

# Current Comments

## The British Library

Number 50

December 15, 1980

Last year I told you about the Library and the Librarian of Congress.<sup>1,2</sup> In those essays, I tried to profile the personality and mission of a large and great institution and its leader. Now I'd like to tell you something about another great institution—the British Library—and its leaders. Among them is Maurice Line, the information scientist who heads the British Library's Lending Division.

The British Library (BL) is a young institution, but its predecessors go back to 1753. BL per se was formed in 1973, as a result of the British Library Act of 1972.<sup>3</sup> The Act was based upon the recommendations of the Dainton Committee<sup>4</sup> (named after its chairman—Sir Frederick Dainton), appointed in 1968 by the Secretary for Education and Science to review the feasibility of bringing the various national library bodies into a unified framework. The British Library Act provided for the amalgamation of four previously independent institutions—the British Museum Library and its semi-autonomous department, the National Reference Library of Science and Invention; the National Central Library; the National Lending Library for Science and Technology; and the British National Bibliography.

Many of these institutions had already worked closely with one another. The oldest by far, the British Museum Library (BML), was established in 1753. From its beginnings it was maintained

by public funds. Begun with the collection of physician Sir Hans Sloane, the library grew steadily during its 200-year history. By 1972, it contained over nine million books, manuscripts, and other items. Originally conceived of as a reference library "for the use of learned and studious men,"<sup>5</sup> the library changed gradually from "a museum of books into an efficient working collection."<sup>5</sup> In 1960, the collections had grown so large that a decision was made to create the National Reference Library of Science and Invention. This new library was intended to bring together the most recent scientific information from the Patent Office and the BML, and make it more accessible to the public. The new library was not officially inaugurated, however, until 1966.<sup>5</sup>

The British National Bibliography (BNB) was created in January, 1950, to provide a central cataloging service for all British publications. Its association with the British Museum gave it ready access to new publications.<sup>5</sup> Like the Library of Congress' printed catalog, *BNB* is a catalog detailing items published in the UK. Unlike the Library of Congress catalog, which contains only selected items, however, the *BNB* contains *all* publications with a British imprint. It is issued weekly, with quarterly and annual cumulations.

The National Central Library (NCL) was formed in 1916 as the Central Library for Students, under the auspices

of the Worker's Education Association. Its national role was recognized in 1931, through its incorporation by Royal Charter as the NCL. At first it was proposed that it should be part of the BML, but the Museum trustees felt it was too much for the British Museum to handle. They were content to be represented on NCL's Board of Trustees. Originally a library concerned with supplying books to adults and students who could not reach a public library, the NCL developed into a national clearing house for interlibrary lending and supply.<sup>5</sup>

The fourth institution, the National Lending Library for Science and Technology, was established at Boston Spa in West Yorkshire in 1962. It replaced a Lending Library Unit of the Department of Scientific and Industrial Research, and drew most of its initial collection from the resources of the Science Museum Library. (The Science Museum Library had no affiliation with the BML.) By 1965, the National Lending Library was handling as many requests as the NCL.<sup>5</sup>

In its 1969 report, the National Libraries Committee (the Dainton Committee) explained that, while "the United Kingdom possesses a remarkable system of libraries...no single one can meet all the demands upon it." While no library can ever meet *all* demands,<sup>6</sup> they felt that a national library could "co-ordinate and reinforce" the other libraries, and thus provide the British public with complete library services. A national system, they felt, would ensure the recording and preservation of at least one copy of all periodicals and books published in the UK, as well as important materials produced elsewhere, and would provide access to these documents.<sup>4</sup>

The Dainton Committee felt that a reference division must be at the center of

such a system. The BML, Britain's largest and most important library, was the logical choice for the nucleus of the new system. The other libraries, to fill the other needs of the national system, were chosen for similar reasons.

As the BL, the four older institutions merged into one newer one with three main divisions: the British Museum and the National Reference Library of Science and Invention became the BL Reference Division; the Central Library and the National Lending Library for Science and Technology became the BL Lending Division; and the BNB developed into the Bibliographic Services Division. The BL receives its funds from the UK government, but enjoys a large degree of autonomy in its operation.

The London parts of the BL currently occupy 17 buildings, most of them in and around central London. The Reference Division is still housed in the British Museum's old facilities in central London. The NCL's collections were moved to Boston Spa in West Yorkshire to join with the National Lending Library for Science and Technology's collections, and the NCL's old facilities in London were taken over by the BL for various purposes, mainly the Bibliographic Services Division. The Copyright Receipt Office was incorporated into this Division. The same building currently houses the offices of the British Library Board, the public authority set up to manage and control the BL. A new building that will house all of the BL in London (except the Newspaper Library, which will remain at Colindale in North London) is currently being planned.

The British Library Board is chaired by Sir Frederick Dainton, who chaired the Dainton Committee. Dainton, a well-known chemist and administrator, was born in 1914 in Sheffield, York-

shire, England. His early interest and training in chemistry led to a professorship of physical chemistry at Leeds University. He was vice-chancellor of Nottingham University from 1965 to 1970, and professor of chemistry at Oxford from 1970 to 1973. He has been a visiting lecturer at several North American universities, including the Massachusetts Institute of Technology. His current offices include the chancellorship of Sheffield University and the chairmanship of the National Radiological Protection Board.<sup>7</sup>

Dainton has served as the president of the Library Association (in 1977) and the Chemical Society (1972-73). He was elected a fellow of the Royal Society in 1957. Throughout his career Dainton has made significant contributions not only as a scientist, but also as a policy-maker. A previous "Dainton Report" of 1968, for example, studied the proportion of students in higher education studying science and technology, and warned against deterring young people from entering science and industry.<sup>8</sup>

Beneath Dainton in the BL hierarchy is the chief executive of the BL, Sir Harry Hookway, who was knighted in 1978 for his work in setting up and directing the BL in its formative years. Hookway's activities throughout his career have been varied: he held several posts in industry from 1941-49; he worked in the Department of Scientific and Industrial Research from 1949-65, and directed the information division of the department from 1964 to 1965. He led the UK delegation to the 1972 meeting of the Council of Europe's Committee on Out of School Education and Cultural Development. He also served as a member of the Central Committee for the study of the feasibility of a world scientific information system (UNISIST), which was sponsored by

UNESCO and the International Council of Scientific Unions. From 1974 to 1976, Hookway served as the president of the Institute of Information Scientists. In 1965, he became the first director of the Office for Scientific and Technical Information (OSTI). Most recently (1971-73), he served as deputy chairman of the British Library Organizing Committee. This last position made him an ideal choice for the post of chief executive. Under Hookway are the directors-general of the three divisions, who are all members of the British Library Board, and the director of the research and development department.<sup>9</sup>

Each division of the British Library operates with a large amount of independence, and its own objectives, yet within the structure of the Library's overall objectives. The divisions work closely with one another. The Reference Division houses the collections that are open to the public, the Lending Division is concerned with interlibrary loan, and the Bibliographic Services Division catalogs all British publications. In addition, the BL has a research and development department, which supports library research. This department incorporated the old OSTI.

The BL's objectives, in keeping with the Dainton Committee's original suggestions, are to create a comprehensive collection of books, manuscripts, periodicals, films, and other recorded matter, both in the sciences and the humanities, and to be a national center for reference.<sup>10</sup> British law requires copies of all material published in the UK to be placed in the BL.

The largest of the BL's divisions, in terms of the size of its collections, space occupied, and employees, is the Reference Division. This Division is directed by Alexander Wilson, Fellow of the Library Association (FLA). Prior to his

appointment as head of the Reference Division, Wilson was the county librarian of Cheshire County. The Reference Division's collections contain about ten million volumes, and the Division consists of four departments: the department of printed books, headed by R.J. Fulford and I.P. Gibb (the Newspaper Library at Colindale is part of this); the department of manuscripts, headed by D.P. Waley; the department of Oriental manuscripts and printed books, headed by G.E. Marrison; and the Science Reference Library, headed by M.W. Hill.

The objective of the Reference Division is to collect all printed British manuscripts and books, in addition to as much of the world's important printed material as possible. In addition, the Reference Division is charged with the responsibility of making its collections available to the public, both in the library and through exhibitions, loans, and catalogs. It is also responsible for the conservation of its materials.<sup>11</sup>

In fulfilling these goals, the Reference Division adds to its collections continuously. In 1978-79, it added about two million items. In addition, the Reference Division produced 15 special exhibitions that year, and published catalogs to accompany five of them. Educational services include a lecture series, tours, and slide programs. The Reference Division is actively concerned with the preservation of its holdings, particularly those made of less conventional materials such as silk, wood, and bone, that are highly subject to decay. In addition to its constant work of rebinding old materials, the Division conducts projects to investigate such problems as the effects of pollution on paper materials, with the object of saving its own stock. The new building will ease the situation immensely, as the facility will

allow complete environmental control. A catalog of the Reference Division's holdings, the *General Catalogue of Printed Books*, has been published, and is updated periodically with supplements. Records of material acquired by the library since 1975 are also available on microfilm.<sup>12</sup>

The Bibliographic Services Division, directed by Peter Lewis, FLA, formerly university librarian at the University of Sussex, constitutes the second of the BL's divisions. It has the responsibility of recording, in usable form, all publications in the UK. In other words, the Bibliographic Services Division produces a British national bibliographic record. It also has the responsibility of making its records available to other libraries and organizations for shared cataloging, information retrieval, document request, and book ordering. Much of its work is now facilitated by computer, and its records are available to libraries through the United Kingdom Machine Readable Records (UK MARC) system. Begun in 1967, UK MARC is closely related to, and was developed alongside, the US Library of Congress MARC system.<sup>1,2</sup>

The Bibliographic Services Division records are also available on the Library's national system, British Library Automated Information Service (BLAISE). Established in 1977, BLAISE has already become one of the largest commercial automated information services. In 1978/79, BLAISE had 429 subscribers, of which 88 were foreign organizations. BLAISE's data-base is composed of a number of files—MEDLARS, from the National Library of Medicine in Washington, DC; UK MARC; and LC MARC files. The BL plans to add more files in the future. Items are indexed on BLAISE by Preserved Context Indexing System

(PRECIS). Many items are also indexed in the Bibliographic Services Division's printed work, the *BNB—British National Bibliography*. The Bibliographic Services Division also compiles and publishes *Cataloguing in Publication*, records of books currently in production; *The British Catalogue of Music*; *The British Education Index*; *Research in British Universities, Polytechnics and Colleges*; and the *British Catalogue of Audio-Visual Materials*.

The last division of the BL, the Lending Division, is the only "national facility in the world dedicated to the supply of loans and photocopies to other libraries."<sup>12,13</sup> (There has been considerable controversy in the US as to the need for a comparable institution.<sup>14,15</sup> The pros and cons warrant a detailed and separate discussion in the future.)

When the BL was formed in 1973, Donald J. Urquhart, then director of the National Lending Library for Science and Technology, was chosen to head the Lending Division. Despite his denial that he is a librarian, Urquhart has worked for most of his career in libraries. He is a fellow of the British Library Association as well, and served as its president in 1972. Urquhart joined the staff of the Science Museum Library in 1938, and in 1956 was appointed to develop a national lending library. The National Lending Library was born shortly thereafter, and moved to Boston Spa in 1962. I believe we first met on my first trip to England in 1957. Urquhart based the National Lending Library on scientific, rather than library principles (for example, it had no conventional card catalog, and many of its holdings were not recorded at all). In spite of initial controversy and head-shaking in the library community, the Library flourished under Urquhart's competent direc-



Maurice Line

tion. When it was incorporated into the BL in 1973, and the NCL moved its collections to Boston Spa to join it, Urquhart was the natural choice for the Lending Division's first director-general.<sup>16</sup> A *Festschrift* compiled for Urquhart in 1975 reflects the high esteem he achieved in that position.<sup>17</sup>

Urquhart retired a year later at the age of 65, and was succeeded in his post by Line. Though I have mentioned the other officials at the BL, I have not had much personal acquaintance with them. On the other hand, I've met and corresponded with Line for some time. The director-general of the Lending Division is as unique as his division. Born in 1928, Line has devoted 30 years to library service. As a librarian he has been particularly interested in making libraries oriented to users, and in information and information retrieval. Throughout his career, Line has conducted many studies, and instituted programs aimed at making the library more accessible—such as re-designing catalogs to make them more useful. His concerns are evident in the workings of the Lending Division. That is why I think of him as an entrepreneur, even though he works for a tax-supported institution.

Line has published five books, numerous articles (over 140), and research reports (over 35). While many deal with libraries and library science, Line has not confined himself to these areas. His first book, for example, was a bibliography of Russian literature in English translation.<sup>18</sup> Two of his books report the results of library surveys,<sup>19,20</sup> one deals with national libraries,<sup>21</sup> and the fifth with libraries and information.<sup>17</sup>

He has also written on several subjects that particularly interest me—citation analysis, the problems of music documentation, and the concept of “obsolescence” in scientific literature. Much of his research has been concerned with information problems in the social sciences, and has resulted in a number of reports,<sup>22-24</sup> One of his reports, for example, describes an analysis of 60,000 citations drawn from books and journals.<sup>24</sup> This social science research program has been widely cited and highly regarded.<sup>25</sup> Line also serves on the Editorial Advisory Board of the *Social Sciences Citation Index*<sup>®</sup> (*SSCI*<sup>™</sup>). While he is an ardent supporter of citation indexing for information retrieval, he is one of its severest critics in its application to library management problems. He would prefer to see journal citation analysis combined with cost and other criteria before it is indiscriminately used in acquisitions or disposals. A selected bibliography of his work appears in Figure 1.

Line has worked in many libraries. He began his career in 1950 as a temporary trainee at the Bodleian Library, Oxford. From 1951 to 1953, he was a library assistant at Glasgow University Library. In 1954 he took the position of sub-librarian at Southampton University Library, where he worked until 1965. During this time he carried out surveys of students' attitudes to the library. The

articles which reported the results have been highly cited. He also completed a comprehensive user study of college of education libraries, and initiated courses in the use of the literature of science and social sciences.

In 1965 Line went to the University of Newcastle-upon-Tyne, where he served as deputy librarian until 1968. He continued to do research at Newcastle and at the University of Bath, where he was librarian from 1968 to 1971. Much of this work resulted in new programs, articles, and reports. During his last two years at Bath he carried out, under contract with the UK government, a study of the potential application of automation to the BL.<sup>26</sup> In 1971 he became a member of the British Library Organizing Committee, the body which carried out the preliminary planning of the BL. From 1971 to 1973 he served as librarian of the National Central Library, and went with it when it became a part of the BL in 1973. He became director-general of the Lending Division in July 1974.

In addition to his impressive library credentials, Maurice is a fellow of various organizations, among them the Library Association, the Institute of Information Scientists, the Royal Society of Arts, and the British Institute of Management. He continues his academic associations as well; he is an external professor of librarianship and information science (since 1977) at Sheffield University and recently received an honorary degree of doctor of letters from Heriot-Watt University, Edinburgh. He has served in different positions in several organizations: Aslib, the British Library Board, and the Library Association; he currently directs the International Federation of Library Associations' (IFLA) Office for International Lending and IFLA's Universal

## Selected Publications by Maurice Line

### BOOKS

- Line M.** *Library surveys: an introduction to their use, planning, procedure, and presentation.* London: Clive Bingley, 1967. 146 p.
- Line M & Line J,** eds. *National libraries.* London: Aslib, 1979. 328 p.

### ARTICLES

- Line M.** Student attitudes to the university library: a survey at Southampton University. *J. Doc.* 19:100-17, 1963.
- Line M & Tidmarsh M.** Student attitudes to the university library: a second survey at Southampton University. *J. Doc.* 22:123-35, 1966.
- Line M & Grose M W.** On the construction and care of white elephants: some fundamental questions concerning the catalogue. *Lib. Assoc. Rec.* 70:2-5, 1968; reprinted in *ALA Bull.* 62:741-7, 1970.
- Line M.** Information services in university libraries. *J. Libr.* 1:211-24, 1969.
- ..... The 'half-life' of periodical literature: apparent and real obsolescence. *J. Doc.* 26:46-52, 1970.
- ..... On the design of information systems for human beings. *Aslib Proc.* 22:320-35, 1970.
- ..... The information uses and needs of social scientists: an overview of INFROSS. *Aslib Proc.* 23:412-34, 1971.
- ..... The developing national library network in Great Britain. *Lib. Res. Tech. Serv.* 16:61-73, 1972.
- ..... The ability of a university library to provide books wanted by researchers. *J. Libr.* 5:37-51, 1973.
- Line M & Brittain J M.** Sources of citations and references for analysis purposes: a comparative assessment. *J. Doc.* 29:72-80, 1973.
- Line M & Evans S M.** A personalized service to social science researchers: the experimental information service in the social sciences at the University of Bath. *J. Libr.* 5:214-32, 1973.
- Line M.** Does physics literature obsolesce? A study of variation of citation frequency with time for individual journal articles in physics. *BLL Rev.* 2:84-91, 1974.
- Line M & Sandison A.** 'Obsolescence' and changes in the use of literature with time. *J. Doc.* 30:283-350, 1974.
- Line M & Carter B.** Changes in the use of sociological articles with time: a comparison of diachronous and synchronous data. *BLL Rev.* 2:125-30, 1974.
- Line M.** Demystification in librarianship and information science. (Barr K & Line M, eds.) *Essays on information and libraries. Festschrift for Donald Urquhart.* London: Clive Bingley, 1975. p. 105-16.
- Line M & Sandison A.** Practical interpretation of citation and library use studies. *Coll. Res. Libr.* 36:393-6, 1975.
- Line M & Wood D N.** The effect of a large-scale photocopying service on journal sales. *J. Doc.* 31:234-45, 1975.
- Line M & Williams B.** Alternatives to conventional publication and their implications for libraries. *Aslib Proc.* 28:109-15, 1976.
- Line M & Roberts S.** The size, growth and composition of social science literature. *Int. Soc. Sci. J.* 28:122-59, 1976.
- Line M.** Universal availability of publications. *UNESCO Bull. Libr.* 31:142-51, 1977.
- ..... Principles of international lending and photocopying. *Int. Libr. Rev.* 9:369-79, 1977.
- Line M & Vickers S.** Principles of national interlending systems. *Interlending Rev.* 6:50-3, 1978.
- Line M.** Policy, management and communications at the British Library Lending Division. *Interlending Rev.* 6:118-24, 1978.
- ..... National interlending systems: existing systems and possible models. *Interlending Rev.* 7:42-6, 1979.
- ..... Document supply: an essential support to science and technology. *J. Sci. Ind. Res.* 38:53-7, 1979.
- ..... The psychopathology of uneconomics. *Libr. Trends* 28:107-19, 1979.
- ..... The influence of the type of sources used on the results of citation analysis. *J. Doc.* 35:265-84, 1979.
- ..... The role of national libraries: a reassessment. *Libri* 30:1-16, 1980.
- ..... Storage and deposit libraries. (Kent A & Lancour H, eds.) *Encyclopedia of library and information science.* New York: Dekker, 1980. Vol. 29.
- ..... Secondary services in the social sciences: the need for improvement and the role of libraries. *Behav. Soc. Sci. Libr.* 1:1980 (in press).
- ..... The structure of social science literature as shown by a large-scale citation analysis. *Soc. Sci. Inform. Stud.* 1:1980 (in press).

Availability of Publications (UAP) program.

Under Line's direction, the Lending Division has grown rapidly. In the library year 1973-74 (the BL counts its year from April to March), the Lending Division handled 1,912,000 requests for documents.<sup>27</sup> By 1979-80, the number of requests had grown to 2,919,000.<sup>13</sup> The Division has a considerable stock of materials—in 1979-80, about four million volumes of books and periodicals, plus 2.5 million documents in microform—which it lends to libraries all over the world.<sup>13</sup> In addition, the Lending Division serves as an interlibrary clearing center, directing requests it can't fill to libraries that can. The Division supplies about 83 percent of its requests from its own stock. It lends original copies, and, as often as possible, supplies photocopies. This has not been popular among publishers of copyrighted works, and I suspect one day the Lending Division will have to come to terms with them. A significant number of the requests it receives are directly traceable to *Current Contents*.<sup>8</sup>

The Lending Division bases its acquisitions program on two main criteria. First, it attempts to collect the materials that will be requested, in the quantities needed. Past requests serve as a fairly accurate guide for journal acquisitions. Second, the Division tries to acquire materials that are not likely to be available elsewhere, such as dissertations and less common monographs. The Lending Division collects books, periodicals, reports, government publications, dissertations, conference proceedings, and music, both in English and foreign languages.

The Lending Division receives requests for its materials from many places, including university libraries, industry, government, and public libraries. In 1979-1980, 19 percent of the

requests came from abroad. Material was sent to 120 countries, although demand tended to be concentrated within a few countries: the US, France, Japan, Belgium, and the Scandinavian countries together accounted for half the requests. The majority of the requests are for science and technology materials, but the library also fills social science and humanities requests. The Lending Division also provides translation services. The Division charges for its services, aiming to recover all its direct transaction costs on loans and photocopies, and full costs on translations.<sup>27</sup>

Although much smaller than the divisions, the research and development department of the BL is nonetheless important. Directed by J.C. Gray, whom I have known since his early days at OSTI, this department supports research designed to contribute to policy-making on library and information problems. Programs sponsored by this department have dealt with comparisons of various library operations, cataloging studies, and studies on patterns of research in the humanities.<sup>12</sup>

As should be clear from this brief review, each division of the BL is an impressive organization; together they are a unique institution. In the short time since the BL was created, it has proved itself to be an outstanding national, and increasingly international, library. Notes Line, "Few national libraries can claim anything approaching its size or range of activities, and it is safe to say that none combines both size and range to the same degree."<sup>28</sup> One expects that it can only continue to grow in importance.

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*My thanks to Susan Fell Evans and Edward M. Sweeney for their help in the preparation of this essay.* ©1980 ISI

## REFERENCES

1. **Garfield E.** The Library of Congress. Part I. Looking back. *Current Contents* (9):5-13, 26 February 1979.
2. -----, The Library of Congress. Part II. The librarian. *Current Contents* (10):5-11, 5 March 1979.
3. **British Library Act 1972.** London: Her Majesty's Stationery Office, 1972. 9 p.
4. **UK Department of Education and Science.** *Report of the National Libraries Committee.* London: Her Majesty's Stationery Office, 1969. 2 vols.
5. **Kelly T.** *A history of public libraries in Great Britain, 1845-1975.* London: Library Association, 1977. 582 p.
6. **Weinstock M.** Bradford's law. (Letter to the editor.) *Nature* 233:434, 1971.
7. **Who's Who 1978-1979.** Sir Frederick Sydney Dainton. New York: St. Martin's, 1978. p. 592.
8. Sir Frederick Dainton, scholar and statesman of science. *Lib. Assoc. Rec.* 79:3, 1977.
9. British Library head chosen. *Lib. Assoc. Rec. (Liaison Section)* 75:9, February 1973.
10. **Hookway H.** The British Library: introduction. (Saunders W L, ed.) *British librarianship today.* London: Library Association, 1976. p. 37-44.
11. **Richnell D.** The British Library Reference Division: the Division as a whole. (Saunders W L, ed.) *British librarianship today.* London: Library Association, 1976. p. 45-57.
12. *The British Library: sixth annual report, 1978-79.* London: British Library Board, 1979. 72 p.
13. The British Library Lending Division in 1979-80. *Interlending Rev.* 8(3):79-88, July 1980.
14. **Trezza A F.** Toward a national periodicals system. *Special Lib.* 68:7-12, 1977.
15. **US Task Force on a National Periodicals System.** *Effective access to the periodical literature: a national program.* Washington, DC: National Commission on Libraries and Information Science, 1977. 92 p.
16. Honorary degree presentation addresses. (Barr K & Line M, eds.) *Essays on information and libraries. Festschrift for Donald Urquhart.* Hamdon, CT: Linnet Books, 1975. p. 8-16.
17. **Barr K & Line M,** eds. *Essays on information and libraries. Festschrift for Donald Urquhart.* Hamdon, CT: Linnet Books, 1975. 211 p.
18. **Line M B.** *A bibliography of Russian literature in English translation to 1900 (excluding periodicals).* London: Library Association, 1963. 74 p.
19. -----, *The college student and the library: report of a survey in May 1964 of the use of libraries and books in five teacher training colleges.* Southampton: University of Southampton Institute of Education, 1965. 64 p.
20. -----, *Library surveys: an introduction to their use, planning, procedure, and presentation.* London: Clive Bingley, 1967. 146 p.
21. **Line M & Line J,** eds. *National libraries.* London: Aslib, 1979. 328 p.
22. **Bath University Library.** Investigation into information requirements of the social sciences. *Research reports 1-5.* Bath: University Library, 1971. 5 vols.
23. -----, Design of information systems in the social sciences. *Research reports A 1-5, B 1-7.* Bath: University Library, 1973-1980. 12 vols.
24. -----, Design of information systems in the social sciences. *Research report A3: the structure of social science literature as shown by citations.* Bath: University Library, 1979. 156 p.
25. **Morrison P D.** Since Bath: a review of published information transfer studies in the social and behavioral sciences, 1974 through 1978. *Behav. Soc. Sci. Libr.* 1(1):5-22, Fall 1979.
26. **UK Department of Education and Science.** *The scope for automatic data processing in the British Library.* London: Her Majesty's Stationery Office, 1972. 2 vols.
27. **Line M B.** The British Library Lending Division. *J. Inform. Sci.* 2(3-4):1980 (in press).
28. -----, Personal communication, 9 October 1980.