the real tremors are coming from outside, we are on the brink of our own industrial revolution, and we are not too confident in those who would push us over the brink nor in the Icarian wings with which they would have us fly. In addition to the mechanists, there are also those who leapfrog into the future of centralization and organization of information services, at which we stare in suspicion and unbelief.

Librarianship considers itself a profession; within it the special librarian thinks himself particularly well armed spiritually, if not always physically, to deal with information and its transformation into knowledge. And yet we stand uneasy, knowing that our information alters as our world turns, that its mass is indeed critical, and that the need for it is more urgent than ever before. We whistle as we carry our daily basket to grandma's house, watching warily the wolves in electronic clothing. What does this age demand of us to do our job properly, in confidence and esteem? In a single word, it demands that we *Think*.

Pretty trite, you say. Whose punched cards are you selling, anyway? No punched cards. Just plain, common, concentrated, all-out, imaginative, inquisitive, open-minded Think. What is demanded of us today is the certain knowledge, on the part of each of us, that we are doing the best possible job, in the context of all present theory and capability, within the conditions imposed upon us. This requires the recognition and understanding of new ideas, regardless of their acceptance, the correct appraisal and meeting of responsibilities, the aggressive approach to problem areas, and above all, growth in a profession that must grow, or we will see it perish as such. There have been rumblings and thunderings for a number of years about librarianship, mutterings about stereotypes and provincialisms and heads in the sand. We have seen the mushrooming of new curricula and the access of non-librarians to key posts in our field. We have reacted in various ways to the Weinberg Report, which was the result of some very careful and considered study by top minds in the United States. Some have accused its authors of



ignorance of our sterling worths and skills. The real point is that such ignorance reflects directly on us for having allowed it to exist. While the Report deals with science information, its general analysis and conclusions have the most serious, long-run, and sweeping implications. Study of such documents and of all possible avenues of alleviation is an example of the previously mentioned need to Think.

#### The Librarian as Information Expert

The special librarian, by and large, is said to cope and indeed does cope very well with the problems and demands thrust upon him. He can accomplish things the changing world of events and research and scholarship demand of him. But to some extent this is, and will be, true because the demands are only for what he offers in the first place. How much more could be offered—and demanded—is the question that should gnaw at us constantly.

The implementation of Think can take many forms in addition to reading Weinberg reports. An initial step, for example, might be the true determination of our real function. What does our library really do? What do other kinds of libraries do? What does an information center do? We talk and hear about the full cycle of documentation or information handling, from the revelation of new information to its reuse by some person other than the discoverer. All stages in the cycle are available to us, but we do not know which we want and which we don't. The principles are not restricted to scientific subject fields. The basic information constituting marketing or politics must also be handled and retrieved. The concept of information service or science or whatever we name it, is changing, and we must be prepared to grasp the fundamentals of such change, whether they involve machines or subject experts or centralization or any other variation.

These factors require that we become true specialists in the library profession—information specialists in the broadest sense. In the past we have prided ourselves on knowledge of sources of information, of the bibliographic tools, of a mystique in obtaining

answers which, after all, was not so very mystical. And here we have come to a grinding halt. When some businessman or faculty research director wants to know about the finding of information—retrieval, the word is now—does he turn to the librarian? All too often, a management consultant or a data processor is called in. When a likely student expresses interest in librarianship or information handling, what do we tell him? Do we describe our own daily delights and then say, haltingly, that there are lots of new developments on the horizon but we're sorry we really don't know anything about them? And then wonder why our recruitment fails? If we are not the resource people in our own area, it is because we have not made ourselves so. That it is a useful resource knowledge is evidenced by the numbers of persons who have now made it their business.

Education and reeducation are obviously needed to fill gaps in our own arsenal. We seem unable to reach common conclusions on the desirable education for librarians. But of continuing education and self-education we certainly have some control and can take initiative, either singly or in concert. By this I do not mean just cram courses in computer programming. We need to know about regional reference networks, cooperative processing, book catalogs, and a multitude of things, not just about computers. A general review of progress on many fronts is required to gain insight on some current original thinking. Probably usable gimmicks will seldom turn up in our study, but the principal benefit is stimulation of one's own thinking and a freshened outlook on old scenes. It may be argued that a small library or a general library cannot benefit from exotic equipment and systems or card production methods or facsimile transmission—that such study is wasted time. Most special librarians are in such types of libraries, and here lies the danger. It is precisely this group that may achieve great savings in efficiency. Neither can the general nature of one's service be posed in defense. Smallness and generality are poor excuses for ignorance, and if this is the way we operate, we are really in trouble.

## Evaluate New Methods

It should be of concern that many librarians consider new methods as too scientific or technical and therefore alien or impossible to fathom. Many mechanical and electronic devices do require very special knowledge to adjust and operate, but the basic principles of mechanized filing and finding of information are the same principles we have used for years. At least we should look at their new dress. Not only should we be available as resource people for our own field of information work, but we may need to defend ourselves from overzealous pressures to automate just for the sake of automation.

It is interesting to note the shifts of views concerning mechanized methods during past years. For a time, we saw considerable theorizing on the application of business machines as thinking devices. Then came confident promises of success, with reports of this or that triumph. Now we watch another swing of the pendulum, with Ralph Shaw, William H. Carlson, and John R. Pierce calling a reassuring tune. They point out that our manual methods do work; while computers can do many wonderful things, they cannot take over completely. Dr. Pierce, of the Bell Laboratories, points out that the telephone company, with the most highly mechanized communications and switching network in existence, still uses girls and books to provide the essential information for its operation. The most critical element, he says, is the insertion of human judgment into the retrieval process. This one factor will make or break any mechanized system. Such reassuring statements are comforting in a sense, yet all of us must recognize the probable wave of the future.

As Dr. Shaw and others have emphasized, part of the benefit of studying modern methods in relation to any operation is the usual discovery that present systems can be improved in the process. If you flow-chart your own procedures according to prescribed methods, you may find some startling illogic in steps that had previously seemed superior. The review of present practice does not have to end with the catalog in an ash can and an IBM 7090 in its place; the advantage of

radical suggestions is that we may well find better alternatives that are still short of computerization. Indeed, information retrieval is not necessarily the best initial area for modernization. Our daily ordering, circulation, and other clerical routines offer wide opportunities.

The area of mechanization looms darkly on many library horizons, but it need not and should not. By dwelling on it, I do not imply that it is even a principal problem. Our future depends on whether we look at the clouds at all, dark or light, or keep our noses on the ground pushing peanuts. If we are resigned to this, then peanut pushers we will be. But this is hardly believable of special librarians. The fact that some are uneasy or feel a stab of conscience is proof of our potential. The fact that we are uncertain shows that we recognize the need to do something. Whether it be new educational processes or expanded research programs or diversification or brand new sciences or social catastrophes or political changes—the special librarian has his weapons still, to deal with frantic calls for whole new disciplines of information.

## Meeting Present and Future Challenges

He has recognition of objectives. He is not where he is because it is a nice place and he likes to read books. He has a job to do, and determination of the total picture and the librarian's part in it is his primary responsibility. It may require a whole new set of lenses to see the objectives clearly, but see them he must. He has the capacity to exercise his skills within the context of these objectives, to analyze requirements of groups and of individuals, and to shape and package information for them effectively. And he has the sure knowledge that there is no turning back but only a going ahead with the job until he is certain that it is being accomplished in as perfect a fashion possible.

This is the real challenge facing all of us. Each day we meet and solve a multitude of problems in providing answers and services and in administration. But no library in the country can really say it is truly successful, truly abreast of things, truly on top. Far too

many of us rely solely on what we were taught and have had drummed in by experience. Far too few of us want to know everything there is to know about modern librarianship, suspiciously looking at our daily tasks, sure there must be a better way. If ever there was a fallow field, librarianship is it.

Maybe we do know the plows to use, but our management won't hear of them. By a peculiar twist of reasoning, this is why everyone else can now call themselves experts in the information field. The new, the startling, and the glamorous are what receive the publicity. It is fashionable to deprecate the old as *useless* and credit the new with merit. I am reminded of the barber who decided to become an expert dentist. It seemed a simple task—after all, he already knew how to operate the chair. It is obvious that many such critics have little understanding of the broad spectrum of librarianship. Their concept is a cross between the much belabored stereotype and the beaten down company librarian. By holding up this monstrosity as a whipping boy, they strive for recognition as messiah. It is unfortunate that their reasoning is sometimes accepted because of their status in other occupations.

But we must also beware. Because of some faulty reasoning, we cannot consider all

statements of all critics as crackpot. If we are called ignorant, we can complain on some scores but not all. If we are called reactionary, we can claim we are cautious but must admit to being scared. And so we should take some very careful looks about us—at the joining of present and future librarianship, at the channels of communication, at the transfer of information to a patron, whether it comes from handbook, magnetic tape, or projected image, at ourselves and our profession. For special librarians as well as for corporations progress is a most important product. Otherwise the service concept, which is our prideful joy, will indeed be left far behind.

We do have changing worlds and changing responsibilities, new emergencies and new solutions. Knowledge will not be put to work unless we put it there. New learning, continually replenished, we must have, for we are in position to use the best of the old and the best of the new, if we will but do so. The 25th century should look back and find us not buried or fossilized but moving vigorously ahead. We will have drunk at our Pierian spring and other springs as well, and we will have Thought and Learned, and become something special in the way of librarians.

#### INFORMATION RETRIEVAL RESEARCH AT PITTSBURGH AND LEHIGH

The University of Pittsburgh's recently established Knowledge Availability Systems Center has just received a grant of \$73,184 from the National Institutes of Health for the operation of the Center's Information Retrieval Game. The purpose of the Game is to test and improve the efficiency of systems by asking users a series of questions designed to discover what information provided by the systems was really useful. The NIH grant will test the Game's efficiency and apply the questions to substantial numbers of health scientists, students, and other researchers. Another project of the Center is the development of applications for the Beekley InSite searching machine, which uses the peek-a-boo principle whereby reflective Mylar tape is assigned a characteristic by which a search might be made. Each tape contains

a position for each document and is punched for each document containing that characteristic. The Beekley machine can search at the rate of 10,000 documents a minute, and research results indicate that the machine may perform comparatively simple searches more quickly than computers.

As part of its research program, Study of Theories and Models of Information Storage and Retrieval, Lehigh University's Center for Information Sciences is testing, under controlled conditions at the University's computer laboratory, a new series of mathematical theories of information retrieval. These theories are designed to permit a computer to provide all answers relevant to a topical inquiry in a matter of seconds, including titles, authors, citations, and complete descriptions of the documents.



**G. B. GHOSH**  
Honorary General Secretary

# IASLIC

**I**ASLIC, the Indian Association of Special Libraries and Information Centres came into being on the 3rd September, 1955, at Calcutta, with late Dr. S. L. Hora, the then Director of the Zoological Survey of India, and Mr. J. Saha, Chief Librarian of the Indian Statistical Institute, as its first President and General Secretary respectively. In order to play an important role in scientific communication amongst Indian scientists and research scholars in the fields of scientific and technological information through proper co-ordination and co-operation and to establish a common forum for librarians, documentalists, scientists, researchers, and other technicians working in different academic, scientific, technological, commercial, and industrial organizations all over India, three librarians of Calcutta *viz.* Messrs. J. Saha, A. K. Mukherjee and G. B. Ghosh, discussed informally with the late Dr. Hora the feasibility of forming such an association at Calcutta towards the middle of May same year. In brief the objectives of Iaslic are to encourage the formation of special libraries and special information services and by all appropriate methods, as may be deemed necessary, to promote and co-ordinate their effective operation.

The new association thus came into existence at the right moment after the Second World War, when India was in the throes of educational, economic, and cultural revolution and unprecedented industrial and scientific development with its chain of national scientific laboratories and with the springing up of a number of industries, which had already been demanding special service from librarians very much outside the scope of general librarianship and requiring special attention and techniques. This association is still in the formative stage as Aslib in London was during the first 20 years of its existence. Even now there is no

adequate, competent, and full-time staff to serve Iaslic's interests, and the whole work occupies the spare time of its very few enthusiastic local members.

## Organization and Programs

In spite of the state of affairs described briefly above, during the first eight years of its existence this organization has come into vigorous life with five all-India conferences and two seminars all over India, in which 15 very important and vital topics were discussed. The third seminar is going to be held in October 1964.

That this Association has been rendering valuable services to research in the fields of humanities, including social science, pure and applied science, and technology is borne out by the fact that its membership, especially the institutional membership, has been increasing from year to year. The figures towards the end of 1963 stood at 125 institutional members and 200 personal members as against 18 and 100 in 1956. In keeping with the avowed objective of working on a national level, the association has been able to enlist the co-operation of various individuals and institutions throughout India.

All the work of this national special libraries association is performed through the following six Divisions, each having an honorary secretary with four individual members to perform their respective pre-planned and well-defined duties: 1) Education Division, 2) Publication and Publicity Division, 3) Documentary Reproduction and Translation Division, 4) Documentation Division, 5) Library and Information Service Division, and 6) Library Co-operation and Co-ordination Division.

The Education Division has been conducting regularly annual language classes in German and Russian at Calcutta, for interested local members and non-members both. The

Benoy Chatterjee Memorial Language Medal is awarded each year to the best student in the language class, donated by one of its founder members. The Division occasionally arranges short courses and discussions by specialists of special topics on library science. This association has also been seriously considering starting a short annual course on special librarianship for which a detailed syllabus and prospectus have already been drawn up. It is hoped to run such a workshop training course with emphasis on practical work in the near future.

#### Publications

In addition to the publications listed below, the quarterly *Iaslic Bulletin*, which is the official organ of this association, has been making a regular appearance. It is now running in its ninth volume. Copies are distributed free to all members of the association, but the annual subscription rates for non-members have recently been increased, effective 1964, from Rs.20.00 (Indian currency), \$4.00, and sh.30, to Rs.30.00, \$6.50, and sh.45 respectively. The journal contains papers contributed by specialists and librarians and of interest to special librarians and information officers, an index of recent articles on library science published all over the world, letters, book reviews, and current notes and news.

#### DIRECTORIES

*Directory of Special and Research Libraries in India* (1962). Price: Rs.15.00; 30sh.; \$4.50

#### SPECIAL PUBLICATIONS

No. 1. Incorporating all the working papers contributed to the Third Iaslic Conference held at Calcutta (1960) on 1) the development of libraries under the third five-year plan with particular reference to special libraries and information centres in India; 2) Indic names and 3) bibliographic control in special libraries. Price: Rs.6.00; 10sh; \$1.75

No. 2. Contains all the working papers, full proceedings, and recommendations of the first Iaslic seminar on "Indic Names" held at Calcutta (1961). Price: Rs.8.50; 13sh.6d.; \$1.70

No. 3. *Development of Medical Societies and Medical Periodicals in India, 1780-1920*, by Mr. A. Neelameghan (1962). Price: Rs.12.00; 24sh.; \$4.00

#### MONOGRAPHS

No. 1. *Scientific Communication in India* by Mr. K. Bhattacharyya (1963). Price: Rs.6.00; 12sh.; \$2.00

The following priced publications now in the press are to be published shortly.

#### SPECIAL PUBLICATIONS

No. 4. All the working papers and proceedings and recommendations of the Fourth Iaslic Conference held at the Central Fuel Research Institute, Dhanbad (1963) on 1) methods of scientific communication; 2) national central science library for India, and 3) centralization and decentralization of library and information services will be incorporated.

No. 5. This will include all the working papers and proceedings of discussions held on the occasion of the second Iaslic seminar at Chandigarh (1963) on 1) education for librarianship in India and 2) users and library and information services.

No. 6. This publication will incorporate all the working papers contributed to the Fifth Iaslic Conference held at Poona (1963) on 1) document and data processing in Indian libraries and 2) problems and prospects of our library associations.

#### TECHNICAL PAMPHLETS

No. 1. *Glossary of Cataloging Terms in Indian Regional Languages*.

Although it has not been possible to include all the special libraries and information centres in India in the first edition of the Directory mentioned above, it is hoped to bring out a more comprehensive second revised edition as early as possible.

It has been decided recently that a special discount of 20 per cent be allowed to all current members of the association for all priced publications of Iaslic other than its quarterly organ. The Iaslic Medal is awarded annually to the contributor of the best article in *Iaslic Bulletin*, on the recommendation of a board of examiners elected biennially.

That the quarterly *Bulletin* has attained a recognized stature in the field of library science is evident from the fact that it is being subscribed to by individuals and institutions of countries like Great Britain, France, United States, Russia, China, Japan, Switzerland, Austria, Hungary, New Zealand, and Canada, in addition to home subscribers, numbering 40 towards the end of 1963, as against 5 and 26 in 1959 and 1961 respectively. This *Bulletin* is now being offered on exchange to 45 different foreign institutions in Netherlands, Germany, Australia, United States, Hungary, New Zealand, Great Britain, France, South Africa, Sweden, Russia, Indonesia, and others, as against 22 in 1959.

### Services

Iaslic's documentary reproduction and translation services are extended both to members and non-members all over the world on payment of usual charges, covering checking of bibliographical details, tracing and locating original document in any library and supplying of 35mm negative microfilm or photocopy. The demand for such services is increasing from year to year.

A special advisory service on organizational matters or on specific documentation problems is provided by this association on payment of nominal fees. After a thorough survey we have been able to compile in mimeographed form, as an experimental fascicule, the *Union List of Publications on Library Science*, which is available in the important local libraries. It is intended to increase its coverage in a later edition, preliminary work for which has been undertaken.

The Iaslic library has a fair collection of books and journals on library science with special emphasis on special librarianship and technical documentation; it is meant for the use of members and others also. During 1963 the collections were used by 509 persons, and a total number of 2,754 volumes were either issued or consulted. For the proper maintenance of this library a very small annual grant is being received from the State Government. This Division of Library and Information Service is functioning as a clearing house for different types of enquiries from members for literature searches, and

for bibliographical checking and locating of different published and unpublished materials. Such services were found to be useful for small institutions and firms which do not possess fully organized library services.

The division of Library Co-operation & Co-ordination is in charge of co-ordinating the activities of special libraries and information services in India and other problems relating to library co-operation, including training of rules for inter-library loan. It is expected that a model code for such inter-library loans is going to be formulated soon.

Though primarily an Indian national organization, Iaslic is affiliated as an associate corporate member of both IFLA and FID and maintains a close liaison with them and other national and international organizations including documentation bodies. Iaslic is represented on the executive council of Insdoc and the Indian Standards Institution (EC: 2 Documentation Sectional Committee) both at New Delhi.

The association has recently acquired a small plot of land at Calcutta through the generosity of the Calcutta Improvement Trust for building its permanent secretariat, including a small auditorium, library, reproduction laboratory, lecture room, etc. Financial aid will be most gratefully accepted from all voluntary and philanthropic bodies both in and outside India to help fulfil our aim.

The following categories of membership are available at these subscription rates:

Institutional (Profit making)	Rs. 50.00
Institutional (Nonprofit making)	Rs. 25.00
Donor:	Rs. 300.00
Life:	Rs. 150.00
Ordinary:	Rs. 12.00
Associate:	Rs. 6.00

Further enquiries may be addressed to the Honorary General Secretary, Iaslic, c/o Geological Survey of India, 29, Chowringhee Road, Calcutta—16 (India).

It is felt that India may be proud to have a national association like Iaslic, which endeavours to meet the immense challenge thrown out by the national plans for industrialisation and educational development. There is yet a long way to cover but the move is undoubtedly in the right direction.

# H. W. Wilson Company Chapter Award 1964

## Winning Minnesota Chapter Entry

**S**TIMULATED BY THE theme of the 1964 H. W. Wilson Company Chapter Award, "The SLA Chapter as a Member of the Business and Professional Business Community," the Minnesota Chapter held joint meetings with 11 business and professional organizations and cooperated with four library organizations in the promotion of National Library Week. A total of 15 organizations felt the impact of special libraries in one of the Chapter's most successful years.

At our executive board meeting in August we decided to enter the competition and devoted our entire program for the year to joint meetings. Members were asked to suggest groups with whom they would like to meet. A list of more than 20 organizations was compiled for the use of the program chairman in arranging meetings. All groups contacted were willing to cooperate.

A letter was sent to members urging them to make every effort to attend all meetings—circulate and meet members of the other groups—"talk-up" special libraries—bring members of the other groups to the meetings. A portable display was created by our publicity chairman for use at each meeting. It showed the location of special libraries, the various types, companies having libraries and pictures of special librarians in action. A banner topped the display and was changed periodically to fit the group. For example, for the American Marketing Association it proclaimed, "Your Market Is as Near as Your Library." Give-away pieces were available on the table with the display. For the Vocational Guidance Association give-aways were SLA's new recruitment booklet, *Special Librarianship—Information at Work*.

- October 2-4: Tri-State Regional Library Conference  
 Groups: Iowa, Minnesota, and Wisconsin Library Associations, Wisconsin Chapter of SLA  
 Program: Panel: "Interlibrary Loan Principles, Practices and Problems" (see *Special Libraries*, April 1964, for papers presented)  
 Thomas E. Ratcliffe, University of Illinois; William S. Budington, John Crerar Library; George A. Schwegmann, Library of Congress  
 Joint Luncheon with Wisconsin Chapter. Speaker: SLA President William S. Budington  
 Tour of Minnesota Mining and Manufacturing Company libraries  
 Members staffed display daily in general conference exhibit areas
- November 19: Dinner Meeting  
 Group: Society of Technical Writers and Publishers  
 Program: Professor Frank Greenagel, Department of Rhetoric, University of Minnesota, "Barriers to Communication with the Technical Man"
- December 17: Tour of Tyrone Guthrie Theatre, Christmas Eggnog Party, Dinner Meeting  
 Group: American Marketing Association  
 Program: Skit showing the relationship between the market researcher and the special librarian  
 Doorprizes donated by SLA member firms
- January 21: Joint Workshop and Dinner Meeting  
 Group: American Records Management Association  
 Program: Workshop demonstrations by members of both organizations: methods and equipment, uniterm, photocopy, records management, open shelf filing, forms
- February 17: Wine Tasting Party, Dinner Meeting  
 Group: Twin Cities Vocational Guidance Association  
 Program: Grieg Aspnes, "What's Special About a Special Librarian"  
 Tour of three special libraries
- March 24: 20th Anniversary, Management Night, Social Hour sponsored by Hanson-Bennett  
 Groups: Computer Association of Minnesota, American Statistical Association  
 Program: Dr. Harold Wooster, Director, Information Sciences Directorate, U. S. Air Force Office of Scientific Research, "The Computer and the Library, or Beauty and the Bit"

- April 14: National Library Week, Dinner Meeting  
 Group: Minnesota Industrial Chemists' Forum  
 Program: Professor Clifford Haga, Department of Engineering English, University of Minnesota, "Getting the Word Across"
- May 9: Tour of Green Giant Company Research Center, Chapter Business Meeting  
 Groups: Institute of Food Technologists, Industrial Chemists' Forum  
 Program: Dr. John M. Jackson, Past President, Institute of Food Technologists, "The Research Center Library"  
 Tours: Agricultural Research Laboratories, Dr. J. F. Bartz, soil scientist; Process and Chemical Research Laboratories, R. D. Blanchett, Bacteriologist; Quality Research Laboratories, J. A. McWhorter, Director of Quality Standards

Besides the anticipated gains in mutual understanding and awareness and the valuable personal contacts made, numerous "side" results were achieved. Among these were:

1. Four of the groups asked us to meet with them again.
2. The Technical Writers now send us all of their meeting notices, and the American Records Management Association used our directory for mailing notices of their Conference on Records Administration. A number of SLA members attended.
3. Two of the groups gained new members through our efforts.
4. Major publicity on the Tri-State Conference and a feature article. Our publicity chairman arranged to have Bill Budington interviewed by the local paper. The reporter expressed interest in writing a feature article on special libraries. The publicity chairman followed up on this and was eventually successful in having a story published in the business section of the Sunday paper coinciding with our 20th anniversary. In addition, we received publicity on five of the joint meetings.
5. Speaker at the Tri-State Conference banquet was Bradley G. Morison, public relations director for the Tyrone Guthrie Theatre, which recently opened to nation-wide acclaim. Following up on his talk in which he urged cooperation between the library and the theater, we arranged an exclusive tour of the Theatre for our December meeting.
6. Recruitment was our object in meeting with the group of high school and college vocational counselors in February. The counselor from The College of St. Catherine arranged to have the *Special Librarianship* booklet mailed to more than 600 other high school counselors in Minnesota. The librarian from the Minnesota Mining and Manufacturing Co. was asked to speak at a science fair held at a local junior high school, and the librarian at Campbell-Mithun took part in a panel discussion on the "Information Explosion" at The College of St. Catherine in May.
7. The wine tasting session, which was used as a gimmick to get more people to attend the February meeting, was very successful. We served a variety of imported wines and used colorful travel posters for background. We highly recommend this to other Chapters as an ice-breaker and an economical way to entertain a group.
8. Possibility of two new special libraries through contact with the record manager of the Northwestern Bell Telephone Company and the market researcher from the Gray Company. Our Chapter Consultant is working on this.
9. Increased participation in meetings by our own members. The tour of Green Giant and the attraction of seeing first-hand the work of the industrial chemist combined to make our May business meeting one of the best attended in years.

Costs were: wine: \$22.50; 600 copies of *Special Librarianship*: \$40; dinners for reporters: \$7.50.

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## SLA Sustaining Members

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The following organizations are supporting the activities and objectives of Special Libraries Association by becoming Sustaining Members for 1964. This list includes all applications processed through September 23, 1964.

RICHARD ABEL AND COMPANY

PITTSBURGH PLATE GLASS COMPANY, Research Library  
 C. W. POST COLLEGE



# CURRENT CONCENTRATES

## Of The Library World

### Science Publishing Needs

WE ARE reminded that the number of publications is increasing and that something must be done to cope with the flood of literature. Dr. Ileen E. Stewart of the National Science Foundation has said: "An increasing number of thoughtful persons, who are looking towards a system that will really meet the information needs of science, believe that the journal as we know it today, is doomed. It's too unwieldy, it's too slow, it costs too much. I think these prophets are right. In 25 years we will probably wonder why we were wringing our hands."

Dr. S. A. Goudsmit, Managing Editor of the American Physical Society, has stated: "A drastic modification in the publishing habits of physicists is needed if we do not want our science to disintegrate into a number of minor disciplines. . . . A less cumbersome and less expensive printing method and a wider circulation should be the aim."

The discussion of publishing problems and information transfer has largely concentrated on storage and retrieval of information. Almost nothing has been said about the source of the information and the interaction between the scientist and the publication of his research results.

Writing a scientific paper can be a disciplining experience. As one assembles his data and analyzes them, he discovers the gaps in his information. . . . He realizes that if he publishes shoddy material his professional reputation is likely to suffer. He is driven to grueling self-examination. From this often emerges a determination to fill the gaps and to recheck the dubious points.

When his paper passes the scrutiny of a tough editorial board he gets particular satisfaction. Nevertheless, the long interval required for publication has stimulated some

to suggest abandonment of the reviewing procedure and indeed a few publications have initiated such a policy. I feel that widespread adoption of this practice would be very damaging to a science. We do not need more *acta retractas*. Partly as a result of sloppy reviewing, there has been a proliferation in the number of pages of scientific material printed. The amount of material appearing could be cut to one quarter with no essential loss if tougher editorial policies were pursued.

Often we note examples of verbosity. A scientist may obtain one new result, the essence of which can be stated in a paragraph. Instead he buries the key idea in ten pages of review of the literature, discussion and summary, most of which only obscure the new facts. All of us should ponder the lesson of one of the most important documents of history—the Gettysburg address (266 words). This had an impact which surely was sharpened by its brevity.

Another practice which is clogging the literature is repeated publication of basically the same paper. I have noted instances where with only minor alterations articles have appeared more than five times.

Another undesirable tendency is premature publication of fragmentary results. An incomplete experiment requires more explaining and weasel words than a good one and often has to be retracted. Most of the present publication crisis would vanish if the scientific community adopted a tougher attitude with respect to what is publishable. We should exhaust the potentialities of such a reform before embarking on great ventures involving new machinery.

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Extracted from "An Editor's View of Publication Problems" by Philip H. Abelson in *Federation Proceedings*, vol. 22, no. 5, July-August 1963.

# Planning the New Library: The Charles A. Dana Biomedical Library

CHARLES C. WADDINGTON, Science Coordinator  
Baker Library, Dartmouth College, Hanover, New Hampshire

THE Dana Biomedical Library, a branch of the Dartmouth College library system, is located about half a mile from the main library building in a new biomedical complex comprising a department of biological sciences, a two-year medical school, and a modern 300-bed hospital.

Made financially possible for the College by a gift from Mr. and Mrs. Dana through the Charles A. Dana Foundation, the library was planned and designed to provide maximum convenience for its prospective users—about 800 faculty members, post-doctoral fellows, graduate and undergraduate students, research technicians, and hospital staff members.

All technical services (acquisitions, cataloging, and binding) are handled at Baker (the main library) for maximum efficiency. The Dana Library has its own card catalog and periodical check-in file and handles all circulation, interlibrary loan, reference, and book selection. Daily contact with the Baker Library is provided by an intra-campus mail service, a direct messenger service, and the telephone. Administrative control is provided from the main library through the position of Science Coordinator, who is in charge of all the campus science collections.

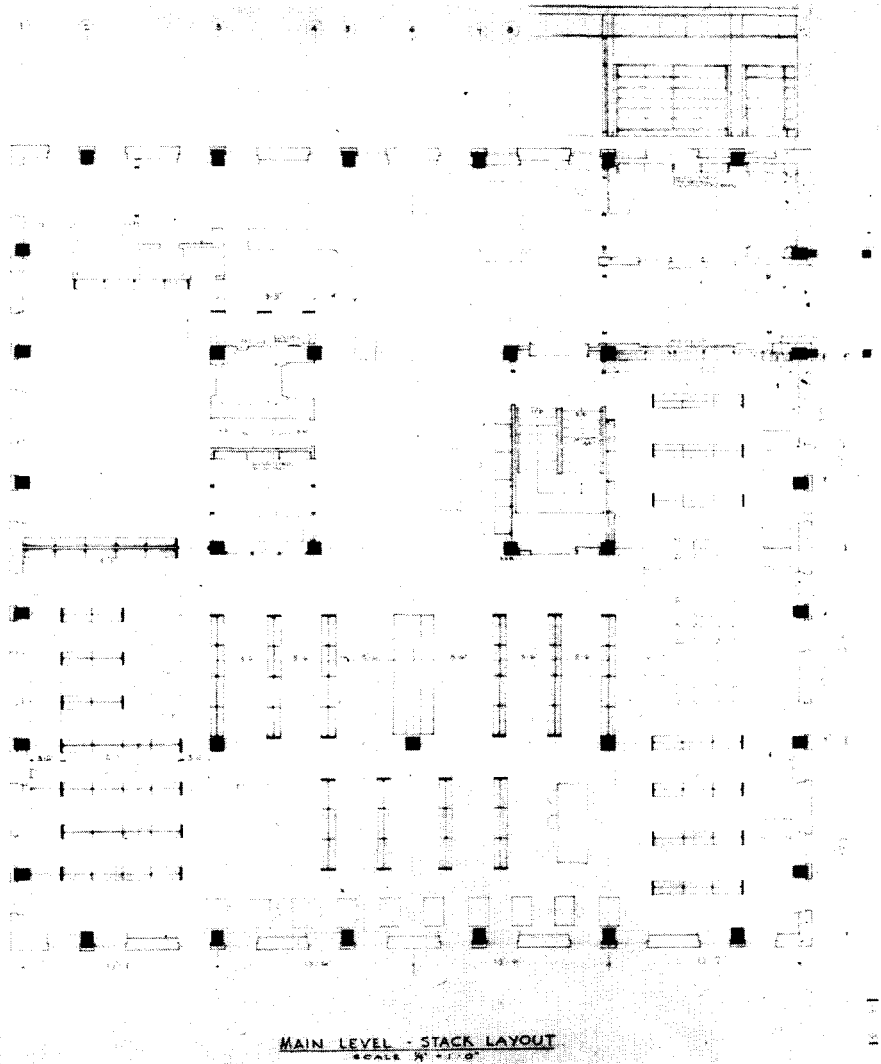
Contemporary in design but faced in red brick to harmonize with the wall textures of the many Georgian buildings on campus, the

80 x 80 foot building is divided into three floors, providing an approximate total of 19,250 square feet of floor space. One floor is located below ground level but utilizes the fall in the existing grade toward the west to provide outside light on that side. The remaining floors are completely above ground. The continuous slender windows extending from one floor through to the next provide the whole building with vertical lines that form an aesthetic "leitmotif," registered throughout the interior of the building as well. The central or main floor is accessible from the adjacent entrance to the Medical Science Building and may also be reached by a covered passageway from the new Biological Sciences Building now under construction. Both entrances are conveniently controlled from a central circulation desk, which overlooks the lobby and a rare book room (see floor plan).

Each floor is divided into 16 modules. Those on the periphery are 19' 7" x 19' 6" while the four center ones are 19' 6" x 19' 6". The work areas, studies, entrance way, hallways, and the rare book room are arranged on the west side of the building. The two stairwells and the elevator are located west of the center with the stack area spread in a U-shaped pattern along the north, east, and south of the building. The stack sections always run at right angles to the outside walls



Periodical shelves, the librarian's office, and the circulation desk are all located on the main level of the building.



Floor plan of the main level stack layout at The Charles A. Dana Biomedical Library, Dartmouth College, Hanover, New Hampshire.

allowing a maximum amount of light to disperse through the building. The library has no separate reading room but seats are scattered throughout the stack areas. Of the 180 seats, 72 are individual carrels. There are three group studies, nine individual studies, and two typing rooms.

The circulation desk, staff workroom, librarian's office, reference and biographical area, card catalog, and sloping shelves for the display of current journals are located on the main floor. The upper floor contains five

individual studies (4' 6" x 7' 6"), two large group studies or seminar rooms, a typing room, and washrooms. The stack area housing all bound journals, which are arranged in alphabetical order by title, is located here. The lower floor houses the stack area for all the monographs, a fully equipped staff room, one large group study, four individual studies, a typing room, washrooms, and the machine room.

Several special features of the new building, some new equipment, and arrangement

of books and journals have proven themselves, in the four months since the move to the new building was completed, to be very useful and well received by library patrons and staff alike. A muted buzzer system is now in use to page patrons (primarily doctors, but the service is also used to locate medical students wanted to perform autopsies) who receive incoming telephone calls. These calls can be received by patrons at telephone extensions located in the typing rooms in the basement and on the third floor or at the circulation desk on the main floor. The unsupervised extension phones can be used to receive incoming calls only. Patrons expecting urgent calls request a buzzer signal code on entering the library and are paged with the code signal when receiving a call. So far the system has been found to work well and is felt to be an essential service for doctors and medical students. One small difficulty is the tendency of the patrons to forget to cancel their respective signal codes upon leaving the library, resulting in some futile attempts to get in touch with them long after they have departed.

Equipment for the forced-air heating and ventilating system is located in a penthouse-type structure on the roof of the library and in the first floor machine room. This system can be adapted to include an air-conditioning unit for the entire library, but so far the climatic conditions in New Hampshire have made it unnecessary to do so. The lighting throughout the library is fluorescent with one special feature—a "Golden Cloud" screen or grill that disperses the light over the circulation desk and in the main lobby area. All floors are covered with vinyl asbestos tile, and the interior walls are grey pumice blocks. The shelving and stacks are free-standing and were supplied and installed by Estey. The circulation desk was constructed and designed as a contract item. The card catalogs are standard 3 x 5 Remington Rand cases.

Special decorative features of the library, in addition to the vertical lines of the window arrangements, are color accent areas or highlights relieving the austerity of otherwise unpainted pumice block interior walls. Colors featured in stack shelf and upright treatment, occasional use of rich wood sur-



Librarian is accessible to staff and to patrons using the stacks, and she has a pleasant and airy work area bounded by glass windows and door.

face as in stack end panels, and open fret work on some wall passages and carrel backs further serve to modify what is basically simple and economical construction. In the air-conditioned rare book room, located immediately to the left of the main entrance and visible through a glass wall, are mahogany bookcases rebuilt from cabinets used in the Nathan Smith Medical School building (1811).

Though attractive, the building stresses service from its readily visible glassed-in librarian's office to the conveniently arranged stack areas. Four staff members are in charge of over 60,000 bound volumes and over 600 current journal subscriptions. The total capacity of the library is about 120,000 volumes, and the sloping shelves on the main floor can display 900 journal titles.

The three-floor arrangement of the new library building was designed and planned to facilitate the location and arrangement of the library materials to provide maximum ease of use by its scientific clientele, that is, monographs on the first floor arranged by call number, current journals arranged alphabetically by title and reference books on the second floor, and bound journals arranged alphabetically by title on the third floor.

The Dana Biomedical Library will collect materials in the biological sciences, medicine, biochemistry, and veterinary medicine. The placement of the books and journals in these subject areas within the biomedical building

complex has in part solved the controversy between the advocates of a central science library and those holding out for separate departmental libraries. The increasing em-

phasis on an interdisciplinary approach in the area of the sciences and especially in the field of medicine and biology would seem to justify this approach.

#### VITAL STATISTICS FOR THE CHARLES A. DANA BIOMEDICAL LIBRARY

Total square foot area	19,250
Staff	4
Professional	1
Nonprofessional	3
Books and bound periodicals	60,000
Current periodical subscriptions	600
Date completed	July 15, 1963
Planned by librarian in cooperation with architect	

## LTP Reports to SLA

Gladys T. Piez

### Information Service

LTP's new information service for library administrators, many months in the planning, gets under way in January 1965. Called *Library Technology Reports*, the service will be published bimonthly and sold at a yearly subscription price of \$100. The format will be loose-leaf for easy updating and fit into a binder to be furnished by LTP.

The new service will report on library equipment, supplies, products, and systems. These current reports should help librarians save money and time and avoid costly mistakes.

A sample issue and a brochure describing the service in detail can be obtained on request from the Library Technology Project, 50 East Huron Street, Chicago.

### Standing Order Plan

On October 1 the ALA Publishing Department added a new category to its standing order plan. The new category will carry the names of those who want to receive

*Mrs. Piez is the General Editor of the Library Technology Project, American Library Association, Chicago.*

LTP's major numbered publications automatically as they are issued. Subscribers to this category will have the privilege of returning any books they do not wish to keep. Complete details and order forms are available from the Sales Manager, ALA Publishing Department.

### Electric Erasers

Consumers' Research, Inc., has tested four electric erasers for LTP—Erasomatic Model M, Motoraser Model 58 0570, Ramsey Fully Electric Eraser, and Deletor Model E2. Copies of the evaluation may be had by writing to the Library Technology Project.

### Record Players for Sale

LTP is selling eight monophonic and four stereophonic earphone record players used in a recent evaluation project conducted for it by United States Testing Company. A list of the models available, with price for each player, may be obtained from LTP. These machines are being offered at one-third of their cost to LTP, plus transportation from Hoboken, New Jersey, to destination. Orders will be filled on a first-come, first-served basis. Results of the evaluation proj-

ect will be published this fall in a report called *Evaluation of Record Players for Libraries—Series II*, to be sold by the ALA Publishing Department. Price and date of publication should be available shortly.

#### DPE in Libraries

The Library Technology Project is maintaining a clearinghouse of information on the use of data processing equipment in libraries. In this connection, LTP would like to receive news items on the use or proposed use of computers and other data processing equipment in special libraries.

#### Model Insurance Policy

The ALA model insurance policy—developed during a study of physical protection

and insurance for libraries conducted for LTP—is now being written by Hartford Fire Insurance Company. The company expected to have the policy ready to market in at least 30 states and Canada by October 1.

#### New Report on Photocopiers

By October 15 the price of another new publication should also be known, *Supplement No. 3 to Photocopying from Bound Volumes* by William R. Hawken. This report evaluates 3M's Models 209 Dry Photo-Copier (automatic), 76 Dry Photo-Copier, and Deluxe Transparency Maker 70; Pacer International Corporation's Sightscope (an exposing unit) and Star photocopier; and Victoreen Instrument Company's Vico-Matic copier.

## The Proposed New Copyright Law

THE LIBRARIAN of Congress, L. Quincy Mumford, sent to Congress on July 20 a comprehensive bill to revise the U. S. Copyright Law, which has not been greatly changed since it was enacted in 1909. The bill was introduced in the House as H. R. 11947 by Representative Emanuel Celler, and in the Senate as S. 3008 by Senator John L. McClellan.

The bill is the result of nine years' work by the Copyright Office. Under Congressional authorization, the Office, beginning in 1955, sponsored 35 extensive studies analyzing practically all the major problem areas of the present statute. In 1961 the Librarian submitted to Congress the *Report of the Register of Copyrights on the General Revision of the Copyright Law*. The Report was discussed at a series of meetings in 1961-62 with a Panel of Consultants composed of copyright experts. In the light of extensive comments on the Report, the Copyright Office substantially revised its recommendations and prepared a preliminary draft revision bill. For the past year, in another series of meetings, the Panel has discussed the specific language of a draft bill, section by section.

A brief summary of some of the important provisions of the bill follows.

*Single national system.* Instead of the present dual system of protecting works under the common law before they are published and under the federal statute after publication, the bill would establish a single system of statutory protection for all works, whether published or unpublished.

*Duration of term.* The present term of copyright is 28 years from first publication or registration, renewable by certain persons for a second period of 28 years. The Register's 1961 Report recommended that the maximum term be increased from 56 to 76 years. The bill provides for a term of the author's life plus 50 years, to bring it into line with the copyright term in most countries. For corporate and anonymous works, the term would be 75 years from publication, with a maximum limit of 100 years from creation of the work. The life-plus-50 or the 100-year term would apply to unpublished works, which are now protected under the common law without time limit.

*Limitation on author's assignments.* Under the present law, the renewal copyright after

the first term of 28 years reverts in certain situations to the author or other specified beneficiaries. The bill drops this reversion but permits the author or his heirs to terminate the original transfer of his rights after 35 years by serving written notice on the transferee. Transferees who have made derivative works during the 35 years could continue to use them.

*Sound recordings.* Sound recordings would be added to the list of protected works. They would be protected only against actual duplication or "dubbing."

*Government publications.* The bill continues the prohibition in the present law against copyright in "Government publications" but clarifies the meaning of the term and permits exceptions in special cases where it is determined that copyright would be in the public interest.

*Fair use.* The bill would add a provision to the statute specifically recognizing the doctrine of fair use and indicating the factors to be considered in determining whether a particular use falls within the doctrine. The section on fair use written into the proposed bill is as follows:

"Section 6. Limitations on Exclusive Rights:  
Fair use

Notwithstanding the provisions of section 5, the fair use of a copyrighted work to the extent reasonably necessary or incidental to a legitimate purpose such as criticism, comment, news reporting, teaching, scholarship, or research is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use, the factors to be considered shall include:

1. the purpose and character of the use;
2. the nature of the copyrighted work;
3. the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
4. the effect of the use upon the potential market for or value of the copyrighted work."

*Compulsory license.* The bill would modify the present compulsory license for the recording of music, including an increase in

the statutory royalty ceiling and a broader recovery against infringers.

*Exempt performances.* Instead of the present exemption of public performances that are not "for profit," the bill would specify the situations in which performances are exempt.

*Jukebox exemption.* The bill includes the text of H. R. 7194, now pending in the House of Representatives and favorably reported by the Judiciary Committee, which would repeal the present exemption of jukebox operators from payment of performance royalties.

*Notice of copyright.* The statute now requires, as a condition of copyright protection, that the published copies of a work bear a copyright notice. The bill calls for a notice on published copies but omission or errors would not forfeit the copyright. Innocent infringers misled by the omission or error would be shielded from liability.

*Registration.* As under the present law, registration would not be a condition of copyright protection but would be a prerequisite to an infringement suit. The extraordinary remedies of statutory damages and attorney's fees would not be available for infringements occurring before registration.

*Manufacturing clause.* Certain works must now be manufactured in the United States to have copyright protection here. The bill proposes several modifications that would narrow the scope of this clause and permit the importation of 3,500 copies manufactured abroad instead of the present limit of 1,500 copies.

Innumerable hearings have been held and studies made before the bill reached its present form. Dr. Mumford noted that the bill attempts to synthesize or reconcile sharply conflicting interests and viewpoints. This becomes apparent when one compares the present bill to proposals that were made during earlier hearings. However, when subsequent hearings are held, there may be amendments or modifications added to the proposed bill.

CHESTER M. LEWIS, Chairman  
SLA Copyright Law Revision Committee  
General Services Manager  
The New York Times

SPECIAL LIBRARIES

# This Works For Us . . .

## Xerography for University Periodicals List

The University of New Hampshire Library had the problem of making available, at low cost to the branch libraries on campus, a list of holdings and locations of periodicals currently received. The main library displays a list of all periodical titles in the library system, indicating back runs and locations for both current and non-current volumes. Each title with the pertinent data is typed on a five-inch tab, which is enclosed in a protective plastic envelope and inserted into panels mounted on an old Remington Rand visible file. A duplicate entry is typed only for titles housed in the branch libraries. In view of the interdisciplinary nature of the modern university curriculum, this system is obviously of inadequate reference value to the branches, but a shortage of clerical assistance precluded an attempt to reproduce the entire periodicals list in its original form.

Our break came with the acquisition of a Xerox 914 Copier. We found that the machine is able to make legible copies of printed matter that does not present an absolutely flat surface to the copier. We had only to remove a panel from the stand of the file, lay it on the exposure surface of the machine, and push the button.

One limitation of the Xerox Copier prevented us from producing unedited panels: the length of the exposure surface is 14 inches, but the length of the entries in the panels extends beyond this maximum on over half of the 94 panels, on some up to their limit of 19 inches. However, we felt that the utility of the list would scarcely be impaired by the removal of some tabs from panels holding more than 14 inches of entries for titles no longer received. The editor, a staff professional, had little difficulty determining which entries were expendable. The mechanics of removing the tabs and reinserting them after copying averaged five to ten minutes per panel. With the assistance of the Xerox operator, it took one staff member, during intervals between other duties, about a week and a half to make the seven

Journal of experimental education. v.24- 1955/56-	Desk	CS370.5 J2C7
Journal of experimental medicine. v.17- 1915-	Des.	620 616.2 J857
Journal of experimental psychology. v.12- 1929-	Desk	Second
Journal of experimental zoology v.4,5,16,18- 1906-	PAS	590.5 J668
Journal of farm economics. v.1- 1919-	Main	550.5 J96
Journal of finance. v.1- 1946-	Main	Second
Journal of fluid mechanics. v.1- 1956-	Kings.	Eng. 532.05 J53
Journal of food science. v.1- 1936-	James	James
Journal of forestry. v.15- 1917-	Nes.	PAS 631.605 J35
Journal of general education. v.1- 1946/47-	Main	Second
Journal of general microbiology. v.1- 1947-	Nes.	PAS 586.9505 J305
Journal of general physiology. v.1- 1918-	Nes.	Second
Journal of general psychology. v.54- 1961-	Main	
Journal of genetic psychology. v.1- 1891-	Desk	Second
Journal of genetics. v.1-20,27-31, 33,35,39-43,47,49- 1910-	Nes.	PAS 575.1 J85
Journal of geography. v.41,44,46- 1942,1945,1947-	Main	Second
Journal of geology. v.1- 1895-	Second	Second
Journal of geomorphology. v.1-5. 1935-1942.		Second
Journal of geophysical research. v.61- 1956-	DeM.106-107	Desk. 551.05 J823
Journal of gerontology. v.1- 1946-	Desk.	616.07 J96
Journal of glaciology.		551.31 551.32

Facsimile of the library's periodicals list. Titles and holdings appear on the left, and current locations are followed by permanent locations on the right.

copies requested. These were collated and put into spring binders, which will easily accommodate later revisions.

The cost of materials came to \$39.58 (\$.06 per exposure). It was not necessary to demand extra clerical assistance to carry out the operation. The demonstrated economy of the operation, plus testimony to the usefulness of facsimile lists in the branch libraries, has encouraged us to plan issuing revisions at least twice a year.

EDMUND G. HAMANN  
Serials Librarian  
University of New Hampshire  
Durham, New Hampshire



# Have You Heard . . .

## NSF Grant for SLA-Sponsored Soviet Exchange

A \$27,100 grant by the National Science Foundation has been made available to Special Libraries Association for its sponsorship of an exchange of visits between Soviet and United States special librarians in the science-technology field. The request for the grant was the result of the work of the Association's Foundation Grants Committee, Robert W. Gibson, Jr., Chairman. This exchange is one of the 19 scientific and technical exchange programs provided for under an agreement signed by the United States and the Soviet Union in Moscow, February 22, 1964. Participants in the exchange and the objectives of the trip are given in detail on page 514 in the September issue of *Special Libraries*.

## Library to be Focal Point of New University Campus

Northwestern University has announced that a \$10 million library will be constructed as a key structure in its master plan to develop the 74-acre campus now being created on Lake Michigan in Evanston, Illinois. The new library, scheduled for completion in 1967, will more than triple the capacity of the present Deering Library, which will continue to be used and will be joined to the new structure by a common entrance way. Plans have been developed by an eight-member Library Planning Committee, which has worked closely with the faculty and architect Walter Netsch, Jr. of Skidmore, Owings and Merrill, during the past three years. The building will consist of three separate but interconnecting research pavilions, each four stories high and featuring a radial rather than linear arrangement for books and resources, spreading out from central information-reference centers. The library will serve both graduate and undergraduate students as well as faculty in the fields of social sciences and human behavior, humanities, and history and will contain a "core" collection of

50,000-75,000 non-circulating books. Television and telephone communication systems will be installed between various parts of the library, and information retrieval methods will be adapted as they are developed.

## Document Retrieval Systems Tested

Herner and Company, Washington, D. C., has formed an evaluation section to test the effectiveness of document retrieval systems and will utilize techniques of the type developed in England by Cyril Cleverdon, head of Aslib's Cranfield project. F. W. Lancaster, a former investigator for the Cranfield project, will supervise the test programs, which are designed to permit analysis that can identify defects and sources of failure as well as indicate system efficiency. The test results will include a summary of system behavior and will draw comparisons with other systems and make recommendations for the improvement of the system or its operation. To supplement this program, Herner and Company will conduct a series of one-week courses on systems evaluation beginning in the spring of 1965. Lecturers include Cyril Cleverdon, consultant to the company, and staff members Robert Fairthorne, Saul Herner, and F. W. Lancaster.

## Televised Information Retrieval

Ampex Corporation has recently produced Videofile, a completely automated microfilming system, the first of which will be put in operation for NASA at the George C. Marshall Space Flight Center, Huntsville, Alabama. NASA's Videofile will be divided into a master and a reference section. The master section will have two Videotape recorders, one to receive and store new entries and the other to make copies for the reference section. As each document is recorded by the master recorder, a Videofile address is recorded on an auxiliary track of the video tape. For retrieval, a specific address is fed into Videofile, and the document's position is automatically found on the tape. The

image of each page, which can be seen on the screen by the document user, is sent to a storage recorder, permitting an electrostatic printer to produce a printed copy of each page if desired. To update a file, a document page may be deleted, added, replaced, or relocated without recopying the reel of magnetic tape.

#### Members in the News

DR. ROBERT L. GITLER, former Director of the Library Education Division, State University, Geneseo, New York, has been appointed Director of the Peabody Library School, Nashville, Tennessee. He replaces DR. WILLIAM FITZGERALD, who is now Director of Marquette University Libraries, Milwaukee, Wisconsin.

CHESTER R. GOUGH, former Reference Librarian at Columbia University Medical Library, has been made Deputy Librarian at Washington University School of Medicine, St. Louis. He succeeds ROBERT B. AUSTIN, who retired.

MRS. MYRA T. GRENIER, Librarian at Aerojet-General's Von Karman Center, Azusa, California, has been appointed to the newly created position of Corporate Librarian and will continue to be responsible for the library as well as the Corporate Technical Information Center.

JO ANN JOHNSON, formerly Librarian at the American Meat Institute Foundation, is now Reference Librarian and Instructor in Medical Bibliography at Northwestern University Medical Library, Chicago.

ELEANOR MAGEE, McGill University Library, Montreal, was recently elected President of the Quebec Library Association, taking over this office from LOUISE LEFEBVRE, Pulp and Paper Research Institute of Canada. Elected Treasurer was MIRIAM TEES, Royal Bank of Canada Library.

ANTHONY A. MARTIN has been promoted to Assistant Director of the Carnegie Library of Pittsburgh. He replaces Keith Doms who succeeds Ralph Munn as Director.

ELLIS MOUNT, formerly Chief Librarian of the I.T.&T. Federal Laboratories, Nutley, New Jersey, was recently appointed Science and Engineering Librarian at Columbia Uni-

versity. In addition to having charge of the Engineering Library, he will have divisional responsibility for the University's other science libraries.

IRWIN PIZER, Assistant Professor of Medical History and Librarian at the State University Upstate Medical Center, Syracuse, New York, was awarded the Medical Library Association's 1964 Murray Gottlieb Prize for the best essay about the history of medicine. His paper is entitled "Medical Aspects of the Westward Migrations, 1830-1860."

EDITH SCOTT, Assistant Director for Technical Services, University of Oklahoma, and Associate Professor in the University's School of Library Science, has recently been appointed to a new position in the Library of Congress' Descriptive Cataloging Division to provide advanced in-service training in descriptive cataloging theory and practice.

ROBERT W. SEVERANCE, Director of Air University Library, Maxwell Air Force Base, Alabama, recently received a Sustained Superior Performance Award.

DR. LOUIS SHORES, Dean of the Library School of Florida State University, Tallahassee, has recently begun a trip around the world for *Collier's Encyclopedia*. As its Editor-in-Chief, Dr. Shores will recruit librarians to make up an International Advisory Board of Librarians for the *Encyclopedia*.

ROSE VAINSTEIN, Director of the newly established public library for Bloomfield Township (Birmingham, Michigan), is the author of a chapter entitled "Emerging Trends of Library Organization" for a recently published manual of the International City Managers' Association, *Local Public Library Administration*.

#### Letters to the Editor

##### SCIENTISTS SHOULD COMMUNICATE TOO

Through thoughtful readings of the Weinberg Report and its many critiques and justifications I have tried to remain objective. In fact, during this period of concentrated castigation of librarians and the profession I have felt that most librarians rather than dissipating their energies in righteous writhing could, more constructively, brush up on mechanical retrieval and business administration. The need for software notwithstanding, the vic-

ories to be won probably will be accomplished in these fields.

Now, in one of those expensive little commercial news services originating in Washington, D. C., several pages are devoted to DOD's accelerated information center program. Granted, there is much to be desired in government information programs, but this same news item implies that librarians are mere paper pushers in the overall information network. ("These Centers . . . are distinguished from existing documentation centers and libraries, whose functions are primarily concerned with the handling of documents rather than the technical information concerned in the documents.")

Among industrial and research librarians, could there be even *one* responsible professional who does not consider a mere "document" subordinate to the "information" contained therein? True, a certain amount of information is unique, but increasingly, with the redundancy deplored by the Weinberg Report, and my colleagues and I, the same information is available in a variety of sources. Among my colleagues it is agreed that a major problem is encouraging our own clients to ask for specific information rather than the vehicle in which they expect to find it. Accustomed as we are to legitimate deadlines, and versed as we are in subject fields, manners and morals of publication, and the storage and retrieval of information, most of us can supply data in one form or another, whether or not we can produce the exact publication, although the latter, in certain instances, is indispensable.

Perhaps the difficulty, both with the President's Science Advisory Committee and our clients, arises from a genuine lack of understanding of our profession. Any special library operation entails a wealth of both professional and routine work. Neither scientists nor administrators will get professional service from the non-professional (but invaluable) members of a library staff, or vice versa. Therefore, effective communication between library-scientist-administrator is a prerequisite to a library that actually functions, and is supported as an information center rather than a platoon of paper pushers. As many librarians have observed, communication is a two-way street. Communication *from* the library that falls on deaf ears of scientists and administrators who do not inform the library of research programs, projections, and individual needs, thus failing to make it a *de facto* member of the research team, will be only a waste of the library's hard-to-come-by budget.

It has been suggested that the many surveys presently under way to determine how scientists obtain and use information may indicate heavy reliance on the "grapevine" operating between scientists and other members of the technical community rather than on the libraries existing to serve them. If so, might this not be due to poor or nonexistent communication *from* scientists and administrators to the library?

Paper pushers we are not, but let there be no shirking our continuous responsibility as special librarians to communicate and draw at least some response from the targets of our efforts.

ELIZABETH M. WALKEY  
Manager, Library Services  
Bell & Howell Research Center  
Pasadena, Calif.

#### MORE ON EVALUATING PUBLISHED CONTRIBUTIONS

Sherrod ("Selective Publication of Information," *Special Libraries*, July-August, 1964, vol. 55, no. 6) was quite right to deplore Cuadra's use of citation counting as a method of evaluating individual contributions to the information sciences. The following letter to Carlos A. Cuadra (Head, Development Staff, Special Development Department, Systems Development Corporation), with an excerpt from his answer, indicates my agreement with Sherrod on this count.

"Thank you for sending me your paper which attempts to rank contributors to the field of information sciences using various quantitative measures. No amount of quantitative manipulation will enable you to avoid the responsibility of evaluating individual contributions. I can, for example, say that Beethoven's nine symphonies represent a greater contribution than Franck's single symphony, but that is because I am prepared to make a value judgment about the worth of each individual symphony. On the other hand, the reams and reams of poetry written by an Edgar Guest do not make Guest a greater poet than Shakespeare who wrote only a single sonnet sequence.

"I suppose I could feel flattered that I came out so high on your lists, but when I face the fact that Kent came out first, my own self-satisfaction disappears. Although I recognize the contributions of Perry as a pioneer in the field, I know of no important idea which Kent has contributed. If I am wrong on this point, perhaps you can undertake the task of putting me straight."

"While I would not wish to try to 'put you straight' on Kent's contributions, I should point out that your asking me to identify a single important idea from Professor Kent seems to assume that ideas are the only measure of contribution. While I would personally place them at the top of the list, I believe that other forms of contribution to the field can be and have been recognized, including teaching, propagandizing and even benevolent support from administrators. Perhaps some of the more prolific writers have been 'contributing' primarily in these non-technical ways."

On the other hand, it is just as wrong to imply that frequent publication is a bad thing, and it is even worse to encourage people who have nothing to say to seek publication. The danger of quantitative estimates, good or bad, is further indicated by Sherrod's casual grouping of Kent, Taube, Perry, and Luhn as people who lack responsibility "for major government programs like Fry, Day, Steg-

maier, and Rogers." I was designing and operating major government information programs before Sherrod ever heard the word Information.

Let us, if we can, avoid both honor and guilt by association, and I would tell Sherrod, as I have already told Cuadra, that as a responsible person, and in this case a responsible government official, he cannot avoid the task of evaluation.

MORTIMER TAUBE  
*Documentation Incorporated, Bethesda, Md.*

#### COPYRIGHT, PHOTOCOPYING, AND LIBRARY SERVICE

I note that the Library of Congress Photoduplication Service has become very exact in the current controversy over Copyright and turns down all our requests for copies of articles in copyright-marked journals, even articles of older years such as 1947 when issues are probably no longer available from the publisher. Just what are we expected to do when research and development and patent departments need a copy immediately?

Are librarians expected to canvass the publishers of 500-1,000 journals for blanket permission to order photocopies of any article in their complete series, then duplicate the answer, and enclose a copy with every order? If that is what publishers, including publishing societies, think they want, how about SLA's Copyright Committee getting a form letter printed up, issued in 100,000 copies, and each SLA member ordering hundreds all at once and sending our hundreds all at once to all the publishers of journals we might need to order copies from? Maybe the deluge would make publishers reconsider their stand.

If they don't, they will only hamper scientific and technological advance, because I am sure we are not all going to subscribe to all journals for the one article we *might* only need once in ten years, or even once every year. Either special librarians spend endless manpower hours canvassing publishers or on interlibrary loan and scientists wait, or our research men and literature scientists go to where the journal is and take notes by hand (they won't be able even to pay for copy service while there) and delay scientific advance by days and days at high manpower and travel costs. Just what are patent attorneys going to do when they have to pass out to judges and examiners copies of journal articles? And what are those resource storage centers going to do, mail volumes around the country holding others up until the volumes return?

We have no space to store everything we might need to use and we would have no manpower to process and circulate and file generally useless paper, if we had spent the added thousands of dollars ordering extra journals. Are the publishers planning to keep a perpetual stock of all their journal issues so we can buy miscellaneous issues? Do they really think they want that manpower and inventory problem? All publishers should read Robert F. Clarke's 1963 Rutgers Ph.D. thesis, "The Impact of Photocopying on Scholarly Publishing." That the maximum copying of single

articles from the journals studied was a fraction of one per cent of their circulation was one conclusion.

Maybe publishers think they can get a larger income by charging libraries say \$5 a year for permission to copy a title. Won't their manpower costs for handling each \$5 cost more than \$5? So then suppose they decide to charge \$10 a year, will we get approval for 500 times \$10—\$5,000 added annual expense—for such costs? Few if any scholarly journals come for \$10 so we won't subscribe instead.

The last paragraph of an abstract (Dissertation Abstracts v.24(4): 1622-3, Oct. 1963; *Library Journal* v.88 (13): 2625-9, July 1963 abstracted in Dissertation Abstracts v.15 (3): 239, July 1964) of the thesis mentioned above gives cost criteria for library subscription decisions. As I understand it, it is generally cheaper to own and store a 20 year run of a seldom-used scholarly journal of one volume per year than to order photocopies, if one or two articles are needed each year every year from only one of the 20 volumes.

Is not the whole problem perhaps verging on the ridiculous?

ARNE L. NICHOLSON  
Pennsalt Chemicals Corp.  
King of Prussia, Pennsylvania

#### PSST! NEED ANY SOUVENIRS?

In reference to the article in *Special Libraries*, March 1964, entitled "Gift Wrapped?" by Layne H. Kroger, it might interest the readers to know that the Hoover catalogue has been void since early November 1963.

From a letter I received from a Mr. T. C. Chan, it seems that American publishers requested the government of Formosa to stop Hoover Hong from exporting reprinted books into the U.S.A. and any place outside Taiwan. All persons holding the 1963 catalogue should either destroy it or stamp it void.

". . . . By following the advice of our government, we closed our book department, therefore we cannot serve you in this respect any more . . . . Please kindly note our change of P.O. Box number from 4123 to 4111.

"We are now dealing in Chinese handicrafts & souvenirs. . . . Our associates, T. M. Chan & Company (P.O. Box 302, Macau, Asia) specialises in tailoring & jewelery. They also can buy and do anything for you in Hong Kong & Macau. . . ."

It is interesting to note the quick turn to other fields of export this exporter has made and the different locations the company has. It seems to be a family affair. I would be very interested in hearing from other librarians who know anything about the history and business operations of the Hoover Hong and the T. M. Chan & Company.

BOB M. STOWE, Technical Librarian  
ACF Technical Center, ACF Industries, Inc.  
St. Charles, Missouri

# Off the Press . . .

## Book Reviews

HOW TO LOCATE TECHNICAL INFORMATION. *Virginia A. Sternberg.* (Complete Management Library, Volume XXVIII) Waterford, Connecticut: National Foremen's Institute, 1964. vii, 111 p. \$1 (L.C. 64-17925)

This manual is designed for the student or inexperienced librarian who may be suddenly faced with the problem of establishing a book collection. It is a simplified literature guide that enters the middle ground between the brief outlines often prepared for class use and comprehensive works such as those produced by Constance Winchell, A. J. Walford, E. J. Crane, and R. R. Hawkins. Venturing into this area, Mrs. Sternberg has presented a bibliographic guide in capsule form. It suggests some of the tools with which a librarian must be concerned and those which engineers, businessmen, technical writers, and other specialists should use to locate information.

Librarians or researchers who have not been exposed to these specialized reference sources should realize that the titles are merely selections and suggestions. Since *How to Locate Technical Information* indicates types of publications, it should not be construed as a comprehensive bibliography of reference books. If those suggested are not pertinent to the problem at hand, a little searching will likely produce the specific tool that is needed. In this respect the manual serves as a point of departure when one is seeking information. For example, Mrs. Sternberg not only lists about 35 abstracts and indexes but also gives the sources for locating several hundred additional ones that cover many subject fields. In other instances, lists of publishers or dealers who supply publications are provided. On page 49 appears a list of agencies that will handle subscriptions for technical journals.

To achieve her purpose, the author has used a rather unique arrangement of the material. The first chapter begins with a short account of the classification systems in common use today, library catalogs, and the different types of libraries and their function. The following chapters list various sources of information. Included are general reference books, serials, compendia, atlases, gazetteers, reviews, business services, abstracts and indexes, trade publications, patents, standards, specifications, translations, films, photographs, and scientific and technical reports. The final chapter mentions union lists and covers, quite briefly, literature searching services and the mechanical retrieval of information. An index and bibliography are appended.

Virginia A. Sternberg has the experience and background required of anyone attempting a compilation such as this manual. As the Technical Li-

brarian at the Westinghouse Electric Corporation's Bettis Atomic Power Laboratory since 1950, she has worked with the literature and the scientists who use it. In addition to an M.S. degree in Library Science from Drexel Institute of Technology, Mrs. Sternberg received a B.A. degree in chemistry from the University of Delaware.

An examination of the contents and index reveals a fairly broad coverage with emphasis on the more practical tools currently useful in technical libraries. These titles were well selected for most subjects but personal preferences, of course, would produce some argument. With the emphasis on American publications, very little foreign language material appears. It is apparent, also, that the more practical rather than the theoretical or mathematical works were selected. This selection probably reflects material available in the author's special library at the Bettis Laboratory. Some of the books go far beyond the reference works found in certain special libraries and for others—with different subject interests—they may be completely foreign and out of scope. None of the titles should be omitted for they are important, but others could have been added.

In some areas, I feel that a more complete coverage should have been given. However, had this been done, there might have been no limit in sight and the resulting product would have been another massive work of the Winchell caliber. This is to the author's credit since it is practically impossible to list everything and certainly it was not her intent to do so. Nevertheless the author must have been severely restricted by the space and size of the publication. As much of the material is quite condensed, one suspects that a great deal has been cut from the text.

It is particularly unfortunate that more annotations and descriptions of the various tools, such as those found in the sections on business services, abstracts and indexes, were not provided. If the author had told what would be found in each specific book, she could have explained its purpose, when and how to use it. This helpful advice, combined with actual instructions for making searches and locating factual data, would have added substantially to the value of *How to Locate Technical Information*.

Any executive in a company or organization interested in establishing a special library for his firm or laboratory could quickly scan Mrs. Sternberg's book and receive a picture of a special library as the intelligence center for an organization. Such an impression should carry with it some very concrete ideas as to a special library's content, size, space requirements, and usefulness plus the function of the special librarian who must select and organize this material, make it available, and search for and retrieve information. This function

is most important and should encourage the establishment of libraries and their use as adjuncts to business, research, and development departments.

After using *How to Locate Technical Information*, it would be profitable for anyone who wishes to seriously pursue the subject to read Lucille J. Strauss' *Scientific and Technical Libraries* (New York: Interscience Publishers, 1964), for more detailed practices and further suggestions. The two books supplement each other.

Copies of *How to Locate Technical Information* should be in every special library so the librarian can hand it to those users who need to know more about the library and its content. Special librarians will welcome this book that attempts to bring the research man closer to the library and the materials he needs.

DANIEL R. PFOUTZ, Head  
Science and Technology Department  
Carnegie Library of Pittsburgh  
Pittsburgh, Pennsylvania

FOREIGN AFFAIRS BIBLIOGRAPHY: A SELECTED AND ANNOTATED LIST OF BOOKS ON INTERNATIONAL RELATIONS, 1952-1962. Dr. Henry L. Roberts. New York: R. R. Bowker Co. for the Council on Foreign Relations, 1964. xxi, 752 p. index. \$20.00.

In the fourth *Foreign Affairs Bibliography*, Dr. Roberts has listed most of the books in the international field published in the English language from the beginning of 1953 to the end of 1962, and many of the more significant in other languages; he has added the more important studies of internal government and politics of countries throughout the world. Following each entry he has appended a brief comment regarding its nature and (sometimes) its value. He has *not* included textbooks, unless of "marked synthesis or originality," theoretical studies "only tangentially related to foreign affairs," revised editions, unless "extensively modified or expanded," technical and scientific works, and government publications. Differences in applying these highly subjective criteria probably account for the major omissions.

The compiler has provided a detailed table of contents well arranged for easy reference. He has divided the *Bibliography* on the basis of approach into three major sections: Analytical (General International Relations), Chronological (The World Since 1914), and National or Regional (The World by Regions). However, while his general organization is clear, the rationale of the order of subsections within it is not, particularly in Part III. It is neither alphabetical nor geographical; Switzerland, for example, is found between Belgium and France, Nigeria between Ghana and Liberia. The arrangement probably has its own logic, but since it is unknown to this reviewer, he will refer back to the table of contents rather than search in the body of the bibliography.

Finally, Dr. Roberts has supplied indexes of both author and title listings that the individual researcher may find useful.

Every library serving students of international relations should have this book on its shelves; every serious scholar will want it available.

G. W. THUMM  
Bates College, Lewiston, Maine

### SLA Official Directory Issued

Special Libraries Association's annual *Official Directory of Personnel 1964-1965*, compiled and published at Association Headquarters, is now available for distribution. The 79-page mimeographed, gray thesis-cover bound *Directory* is priced at \$1.50 a copy. Various colored pages are used to denote the listing of the Board of Directors, Association Headquarters staff, all Association committees, special representatives, Chapter and Division officers, and an index.

### New Serials

AMERICA: HISTORY AND LIFE—*A Guide to Periodical Literature*, published by the American Bibliographical Center, 800 East Micheltorena Street, Santa Barbara, California 93103, offers short summaries and annotated bibliographical citations of articles dealing with United States and Canadian history and life from pre-Columbian days to the present. The *Guide* will appear three times a year: the July and December 1964 issues cover articles published in 1963, and the third issue, scheduled for February 1965, will include an author, subject, and key word index. Subscription rates are based on the service rate principle, and forms may be obtained from the publishers.

DATA PROCESSING WEEKLY NEWS is a weekly news service on data processing activities published by American Data Processing, Inc., Book Tower, Detroit, Michigan 48226. The *News* has a 8½ x 11 format, three-hole punched for looseleaf insertion. Contents include equipment news, services, applications, calendar of events, corporate news, new literature, and a computer census. Yearly subscription rate is \$36.

### Proposed Guide to African Sources

The African Studies Association, with the financial support of the Ford Foundation, will compile a guide to the broad range of Africa-related archival and manuscript sources in the United States. When completed, the guide will be published by the National Historical Publications Commission and will also serve as the U.S. national volume of the projected "Guide to the Sources of African History" outside of Africa, sponsored by the Unesco-affiliated International Council on Archives. To maximize the coverage of the guide, the nature and location of sources not likely to have been described in the standard literature nor identified in terms of their African relationship should be reported to Morris Rieger, Director, National African Guide Project, NHPC, National Archives and Records Service, Washington, D. C. 20408.

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## "National Geographic" To Be Reprinted

The National Geographic Society has announced a program of reprinting the early, now very rare, issues of its famous journal *National Geographic*, beginning with volume 1, no. 1, of October 1888. The first reprints are expected to be available in October 1964 at modest cost.

## Union Lists for Six States

Literature Service Associates of Bound Brook, New Jersey, has recently issued in serial format *A Union List of Serials in Maine/New Hampshire/Vermont*, *A Union List of Serials in Massachusetts*, and *Union List of Serials in Delaware/Maryland*. The state libraries, state library associations, and other groups are cooperating in the projects. Inquiries regarding contribution of information and subscription prices should be directed to the publisher.

## RECENT REFERENCES

Prepared by JOHN R. SHEPLEY

### Cataloging and Classification

DRAZNIOWSKY, Roman. *Cataloguing and Filing Rules for Maps and Atlases in the Society's Collection* (Mimeographed and Offset Publication No. 4, revised). New York: American Geographical Society, 1964. 41 p. pap. \$3.50.

The rules and methods developed for cataloging and filing the maps (over 300,000), atlases (over 4,000), and reference materials in the American Geographical Society's collection. Covers area classification, subject classification, chronological filing, call number, cataloging by type of material, catalog card description, catalog arrangement, and map filing. Also included are abridged versions of the Society's area classification and subject entry lists.

RANZ, Jim. *The Printed Book Catalogue in American Libraries: 1723-1900* (ACRL Monograph No. 26). Chicago: American Library Association, 1964. viii, 144 p. pap. \$3. (L.C. 64-17055)

Traces the development of the book-form library catalog in America from colonial times to its replacement in 1900 by Library of Congress printed catalog cards. Bibliography and index. Unjustified margins.

*Some Problems of a General Classification Scheme: Report of a Conference held in London, June 1963*. London: The Library Association, 1964. 48 p. pap. \$1.40; \$1.05 to Library Association members.

The conference was financed by a grant from the Scientific Research Fund of NATO, made to the Library Association in support of its project for the study of a new general scheme of bibliographic classification. Five papers discuss the origins of the conference, "browsing" and "specialist" schemes, the Kyle Classification, inadequacies of existing schemes, and Classification Research Group proposals for a new general classification.

STROUT, Ruth French, ed. *Library Catalogs: Changing Dimensions. The Twenty-eighth Annual Conference of the Graduate Library School, August 5-7, 1963*. Chicago: University of Chicago Press, 1964. 127 p. \$3.75.

Nine papers presented at the Conference, all concerned with a re-evaluation of the format and function of catalogs. Current needs, past experience, European methods, and future automation are among the areas covered.

### Information Handling Techniques

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH, DIRECTORATE OF INFORMATION SCIENCES. *Information Sciences 1963: Annual Report* (AFOSR 64-0101). Washington, D. C.: 1964. Various paging. pap. Apply.

First annual report of the Directorate of Information Sciences, whose research program now

supports about 60 separate contracts and grants. These are described under appropriate headings (Information Systems Research, Biophysical Information Systems, Concepts of Machine Organization, etc.), and listed in the appendix. The 112 publications produced by these projects in 1963 are cited after the appropriate section of the report.

ALTMANN, Berthold. *The Medium-Sized Information Service; Its Automation for Retrieval* (TR-1192). Washington, D. C.: Harry Diamond Laboratories, Army Materiel Command, 1963. 26 p. pap. mimeo. Apply. (Available from Defense Documentation Center)

A theoretical discussion of the basic elements influencing the organization and operation of a documentation center is followed by a case study. The operations of a medium-size reference service were automated first by using EAM equipment and later a computer. In the process, the coordinate indexing system was replaced by the ABC (Approach-By-Concept) system, permitting manual as well as automatic retrieval. Possible application of this system to large documentation centers is explained.

IBM CORPORATION. *The IBM DSD Technical Information Center: Selected Papers on an Integrated System for Disseminating, Storing, and Retrieving Information* (Technical Report 00.1103). Poughkeepsie, N. Y.: IBM DSD Technical Information Center, P. O. Box 390, 1964. 103 p. pap. Gratis.

Six papers describing an operating information system which combines automatic dissemination, bulletin announcement, manual retrieval, and machine retrieval. Gives details for document indexing and abstracting, recording in machine-readable format, customer profiling, microfilm preparation, and machine production of customer-oriented outputs including bulletins and indexes. Based on observations after one and one half years of operation.

JONKER, Frederick. *Indexing Theory, Indexing Methods and Search Devices*. New York and London: Scarecrow Press, Inc., 1964. 124 p. \$4. (L. C. 64-11785)

Examines basic principles, terminology, and methods in an effort to arrive at a general theory of information retrieval. Charts and diagrams; references to the literature. Unjustified margins.

LITTLE (ARTHUR D.), INC. *Automatic Message Retrieval: Studies for the Design of an English Command and Control Language System* (Technical Documentary Report ESD-TDR-63-673). L. G. Hanscom Field, Bedford, Mass.: Decision Sciences Laboratory, Electronic Systems Division, Air Force Systems Command, U. S. Air Force, 1963. xiii, 187 p. pap. spiral binding. Apply. (Available from OTS, Department of Commerce, Washington, D. C.)

Discusses the problems of developing a machine capability to retrieve natural language message information, the goal being a capability to index



and store information from messages given in English, and to answer detailed questions about the stored data by producing a new message from the entire body of information previously communicated to the machine. Utilizes associative searching technique.

MARTYN, John. *Report of an Investigation on Literature Searching by Research Scientists*. London: Aslib, 1964. 20 p. pap. mimeo. \$1.05.

The sample in this survey included over 600 scientists employed in industrial, academic, and government research; the purpose was to discover the extent to which scientists search the literature and how often published information is found too late to be of value. The report is factual and quantitative; discussion and interpretation of the results have been reserved for later publication.

NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL. *The Metallurgical Searching Service of the American Society for Metals, Western Reserve University: An Evaluation* (Publication 1148). Washington, D. C.: 1964. viii, 96 p. pap. \$2. (L. C. 63-65397)

The report of an ad hoc committee appointed to evaluate the effectiveness of the information retrieval system employed by the American Society for Metals at the Western Reserve University Center for Documentation and Communication Research. Bibliography.

NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL. *Survey of Chemical Notation Systems: A Report of the Committee on Modern Methods of Handling Chemical Information* (Publication 1150). Washington, D. C.: 1964. xii, 467 p. pap. \$7. (L. C. 63-65443)

An analysis of the characteristics of various chemical codes, chemical notations, and other non-conventional methods of handling information deriving from chemical structures. Based on interviews with some 50 companies, organizations, and individuals. Fold-out charts.

#### Encyclopedias and Yearbooks

*AB Bookman's Yearbook*. Newark, N. J.: Antiquarian Bookman, 1964. In two parts: 352, 128 p. pap. \$3, \$2. (L. C. 54-1676)

Part I contains AB features and references; Part II, the out-of-print market and trade services directory for 1964. Emphasis in this issue is on the relationship between library, dealer, and collector in the growing book field.

*Duden Lexikon*, 5 vols. Mannheim: Bibliographisches Institut, 1961, 1962, 1963. Vols. 1-3, A-F, G-O, P-Z, \$5.50 each; vol. 4, Atlas, \$5.50; vol. 5, supplement and bibliography, \$6.50. (Distr. by Chilton Books, Philadelphia)

The first three volumes of this encyclopedic reference work in German contain over 80,000 word entries, 6,000 illustrations of which 2,400 are in color, maps in color, numerous charts and tables. Volume 4 is a complete world atlas with

colored maps and gazetteer. The first section of volume 5 (170 p.) updates the previous volumes to Fall 1963; the second section (785 p.) is a 60,000 title bibliography of books, reports, and articles which have been published on some 11,000 alphabetically listed topics in the fields of science, art, philosophy, history, etc.

GARDNER, Ann, ed. *Canadian Almanac & Directory for 1964*. Toronto: Copp Clark Publishing Co., 517 Wellington St. West, 1964. viii, 760 p. \$12.50.

A standard reference work, now in its 117th year. Over 50,000 entries covering government, banking, educational institutions, customs tariffs, taxes, trade commissioners, radio and TV, newspapers, and much more. Index.

*Europa Year Book, 1964*, 2 vols. London: Europa Publications Ltd., 18 Bedford Square, 1964. 1000; 1200 p. \$44; separately \$25.

World survey and directory of countries and international organizations. Volume I, in two parts, covers the international organizations and Europe, including the U.S.S.R. and Turkey; Volume II covers the countries of Africa, the Americas, Asia, and Australasia.

KUBIJOVYČ, Volodymyr, ed. *Ukraine: A Concise Encyclopaedia*, vol. 1. Toronto: University of Toronto Press, 1963. xxxviii, 1185 p. illus. \$37.50.

The first volume of the English translation of an original three-volume encyclopedia published in Ukrainian in 1949. Material is arranged under the following subject headings: general information, physical geography and natural history, population, ethnography, language, history, culture, and literature. Prepared by Shevchenko Scientific Society and published for the Ukrainian National Association.

WALSH, S. Padraig. *General Encyclopedias in Print: A Comparative Analysis, 1964*. Newark, Del.: Reference Books Research Service, 124 South Dillwyn Road, Wingate Park, 1964. 68 p. pap. \$1.50. (L. C. 63-24124)

Published annually. Evaluates encyclopedias in print in terms of cost, age suitability, size, presentation of material, accuracy, illustrations, etc. Index.

#### Directories

ALEXANDER, Raphael, ed. *Sources of Information and Unusual Services*, 7th ed. New York: Informational Directory Co., 200 West 57th St., 1964. 100 p. pap. \$3.50. (L. C. 53-4208)

A directory of organizations, agencies, and experts. 1,400 entries on 600 subjects, an increase over the previous edition (1961). Includes a listing of about 250 useful books for the layman. All material arranged in a single alphabetical order by subject.

AMERICAN ASSOCIATION OF LAW LIBRARIES. *Bibliographical Directory of Law Librarians in the*

*United States and Canada*. St. Paul, Minn.: West Publishing Co., 1964. 57 p. pap. Apply.

First biographical directory of its kind. Living American and Canadian professional law librarians who are actively engaged in, or retired from, professional law library work.

AMERICAN LIBRARY ASSOCIATION. *ALA Membership Directory, 1963*. Chicago: 1964. xii, 398 p. pap. \$10.

Lists all members as of October 1, 1963, and includes lists of national, state, provincial, and local library associations, agencies, supervisors, and periodicals. Distributed free of charge to life, special, and certain institutional classes of membership in accordance with Article I of ALA by-laws. Produced from punched card membership records.

CATTELL (JAQUES) PRESS, eds. *Directory of American Scholars*, Vol. III: *Foreign Languages, Linguistics and Philology*, 4th ed. New York: R. R. Bowker Co., 1964. xii, 279 p. \$15. (L. C. 57-9125)

Third volume in the series published with the cooperation of the American Council of Learned Societies. Approximately 5,100 biographies of scholars in both the modern and classical fields. Also available at \$15 per volume: Volume I (History), Volume II (English, Speech and Drama). Volume IV (Philosophy, Religion and Law) due later in the year.

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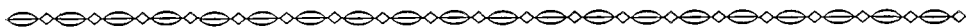
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