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Science Librarianship

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AT THE END OF WORLD WAR I there was throughout the Nation a great acceleration of research activities. A similar and even greater expansion of the research programs of industry, the Government, and the universities may be expected within the next decade. Research begins not in the laboratory but in the library, for the literature must be explored to see what has already been accomplished in order to avoid duplication of effort. Because of this focal position, in planning for the future of pure science, industrial research, invention, and engineering development, the library must be given support and attention commensurate with its responsibilities. To meet the needs of a broadly conceived national science program and to meet the demands of an increased clientele, book stocks must be adequate and library staffs skilled in interpreting requests and making resources quickly available.

In the humanities the library does not compete with the laboratory for the attention of the investigator. Because most, if not all, of the research of the humanist is carried out in the library, he has developed greater understanding and proficiency in its use. It is unfortunate that some scientists have little conception of the many facets of library work. Few realize, for example, that the cataloguing department of a university library must be able to handle books written not only in all European languages but also in those of the East, both modern and ancient. Few realize the linguistic abilities, technical knowledge, and subject background necessary to enable the science librarian to interpret the requests made by patrons. A few examples (see Table 1) may create a better understanding.

Many readers find that catalogues of large libraries are difficult to use. They are complex because books are complex. The reader often tells the librarian that more cross-reference cards are necessary. Perhaps this is true, but cross references will never be able to cope with every possible contingency. Rules for transliteration of the Russian alphabet differ, and therefore Russian names and titles of journals will vary, depending on the source of the reference. Some itinerant scholars change the spelling of their names every time they cross a border. Titles of journals written in the more obscure languages are often translated in literature indexes and abstract journals, and rarely do translators agree. Government documents, national, state, and municipal, are a source of great difficulty. No welter of cross references can take the place of a skilled librarian with imagination, intellectual curiosity, excellent memory, perseverance, and devotion.

Because of early associations with small-town libraries and librarians with limited education and professional training, many readers confuse page boys and desk attendants with professional staff. To them the librarian is a person who hands books over the counter. To stem further confusion, let us analyze the responsibilities of a science librarian of a university library:

Function: Under the general supervision of the director of the university library, to plan, organize, direct, and supervise the activities of the science library and do any other work delegated by the director.

Duties: (1) To make recommendations concerning annual budget revisions for books, services, supplies, and equipment; (2) to formulate departmental acquisition policies and establish criteria of selection; (3) to keep informed of important scientific events, recent advances, and trends in order to make timely materials quickly available; to acquire and maintain an adequate book stock by selecting books and journals, by withdrawing obsolete and inappropriate materials, and by guarding against losses through adequate restrictions and controls; (4) to nominate staff members for appointment by the director and make recommendations concerning promotions, etc.; to employ desk attendants and to devise personnel training programs; (5) to delegate responsibilities and authority to assistants, keep them informed concerning library matters, solicit their advice and suggestions for improving services, and confer with them regarding library problems; (6) to compile and revise instruction manuals describing current circulation practices; (7) to see that catalogues are properly maintained and that other bibliographical tools are up to date; (8) to give instruction in the use of the library and lecture

TABLE 1

As Requested	As Located
Acta horti botanici.	Riga. Latvijas universitate. Botaniska darzs. Raksti.
Acta soc. scien. fen.	Finska vetenskaps-societeten, Helsingfors. Acta . . .
Arb. a.d. Reichgesundheitsamte.	Germany. Reichgesundheitsamt. Arbeiten.
Arb. neur. Inst. Wien. Univ.	Vienna. Universität. Neurologisches institut. Arbeiten.
Arch. arg. ped.	Archivos argentinos de pediatría.
Battista's work on pathology.	Morgagni, Giovanni Battista. Selections from De sedibus et causis morborum.
Bechtereff, Vladimir. On nerve function.	Bekhterev, Vladimir. Die functionen der nervencentra.
Bol. inst. clin. quir.	Buenos Aires. Universidad nacional. Instituto de clínica quirúrgica. Boletin.
Bul. Commonwealth bur. meteor.	Australia. Bureau of meteorology. Bulletin.
Cajal, S. On degeneration.	Ramón y Cajal, Santiago. Degeneration & regeneration of the nervous system.
Jour. cons. perm. int. exp. mer.	International council for the study of the sea. Journal.
Jour. de phys. U.R.S.S.	Fiziologicheskii zhurnal SSSR.
Phys. jour. U.S.S.R.	Fiziologicheskii zhurnal SSSR.
Pubb. del. R. ist. di. studi sup. Firenze.	Florence. Universita. Sezione di science fisiche e naturali. Pubblicazioni.
Rep. A.M. Gorky All-Union inst. exp. med.	Moscow. Vsesoĭuznyĭ institut eksperimental'noĭ meditsiny imeni A.M. Gor'kogo. Otchet.
Rep. pub. health and med. Stat. off.	Great Britain. Ministry of health. Reports.
Russian biochem. jour.	Vseukraĭns'ka akademiĭa nauk, Kiev. Institut biokhemiĭ. Biokhemichniĭ zhurnal.
Russian jour. biochem.	Biokhimiĭa.
Russian jour. physiol.	Fiziologicheskii zhurnal SSSR.
Setschenow, J.	Sechenov, Ivan Mikhaĭlovich.
Ver. V int. Kong. Vererbungswiss.	International congress of genetics. 5th, Berlin, 1927. Verhandlungen.
Zeit. Phys. Sov. Un.	Fiziologicheskii zhurnal SSSR.

to students and faculty on library resources and bibliography; to give assistance in the use of foreign and complex reference works, in translations and literature searches; (9) to make statistical studies and analyze readers' use of the library to ascertain changes of interest and determine future policies; (10) to contact the library's clientele, give careful consideration to all complaints with a view toward improving services, and handle any difficulties which may arise between the library and its users; (11) to participate in various liaison activities and editorial and committee work, handle correspondence and interviews, represent the library at professional meetings, and keep up with and contribute to the professional literature; and (12) to report annually to the director on the year's progress and shortcomings and make special reports on special problems.

The next question follows inevitably: What are the qualifications necessary to enable a librarian to direct the activities of a science library successfully? As already mentioned, he must have a high degree of intelligence, intellectual curiosity, and an excellent memory. In part, such qualities can be demonstrated by his scholastic record. He must have an advanced degree in either the physical or biological sciences, with emphasis on those subjects which have major representation in the collection under his supervision. He must have a good knowledge of the history of science and be familiar with the outstanding workers in the fields encompassed by library holdings. He must have a thorough knowledge of cataloguing practices and library administration, with emphasis on university library administration. He must have command of four or more foreign languages and must be able to transliterate Russian. Teaching experience on the college or university level is desirable, since he must be able to lecture to faculty and students on the extensive bibliography of science and be familiar with research procedures. To these qualifications he must add years of varied experience in at least two libraries serving a large research personnel, including work in both the preparations and service departments. Without such experience in a scholarly library, the librarian will be as adequate for his job as a surgeon who has never performed an autopsy or observed and assisted at the operating table.

Only with such qualifications can the science librarian interpret materials for scholarly use. Even librarians of small industrial libraries that serve a

research personnel, libraries whose holdings focus on narrow specialties, need similar training to serve their clientele efficiently, for if the library is located in a metropolitan area, the librarian will have frequent recourse to the large libraries within its boundaries. The subject specialist without professional library training is likely to rely too much on memory. Neglect of card catalogues and lack of knowledge of classification schemes, filing systems, and procedures may create in his collection and vertical files an unadulterated mess comparable only to a Chinese puzzle. He will become the so-called indispensable librarian in whose absence no one can find anything.

To locate a librarian with the needed education, professional training, and experience is not easy. The reason is not far to seek. The training grounds are the library schools and the large scholarly libraries of the Nation. As yet, adequate courses have not been offered by library schools, and the linguistic requirements for advanced degrees are insufficient. While a knowledge of German and French may be sufficient for the Bachelor's degree in library science, it seems that the requirements for the Master's degree should be three languages; for the doctorate, four languages. The librarian with a command of four or more foreign languages can do highly effective guessing in many more. Likewise, he must be able to transliterate Russian and, if he can read the handwriting on the wall, he will certainly aim to acquire greater proficiency in this important language.

Recruiting of desirable students is made difficult by the low standards and salaries that prevail in the library profession. To develop librarians who can plan, build, organize, and administer scientific collections that will adequately and efficiently implement the research and instructional activities of the institutions they serve, there is need of a five-point program:

(1) Higher standards for admission to library schools must be introduced. These should be based in part on past scholarship records and on objective data such as I.Q., aptitude, and personality tests.

(2) A clear differentiation must be made between the various types of library work and curricular requirements set up to fit each level of work. Clearly, a student preparing to become librarian of a small-town public library will not need the same training as one preparing for administrative work in a large scholarly library.

(3) Because of the increasing number of science libraries, new courses should be introduced which take cognizance of this fact, and the title of science librarian conferred only after the proper requirements have been met. Among others, these should include: the M.S. degree, a reading knowledge of four foreign languages, advanced cataloguing, history of science, and bibliography of science. Such a background, when supplemented by two years of internship in both the preparations and service departments of a large science library, will give a good foundation for science librarianship from which, with continued study and broadened experience, to climb to administrative responsibility.

(4) There is need for publicity to familiarize science students with opportunities in the library field. If selection of a profession can be made as early as the junior year, language requirements and courses dealing with the history of science and its specialties can be planned for and in some instances completed before other professional training begins. Commitment at this early date will mean that librarianship is a first choice, whereas postponement may mean that it is a second or third choice made only after frustration in other fields of endeavor. There is likewise need for publicity to familiarize prospective employers with the qualifications necessary for science librarianship. Often personnel officers do not have a clear idea of the training and experience required and so employ librarians not fitted for the work at hand. Such placement is detrimental to both employer and employee.

(5) To attract the highest type of student, financial rewards must compare favorably with other professions. To stimulate his best efforts, a good workman in any field needs to feel respect for his profession, for his position, and for himself. In the case of university librarians, rank, privileges, and benefits commensurate with training, experience, and responsibilities must be accorded (see R. B. Downs. *Coll. Res. Lib.*, 1946, **7**, 6–9, 26). Unless science libraries are willing to pay salaries in harmony with educational requirements and unless they are willing to introduce enlightened personnel policies, they will have to content themselevs with the failures and refugees from other positions. Men without equipment can improvise, devise, build, and secure; equipment without men is worthless. So too, a library without a skilled librarian becomes only a warehouse of books.

Scanning Science—

> *George Brown Goode* died at Washington, D. C., 6 September 1896 at 45 years of age. . . . He not only published in *Science* many articles of great value but also helped continually in its editorial conduct. *Science*, like the Smithsonian Institution, the National Academy of Sciences and other agencies devoted to the advancement and diffusion of science has suffered an irreparable loss.
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> *—18 September 1896*