

# ORGANIZATION OF INFORMATION

The following collection of bibliographical notes, abstracts of books and articles pertaining to various aspects of the organization of information is the fourth installment of the bibliography which is being compiled cooperatively by the Committee on Organization of Information of the American Documentation Institute. The Committee and its work were discussed briefly in the introduction to the first installment of the bibliography, which appeared in the first issue of *American Documentation* (Volume I, page 24, Winter 1950).

"Aids for Science — Information for Industry,"  
*New Zealand Engineering*, 3, 664-665, 1948.

When a scientist, or group of scientists, commences an investigation the task which faces him is by no means confined to hours of patient experiment at the bench or in the field. Literature must be searched, vital reference works obtained, contact made with other workers in the same field, and when results have been accumulated, these have to be written up for publication. The provision of facilities which ease this burden on the scientific worker and the handing on of the results of his work to industrial users is the function of the Information Bureau of the New Zealand Department of Scientific and Industrial Research. The work of this Bureau is discussed very briefly.

"ASME Publication Plan — A Report by ASME Publications Committee on First Full Year of its Operation," *Mechanical Engineering*, 71, 1032-1033, 1949.

The objectives of the present plan of the Publications Committee of the American Society of Mechanical Engineers are: to reduce waste and the net cost of publication services; to improve the quality of papers published by the Society; to bring all ASME papers to the attention of members; and to make these papers available as quickly as possible. To achieve these ends, the plan: (1) placed *Transactions* and *Journal of Applied Mechanics* on a subscription basis, thus reducing waste and net cost to the Society; (2) instituted a new digest service in *Mechanical Engineering* known as ASME Technical Digest, thus bringing all papers quickly to the notice of members; and (3) established an expanded preprint service, thus making it possible to reserve *Transactions* for high-quality papers of permanent reference value.

The Committee has arrived at four conclusions: (1) The publication plan now in effect is basically

sound but can be improved in detail. (2) The Society should continue publication of *Transactions* and *Journal of Applied Mechanics*. (3) Operation of the preprint service should be made more convenient for members. (4) *Mechanical Engineering*, which is the only Society publication received by all members, should be further developed as a comprehensive general-interest magazine covering the field represented by its name.

BALL, NORMAN T. "The Classification of Patents,"  
*Special Libraries*, 38, 11-16, January 1947.

The Patent Office Classification must be adjusted to the analysis, diagnosis, and orderly arrangement of the claimed disclosures of U. S. patents and applications. Unclaimed disclosures and the disclosures of foreign patents and publications of all kinds can be integrated with such a classification. No effective precedents have been found in any prior classifications of the arts. The task of classifying natural objects, differentiated by natural laws, is relatively simple as compared with the task of classifying the products of the creative and imaginative faculties in the useful arts. The Patent Office Classification is based upon "art" in the sense that it collects together similar means (or processes) that achieve similar results by the application of similar natural laws to similar substances; i.e., "art" in the sense of the direct, proximate, or necessary operation, function, or effect, rather than remote or accidental use or application in industries or trades.

BERNAL, J. D. "Information Service as an Essential in the Progress of Science," *ASLIB Proc. 20th Conference*, pp. 20-24, 1945.

The two aims the modern information service should set for itself, are first to secure that the right information in the right form is sent to the right people, and second to arrange that facts of however diverse origin, which may bear on any particular

topic, should be correlated for the study of that topic. These may be called distributive and integrative aspects of library service. They do not supersede the older function of libraries of acting as storehouses for all recorded knowledge, available to all seekers for such knowledge, but they do supplant them. Much of the paper is taken up with Bernal's plea to make the paper rather than the journal the unit of publication.

"Bibliographical Services in the Social Sciences," *Library Quarterly*, 20, 79-99, 1950.

This is the report of a study made by the Graduate Library School and the Division of the Social Sciences of the University of Chicago. The project was assisted financially by the Carnegie Corporation. The report is divided into the following major sections: 1. Introduction. 2. The present state of bibliographical services in the social sciences. A. Adequacy of current bibliographical services. 3. Nature of the problem. 4. Proposals for the improvement of bibliographical services in the social sciences. 5. Summary of conclusions and recommendations.

Three interrelated proposals are made to "solve" the bibliographical problems of the social sciences. The first would require perhaps a generation for realization, the second covers about five years, and the third is an immediate measure: 1. Continuing exploration and development of imaginative, far-reaching devices for the improvement of social science bibliography. "Concretely, this means that specialists in bibliographical control should be encouraged to devote special study, perhaps on an experimental and pilot basis, to the application of (such) devices." 2. Increased collaboration and integration of current services through elimination of unnecessary duplication and planned division of responsibility. This involves two stages: collection of facts and construction of a rational bibliographical scheme based on current services, and persuasion of and negotiation with the representatives of current journals and services. 3. Immediate establishment of two new services: a series of bibliographical review articles, issued as separates; and a system of selective abstracts for economics and for sociology-anthropology-political science (with history handled in one of three ways).

"Bibliography of Biological Sciences," *Bulletin des Relations Scientifiques* (Institute International de Cooperation Intellectuelle, Paris), pp. 312-315, 1926-7.

A committee of experts met on April 7 and 8, 1927, to discuss the coordination of bibliography in the biological sciences. The conference was sponsored by the International Commission on Intellectual Cooperation. The resolutions adopted are given verbatim. They recommended: 1. That abstracting and indexing services receive reprints of all pertinent material (a separate organization is recommended for distributing the reprints); 2. Author abstracts should accompany all articles; 3. Cooperation among various abstracting agencies; 4. Formation of committees within various countries to effect better cooperation; and 5. A universally adopted system of abbreviations of titles of periodicals should be attempted.

BLISS, HENRY E. "What Do You Mean by Practical Classification?" *Special Libraries*, 24, 35-37, March 1933.

The subject is the basis of the quest for information. Subject-classification and indexing of terms are the emphatic requisites. Classification, however, must be "practical," must fit the purposes, and serve the needs. Relevant subjects should be under the established and current terms in an order relevant to the dominant interests, with a correlative notation and with an index referring from the alphabetic to the systematic order. Where detail is not relevant to your interests, it is just so much useless incumbrance. Making classifications may well be cooperative. There should be a standard schedule and code for each distinct field. Standards may be special, national, or international, or all of these at once.

BUD, MARTIN. "A System of Classification," *Office Control and Management*, 2, 8-12, November 1948.

This article describes the Brisch system of classification, which is designed primarily for industrial use. Its basic features are as follows: (1) it is a purely numerical system; (2) classification is accomplished within a manageable and *uniform* range of numbers — the main classification num-

bers are composed of four digits; (3) the structure of the system provides scope for expansion and changing conditions; (4) the range of universal concepts is rigidly defined and is restricted to the needs of the type of industrial organization dealt with, thus avoiding the outstanding difficulties of the U. D. C.; (5) it has established levels of classification — i.e. the progressively detailed analysis of concepts with each degree of digits, permitting grouping and analysis to desired levels; (6) the system aims at fulfilling as far as possible the functions of a language in that the symbol will evoke a suggestion of the object as readily as the object will recall the symbol.

COBLANS, HERBERT. "Science Libraries and Information Services for Industry (With Some References to Punched Cards)," *South African Industrial Chemist*, pp. 202-205, November 1948.

"My theme is a simple one to which you will all agree in principal. Inaccessibility of knowledge is waste. . . . It follows therefore that the progress of science and technology depends on at least two factors; on the one hand, the test tube (to use the chemical symbol), on the other, paper, the recording and dissemination of the results of research. To paper must be added the photographic film and the punched card; these are just the tokens for the whole field of documentation, the gathering, classification and distribution of our accumulating knowledge. The argument can thus be brought full circle, research unsupported by documentation is wasteful and in the long run becomes self-stultifying." Some of the principal methods of mobilizing the mass of scientific information are discussed. The techniques employed with the various types of punched cards are described.

"Therefore we must widen the scope of existing libraries rather than multiply their numbers. Thus the university libraries should be developed as information centers for industry. Industrialists should not only subsidize the libraries directly but also treat them as deposit centers for sets of specialized periodicals and trade literature. Their technical employees must be given time to use libraries and even time to learn how to use the resources of a modern library. On the other hand the uni-

versity authorities must provide trained staff in numbers large enough to make a live service."

"The Co-operative Provision of Books, Periodicals and Related Material," *Library Association Record*, 51, 383-387, 1949; also an appendix to *Library of Congress Information Bulletin*, November 8-14, 1949.

Following the Royal Society Scientific Information Conference, the Library Association Council through its Library Research Committee in January 1949, set up, at the request of the University and Research Section, a working party on library and information services. The present paper is the report of this working party and presents a scheme for the co-operative provision of books, periodicals, and related materials in Great Britain. The object of the scheme is stated as follows: "In the interests of scientific, technical and humanistic research and development it is essential that all useful books, periodicals, and related materials shall be fully available to all who require them, and moreover (a) that those who require material may be able to locate it without difficulty, and (b) shall have reasonably convenient access to it, and (c) that there shall be adequate means of making known to potential users material that may be of value to them, and (d) of assisting them to use it." Five categories of libraries are proposed to meet the requirements: National Libraries which would collect all current material in all major languages, important material in other languages plus any earlier material; First Line Special Libraries which would collect all current material in all languages appropriate to the field covered; Second Line Special Libraries which would collect as much of the current material in all appropriate languages as they may wish to acquire; Regional Reference Libraries which would collect basic specialized materials in all fields, complimentary materials and generalities; and Lending Libraries which would collect all current materials in the English Language plus important works in other languages and important earlier materials.

CRANE, E. J. "Words and Sentences in Science and Industry," *Science*, 86, 549-553, 1937.

The value of good nomenclature and good English

in the communication of ideas in science and industry is stressed. Some of the difficulties faced by those who attempt to systematize and standardize the nomenclature of chemistry are discussed. The last section of the paper deals with *Chemical Abstracts*. The importance of the indexes is stressed. In this connection the following statements are made: "The indexes are regarded as the most important part of an abstract journal. . . . Subject indexing calls for great care in the use of words. Indexes which are mere compilations of words are not subject indexes. There is a wide difference between a true subject index and a word index. Word indexing leads to omissions, scattering and unnecessary entries. Subject indexes, sometimes called analytical indexes, bring like things together no matter what they may be called elsewhere and tie related things together with a thorough system of cross references. Such indexes utilize classification in so far as it is serviceable. Sometimes the effort to break away from word indexing has led to the substitution of classification for subject indexing. Classification is an indexing tool, not the objective; its use can be easily overdone. Scientific literature would be strengthened if more of its indexes were made scientifically."

DALZIEL, CHARLES F. "Evaluation of Periodicals for Electrical Engineers," *Library Quarterly*, 7, 354-372, 1937.

This paper discusses methods of evaluating periodicals and presents some of the results of an investigation made at the University of California. The objects of the investigation were: to determine a list of the most important periodicals for electrical engineering; to determine which periodicals should be discontinued; to determine which important new or unknown periodicals might be purchased with the funds so released; and to determine a practical solution of the general problem of evaluating scientific journals. Four methods of evaluating periodicals are listed: (1) published index studies; (2) individual rating; (3) current use; and (4) reference counting. The last method is considered the most valid and is the one used. Four tables are given and formulas are derived for the determination of the technical importance or value of a periodical and for the determination of the

number of periodicals required to furnish a library with a given percentage of the most valuable technical journals in a given field of science.

DE GORTER, B. "The Principles and Possibilities of Diazo-Copying Processes," *J. Documentation*, 5, 1-11, 1949.

In the present state of scientific knowledge it is to be expected that there would be widely available at least one cheap, simple, and practically automatic photocopying device. There are numerous methods in use at present, but one must admit that they are not by any means efficient or convenient enough. What is needed is a small inexpensive apparatus which is unobjectionable in any office, controlled as simply as a radio or television set, using cheap photosensitive materials and producing positive copies directly and speedily.

The disadvantages of the silver-halide method are mentioned. Most of these disadvantages are overcome by the use of the Diazo-Copying processes which are based on the following characteristics of certain diazo-compounds: they decompose on exposure to light, especially ultra-violet light, and they couple with various azo-dyestuff components to form dyes. The history of the development of the dry and semi-wet processes is discussed briefly. One of the greatest advantages is, of course, the ability to obtain a direct positive.

Particular attention is given to the reflex method developed by Van der Grinten and which is known by the trade name "Retocee." This process has been used by the author to prepare bibliographies from punched-card indexes. Various special office machines developed by Van der Grinten, such as the Entoce-DA-11, which has been used at the Economische Voorlichtingsdienst at the Hague for the job of automatically reproducing abstracts on folded 5 x 3-inch index slips at a rate of up to 1,800 per hour, are described and illustrated. Some predictions as to future developments are made.

DE GROLIER, E. "Etat du Probleme de la Classification Bibliographique, Biblioéconomique et Documentaire," *Texte des Communications, Congrès Mondial de la Documentation Universelle*, Paris, 16-21 August 1937, pp. 147-156.

A critical examination of existing international systems (L.C., D.C., and U.D.C.) and national

systems (Colon, Bliss, etc.) shows that none of them can be used as an international standard. The author is very critical of the existing international systems and feels that they should be discarded. He gives credit to Ranganathan for developing a good national scheme and for the logical subtlety with which he has distinguished among the different characteristics according to which classification can be effected. He speaks enthusiastically about the work of Bliss and states that in his work can be found the sanest basis for the effort of reconstruction which, in the author's mind, is necessary in the field of documentary classification.

The author concludes that a unique, universal standard is not possible because of the diversity of needs, points of view, etc., of the many groups of users. The best that can be done is to attempt to standardize encyclopedic classification on a national scale and specialized classifications (for example, for medical libraries) on an international scale. A formal recommendation for the Congress to appoint an International Commission for the Standardization of Documentary Classification is made at the end of the paper. The author stresses that this Commission should make a thorough study of the principles of classification before attempting to draw up classification schedules and that the Commission should in no way be committed to any existing classification as is the case with the F.I.D. Committee.

Special classifications are discussed at some length. In the author's opinion such classifications should be developed on the assumption that the subjects should be classified in the order most useful to the specialist who will use them. This differs from the opinion expressed by Bliss, who feels that the primary requirement is that the special classification should follow a logical and natural order.

43 references.

DE LA BERE, J. C. W., AND DYKE, MARY. "The Library Liaison Officer System of the Royal Aircraft Establishment," *ASLIB Proc. 24th Conference*, 1, 33-41, 1949.

In a research establishment in which the subject matter is varied it is impossible for one or two people in an information service to render sufficient service. This is due to the large volume of work

and especially to the fact that no one individual can cover more than one field of knowledge with any degree of satisfaction. This problem has been solved at the RAE by instituting a system of Library Liaison Officers. These people are appointed by a Department Head after consultation with the Librarian. They work at least half time in the library. In general they are appointed for about two years. After this time they return to full-time research. The newly appointed LLO works very closely with the Information Officer at first until he has learned the principles of classification and documentation. The main duties of the LLO's are to scan current periodicals and other acquisitions and to conduct literature searches. Index entries are made for the current periodicals and an information bulletin is compiled. Some of the forms used at the RAE are illustrated.

DYSON, G. M. "Codification of Chemical Structures," *Research*, 2, 576, 1949; *Nature*, 165, 301, 1950.

An invitation is extended to chemists to submit codification systems for consideration by the Commission on Codification, etc., of the International Union of Pure and Applied Chemistry. A list of desiderata to be employed has been drawn up and approved and will be used as a basis for evaluating ciphers. The desiderata are: simplicity of usage; ease of printing and typewriting; conciseness; recognizability; ability to generate a unique organic chemical nomenclature; compatibility with accepted practices of inorganic chemical notation; generation of an unambiguous and useful enumeration pattern; ease of manipulation by machine methods, e.g., punched cards; exhibition of association (descriptiveness); ability to deal with partial indeterminants.

ECKERT, W. J. "Electrons and Computation," *Scientific Monthly*, 67, 315-323, November 1948.

The IBM Selective Sequence Electronic Calculator was dedicated at IBM World Headquarters, New York City, January 27, 1948. It is a binary digital electronic electromagnetic machine, with an internal memory of 400,000 digits (storage of 20,000 20-digit numbers on punched tapes), feeding capacity of 200 cards per minute, or 32,000 digits

per minute, searching of 100,000 digits from tape in one second, printing of results at 30,000 digits per minute, with additional unlimited storage on punched cards. Original punching is done on standard IBM punches. The machine can multiply two 14 digit numbers 50 times a second.

"Electronic Printing," *Scientific American*, 181, 28-29, November 1949.

Recently a new machine which may replace the linotype and thereby revolutionize printing techniques was given its first public showing. It is an electronic device that dispenses with type altogether. By an ingenious combination of electricity and photography it produces printed lines on film from which engraved plates are made for the printing presses. It is claimed that the machine is four times as fast as the linotype and that eventually it will cut printing costs in half. It is almost entirely automatic. The operator simply sets a dial for the desired length of the line and then composes the line by pressing the keys, arranged as on a standard typewriter keyboard. When he presses the key he creates a pattern of electrical impulses representing the character. These successive signals collect in a storage or memory unit using telephone-type relays like those in a calculating machine; the storage unit automatically counts up the characters until they complete a line, justifies the line and then sends the set of signals on to the next stage. There the signal for each letter triggers a combined camera and flashing stroboscopic light so that the camera at the correct moment photographs the appropriate letter from a synchronized spinning glass disk containing all the keyboard characters. The finished line appears as a strip of developed film. The entire process is completed in five seconds. As the operator types, the characters are also printed on ordinary typewriter paper, so that he can see what he is composing and make corrections by "rubbing out" the wrong signals. When a full column of lines is set, the photograph is ready for engraving. At the present time the device is considered practical only for rotogravure printing and for some forms of lithography.

See also: "Graphic Arts Research," *The Technology Review*, 52, 17-19, 1949. This article gives a more detailed description of the mechanism.

ELLIS, ALBERT. "The Application of Scientific Principles to Scientific Publications," *Scientific Monthly*, 66, 427-430, May 1948.

Cursory reference to publications at hand in the author's personal library showed that among some 37 scientific publications there were 29 different ways of citing bibliographical material. The scientific editors of this country (and of other countries, of course) should get together as quickly as possible to decide which standardized bibliographical form they deem best and then universally adopt this form for all types of scientific publications. Not to do so will be to tolerate a haphazardly developed, multiclassificatory, and obviously unorganized method (or lack of method) that no group of scientists worthy of the name should for a moment consider perpetuating. A number of important points to be considered in adopting a standardized form for bibliographic citation are discussed.

This is only one example of the present unscientific state of affairs that exists in relation to scientific periodicals. Equally as good a case could probably be made for, say, the matter of size of publications.

FRY, B. M., WARHEIT, I. A., AND RANDALL, G. E. "The Atomic Energy Commission Library System; Its Origin and Development," *College and Research Libraries*, 11, 5-9, 1950.

The provision of library service to the atomic energy program is unusual in several respects — in its scope, in its organization and in the methods of achieving dissemination within security controls. In the past three years the AEC has developed a large, unique, decentralized library system which includes all of the libraries of the AEC and its contractors dispersed from Long Island to Los Angeles. This system is described in some detail in this paper.

FULLMAN, B. "Information Work as a Career for the Scientist," *ASLIB Proc. 12th Conference*, pp. 38-41, 1935.

The scientifically trained individual is well suited to perform the duties of indexing, cataloging, translating and searching the scientific literature. The author makes the following statements: 1. Cataloging and Indexing — A specialized scientific training can be of great service in the efficient

cataloging and indexing of scientific literature. Such a person may well assist in the devising of the details of the classification to be used. 2. Searching — It goes without saying that the trained scientific specialist who has had experience in handling literature is the person who can best carry out searches for information. 3. Translations — The standard required for translations is rising steadily. They must be written in the technical language of the man to whom they are addressed, and they can only be produced by people of sound scientific training and adequate knowledge of the original language used. 4. Original Contributions — An information worker who has his wits about him is in a very strong position. He is bound to acquire a considerable specialized knowledge. If he keeps in close touch with all that goes on in his own organization and handles his colleagues in other departments tactfully, he will probably find as time goes on that they come to him not only for information but for advice. He can often offer useful suggestions, either bearing on work in progress or even as regards new researches in fields where knowledge is lacking.

HAYAKAWA, S. I. *Language in Action*. New York: Harcourt, Brace & Co., 1939. Chapter 10, Pages 149-163, "Classifications":

"When we name something, then, we are classifying. The individual object or event we are naming, of course, has no name and belongs to no class until we put it in one" (p. 152).

"There are few complexities about the classifications at the level of dogs and cats, knives and forks, cigarettes and candy, but when it comes to classifications at high levels of abstraction, for example, those describing conduct, social institutions, philosophical and moral problems, serious difficulties occur" (p. 154).

"Society . . . regards as 'true' those systems of classification that produce the desired results. . . . The scientific test of 'truth,' like the social test, is strictly practical, except for the fact that the 'desired results' are more severely limited. The results desired by society may be irrational, superstitious, selfish, or humane, but the results desired by scientists are only that our systems of classification produce predictable results" (p. 160).

HEWITT, JR., WILLIAM F. "The Academic Literature-Science Unit," *Chemical Education*, 26, 191-192, 1949.

The author summarizes very briefly some literature citations which stress the need for subject training for searching the scientific literature. The author feels that academic organizations, foundations, and other non-government, non-profit bodies might profit by setting up the same type of literature-science groups that have been set up by industrial and government research laboratories. Brief mention is made of a questionnaire sent to 169 members of the staffs of liberal arts, graduate, and professional units of the Howard University School of Medicine. A tabular summary of the results of this questionnaire were made available at the ACS Convention in Washington, D. C., September 1948.

HICKS, GEORGE R., Compiler and Editor, *Problems of Centralized Documentation — Conference Proceedings*. Dayton: Central Air Documents Office, 1949.

The proceedings of a conference on problems of centralized documentation held at the Central Air Documents Office, Wright-Patterson Air Force Base, Dayton, Ohio, 11-13 April 1949 are contained in this publication. There is an introduction by Colonel A. A. Arnheim, Director of CADO, and papers and discussion on the following topics: the Standard Aeronautical Indexing System; the Air Technical Index; Miniaturization in Documentation; Machine Methods in Documentation; Reports Standardization, and Document Exchange.

HOLMSTROM, J. E. *Interlingual Scientific and Technical Dictionaries — A Report*, UNESCO/NS/SL/1. Paris: UNESCO, 20 July 1949.

General considerations relating to the art of translating are followed by discussions of the relative need for dictionaries on special subjects connecting different languages and of the qualities and arrangement which these should have in order best to fulfil their purpose. Notes are given on the ways in which special dictionaries have in the past been published and on the trend towards linking their compilation with standardization of terminology by the organizations concerned with each subject.

Existing dictionaries are discussed by reference to an appended bibliographic chart which displays particulars of the subjects and languages covered by 550 of these. In the section on Style and Arrangement some remarks are made on the possibility of using punched cards and electronic selectors as aids in assembling the data for dictionaries and brief mention is made of mechanical translating machines.

The final section of the report advances a suggestion that UNESCO should sponsor the establishment of an International Terminological Bureau to supply commercial publishers of dictionaries with approved terminology.

HUNWALD, ANNE. "What is Documentation?" *Food*, 18, 120-121, 1949.

The aims and achievements of the service of documentation of the Commission Internationale de Industries Agricoles, Paris, are described by the chief librarian. An abstract journal, *Revue des Industries Agricoles*, is published and a Permanent Service of Current Documentation is available. Subscribers to this service receive, every fortnight, a list of references to the entire literature, published in the special field, received by the library during the preceding two weeks. These lists are sent in the form of photographed bibliographic cards, and are carefully indexed. Microfilm copies of articles may be obtained by subscribers to the service.

Information Services Committee of the Royal Society. *Engineering*, 168, 547, 1949.

This is a brief statement of the activities of the Committee. The Committee has prepared a draft of a pamphlet containing information for authors and has drafted a "Fair Copying Declaration." The Abstracting Services Consultative Committee has prepared a "Guide for the Preparation of Synopses" and has compiled a comprehensive list of British and Commonwealth journals containing abstracts.

JOHNSTON, BARBARA. "Serving Scientists in Australia — Libraries of the Council for Scientific and Industrial Research," *Special Libraries*, 40, 203-207, 1949.

The library system of the Australian C.S.I.R. consists of a network of over a dozen libraries, each specializing in a particular branch of science. The

location of these libraries is mentioned and a brief discussion of the staff employed and the methods used in the libraries is given. The amount of indexing of current journal articles differs according to how well the need is filled by published services, but most branches index only articles of particular interest, selected by the research workers. Few large bibliographic searches are done by the library staff. Research workers usually do this type of work for themselves or it is done by the Information Service, a section of the Head Office, whose function is to answer inquiries from manufacturers, the general public, other government departments and our own staff. The Information Service controls a section which translates, on request from the staff, scientific articles in European languages.

LAMB, ARTHUR B. "Publication — Lifeblood of Science," *Chemical and Engineering News*, 27, 2841-2844, 2876, 1949.

The progress of science, which is directly correlated with the unity of the human race, is in turn directly dependent on the publishing of new knowledge. Periodicals represent the most powerful factor in its widespread dissemination. Societies publishing scientific periodicals have run into difficulties recently because of increasing unit costs of publication and a mounting influx of manuscripts due to increased numbers of scientists and to increased Federal research expenditures.

Various remedies for the situation are discussed. Particular reference is made to American Chemical Society publications. Suggestions discussed include: increased subscription rates and membership dues; increased advertising income; Federal aid; levying page charges; industrial assistance to *Chemical Abstracts*, and reduced printing costs through some radical change in method of printing. It is concluded that increased industrial support of *Chemical Abstracts* is the best solution to the difficulty. Reasons for such increased support are given. The editorial problems presented by the present flood of manuscripts can be met in part by additional assistant editors, but much of the responsibility must rest on the referee. He must be more alert to catch errors and to furnish the editor with careful reports stating the reasons for his verdict with regard to a paper.



"Lost Papers," *Discovery*, 7, 129-130, May 1946.

In this article, the death of Dr. F. W. Lanchester, who experienced early difficulties in getting his scientific work published and recognized, is made an occasion for recalling many famous examples in the past of important scientific work lost in obscure journals or neglected because of certain social inhibitions that act against a proper appreciation of the value of the work. A warning is given that the chances of this happening today are quite as great, if not greater, especially in view of the very large number of scientific journals now published.

MANN, MARTHA ANN. "The Fine Art of Indexing," *Bull. Medical Library Association*, 37, 29-31, 1949.

Successful indexing involves, first of all, classification of material according to the system employed in the specific field, and secondly, compilation of the volume in a manner consistent with the style accepted for that index. A working knowledge of the material and the "know how" of assembling it are equally important in setting up an index. Some pitfalls to be avoided in indexing are mentioned briefly. A brief account of the work involved in compiling the *Index to Dental Periodical Literature* is given.

MELCHER, DANIEL. "The Revolution in Printing: How Far Has It Progressed," *Publisher's Weekly*, pp. 63-66, 68, January 7, 1950.

The author states that many new developments announced in *Publisher's Weekly* in the past three years have been put in actual use. Examples are the Fotosetter; rubber plates and plastic plates; perfect binding, etc. Other devices such as Fairchild's Lithotype and the Xerographic process for actual printing are still in the future. Several new research developments uncovered by the Graphic Arts Research and Engineering Council are mentioned. It is suggested that more rapid progress could be made if more concerns would support the Graphic Arts Research and Engineering Council, 719 15th Street, N.W., Washington 5, D. C., and the Graphic Arts Research Foundation, Inc., Cambridge, Massachusetts.

METCALF, KEYES D. "Harvard Faces its Library Problems," *Harvard Library Bulletin* 3, 183-197, 1949.

Problems of space, acquisitions, cataloguing and public service are discussed. Policies adopted with regard to these problems are discussed in some detail. Harvard's attitude toward cataloguing may be summed up in this way: (1) The catalogue should be primarily a finding list, not a bibliographical description of the library's collections. There are exceptions, of course, for certain rarities and items of special bibliographical significance. (2) Catalogue rules, even in the largest libraries, should be simplified, particularly for the less-used books. (3) Cataloguing should be done, as far as possible, by clerical workers, with professional librarians serving as revisers, not typists, as they often do. (4) The cost of cataloguing can be greatly reduced by holding up little-used books until there is a sizable collection and then handling them in job lots by what may be called an assembly-line technique. (5) We must hope and work for better results than heretofore in cooperative and centralized cataloguing and in new bibliographical tools. (6) There is always a tendency in cataloguing departments to keep unnecessary records. Library records should be carefully reexamined and simplified.

O'HAENENS, LEON. "The Training of Documentalists," *Les Cahiers de la Documentation*, 2, 2-8, 1948.

An outline for a three-year course in documentation is presented. Completion of the first year qualifies one as an assistant documentalist. To become a professional documentalist requires that the full three-year course be taken. The work of the first year includes study of various types of documents such as books, etc. and classification and cataloguing and reproduction of documents. The second-year work includes a study of national and international documentation projects and the so-called documentation cycle, that is, the collection and dissemination of information, and administration of documentation services. During the third year the question of documentary standardization is studied and under the direction of a specialist, a thesis is written on some phase of the subject.

PERRY, JAMES W. "The ACS Punched Card Committee — An Interim Report," *Chemical and Engineering News*, 27, 754-756, March 14, 1949.

The limitations of edge-notched cards and of conventional machines for punched-card operations are discussed. Limitations imposed on methods of indexing and classifying by the tools conventionally used are considered. The analysis shows that previous effort in both indexing and classifying have been thwarted in their development by the limitations of mechanical devices (a printed index, for example, is considered as a mechanical device in this report). Such limitations do not characterize more modern mechanical devices such as punched cards. Full utilization of the flexibility offered by punched cards and similar devices requires, however, an extension of previous methods of indexing and classifying. Punched cards are characterized by the fact that each individual card can be made to indicate a number of concepts. The difficulty is in indicating the relationships among the concepts. The committee is giving attention to two different features of this problem, namely, the relationship between concepts and the relationships of a grammatical nature.

SARTON, GEORGE. *The Life of Science. Essays in the History of Civilization*. New York: Henry Schuman, 1948.

Synthetic or encyclopedic knowledge is that knowledge which is "unified, congruous, and the result of an organic growth. . . . If encyclopedic efforts were abandoned, the amount of scientific facts and little theories might go on increasing indefinitely, but science would perish. . . . It is true that science is becoming more complex every day, but it is also becoming simpler and more harmonious in proportion as synthetic knowledge increases, that is, as more general relations are discovered. It is this very fact which makes encyclopedic efforts still possible" (pp. 123-125).

The author pleads for an institute for the history of science and civilization where work will be continuing and indefinitely perfected. Means must be taken to analyze gradually the scientific production of our time, and to prepare careful annals, without which the synthesis of later historians will hardly be possible (pp. 170-172).

SCHOLTEN, W. "State of Scientific and Technical Documentation in the Netherlands During and

After the War," *FID Communications*, 13, C 20-21, 1946.

In 1942 the Netherlands Committee for Scientific Documentation was set up and was endowed with funds by the Netherlands Government to purchase sets of periodicals and to distribute them to libraries. Sets of some 800 important periodicals have been obtained, some 2,000 books, and approximately 245,000 United States and British patents. The task of indexing this material is tremendous. For much of it, abstract journals may be relied upon. Methods of classification have received due attention. There is a general feeling that the study of classification problems should be encouraged and be combined with a thorough revision of the principles underlying the existing systems, especially the patent classification and the U.D.C., the most important systems in the technical field. To this end, the Netherlands Classification Committee was created in 1944.

SILVER, HENRY M. "Problems of Publishing. II. On Manuscripts," *ACLS Newsletter*, 1, 9-12, October 1949.

The cost of alterations in the galley proofs is one of the most expensive, wasteful, and, to the author, inexplicable, items on the printer's bill. The reason for the expense is that a printer's time has become very dear to buy; and alterations take a lot of time. The procedure has not changed in half a century, except to get more expensive. The best way to avoid those alterations is to hand the printer a manuscript as near perfect as possible. The *Bulletin of the Geological Society of America* has reduced the per page cost of alterations from 65 to 15 cents by having authors read their proof on the manuscript after the editing — with the understanding that they will change nothing on the galleys except flagrant errors of statement. The University of Chicago Press follows a similar procedure and charges authors for alterations in the galleys. Editors and authors interested in reducing their correction bills will have the printer's enthusiastic cooperation.

STRADLING, SIR REGINALD E. "The Intelligence Group in a Technical Team," *ASLIB Proc. 21st Conference*, pp. 27-33, 1946.

When a large body of technicians is brought together as a team for the service of the State, it seems to me not only a duty but a magnificent opportunity to create facilities which will make this team as efficient as possible. An intelligence group centered round the library is one of the most valuable tools which can be forged for this purpose, but as in the case of the scientific team, properly trained staff are required. Applied science develops chiefly in two ways: (a) by the genius of the practitioner in finding some new way of utilizing his existing knowledge, and (b) by more pure science being taken over for application. Thus the practitioner's approach to an intelligence group, usually thought of by him as the library, is to obtain help either on what other practitioners have done or on further pure science. It is hard to imagine that there can be any doubt as to the type of leader required for the intelligence group in such cases. One working in an intelligence group requires a flair for languages and a basic training in science. A general degree in science should be the minimum, industrial experience an added advantage, and two or more foreign languages an essential. The existence in the research team of a man who knows intimately the resources of information at his disposal and who can also understand what the research worker wants is in my opinion one of the major advantages that can come from teamwork. The feeling of relief to the inquirer if he suddenly meets in a library an official who really understands what is being sought and will and can help has to be experienced to be believed.

TAUBE, MORTIMER. "New Tools for the Control and Use of Research Materials," *Proc. American Philosophical Society*, 93, 248-252, 1949.

The general problem of bibliographic control is mentioned briefly. The theme of the article is that the problem is due to the large volume of printed matter and it is proposed to "master the machine with a machine." The control we seek has three aspects, namely, the recording of information, the searching of the record in order to select desired items, and the reproduction and the dissemination of the record or of selections from it. The application or possible application of such devices as the Adjustable Aligning Device, the Bush Rapid

Selector, the Univac, facsimile transmitters and punched cards, is discussed. There have been significant advances in developing and utilizing machines for searching and reproducing information, but the problem of making the essential record presents the most serious difficulty. The possibility of making use of devices similar to the electronic reading devices for the blind for making the record is suggested. It is stressed that we can have confidence that a research program devoted to the problem of controlling research materials offers real hope of success.

THOMPSON, A. F., AND MARTENS, JOHN H. "AEC Technical Information Program," *Nucleonics*, 6, 18-25, February 1950. (The first part of this article was written by Thompson and Martens; the second part is a staff report based on the 7th Semiannual Report to Congress of the AEC.)

"All too often, it is supposed, even by some scientists themselves, that the discovery of new knowledge in a laboratory is the beginning and end of the scientific enterprise; but without the structure of publication, collection, indexing, abstracting, etc., the scientific enterprise would degenerate into a welter of repetitious fact-finding. In short, there is scientific advance because science is cumulative; each new discovery is based upon recorded and organized knowledge and, in turn, becomes part of the record for subsequent discovery." This article describes the efforts of the AEC to disseminate classified information promptly among its laboratories and contractors, including such devices as standard distribution lists for classified reports and classified scientific journals, and to make unclassified and declassified information available and readily accessible to the public. Its publications are semi-annual, cumulative *Document Release Lists* of all available declassified and unclassified AEC documents; the semimonthly abstract journal, *Nuclear Science Abstracts*, which covers declassified and unclassified AEC reports and also, as extensively as possible, both foreign and domestic technical publications; the National Nuclear Energy Series, some fifty to sixty scheduled volumes of declassified nuclear information, eight of which have been published so far. AEC's declassification procedures are described.