



## Other Federal Activities

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COOPERATIVE AND centralized cataloging is a goal still to be reached by the Federal library community. However, in addition to what is going on at the Library of Congress, other Federal agencies are making efforts to reach this goal. This paper is devoted to projects and activities which do or may affect cooperative and centralized cataloging.

The major Federal libraries are seeking ways to make their catalogs available to others in order to make their resources known to all who have need of them. Since they are highly specialized libraries, their resources are often unique and their cataloging, particularly from a subject viewpoint, is more specific than that of the Library of Congress. In effect, these catalogs, which in many cases include complete cataloging information, can act as a source for centralized cataloging data.

The National Agricultural Library and the National Library of Medicine took steps early in 1966, by publishing their current catalogs in book form, to supply to biological, agricultural, medical, and other scientific libraries more specialized catalogs than those provided by the Library of Congress.

*The National Agricultural Library Catalog*,<sup>1</sup> issued monthly beginning with the January 1966 issue, displays newly cataloged titles under broad subject categories as a current awareness tool for scientists, and also displays them arranged alphabetically to provide fast location of a particular item. Complete cataloging information is included in both sections to aid the scientist who maintains a personal catalog and to help librarians add titles more quickly to their collections. The third section of the catalog is an alphabetically arranged list of translated articles added to the collection during the previous

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month. Each quarter the alphabetized entries in the second section are cumulated.

This catalog is designed to keep up to date the *Dictionary Catalog of the National Agricultural Library, 1862-1965*,<sup>2</sup> scheduled for publication in 1967. It includes the contents of the Library's retrospective card catalog, over 1,500,000 cards, and is the first comprehensive catalog of the National Agricultural Library to be published. Major cumulations of the *National Agricultural Library Catalog* are planned as permanent supplements to the *Dictionary Catalog*.

The *National Library of Medicine Current Catalog*<sup>3</sup> began publication on a bi-weekly basis with the January 14, 1966, issue to provide "a useful acquisitions tool"<sup>4</sup> and to make available "timely and authoritative cataloging information for those librarians who use the NLM cataloging system."<sup>4</sup> This catalog is arranged alphabetically by entry, including added entries. Each issue includes a directory of all publishers represented in the issue and a list of volumes which have been added to previously cataloged monographic sets. Price information is included in each citation when readily available. The bi-weekly issues include only titles published in the last three years. They are cumulated quarterly from the beginning of the year and the cumulations include all newly cataloged titles regardless of date of publication. Thus, the last quarterly of each year is an annual volume. Subject approach was available only through the quarterlies during 1966, but beginning with the 1967 issues, subject approach is given in each bi-weekly issue.

The *NLM Current Catalog* continues the *National Library of Medicine Catalog*<sup>5</sup> which had been initiated in 1948 as a supplement to the *Library of Congress Catalog*. The *National Library of Medicine Catalog* was closed in December, 1965, and the final cumulation, covering 1960-65,<sup>6</sup> was published early in 1967.

The *Subject Catalog*<sup>7</sup> of the Department of Health, Education and Welfare Library was issued in 1966, and its *Author/Title Catalog*<sup>8</sup> is in the process of publication. Scheduled to appear in 1968 is the *Dictionary Catalog*<sup>9</sup> of the Department of the Interior Library; supplements approximately every two years are planned. The Bureau of the Census is presently considering how to have its catalog published. The catalog of the Geological Survey Library appeared in 1966.<sup>10</sup>

The three national libraries, as well as other Federal libraries, have been interested for many years in automated information storage and retrieval systems. The National Library of Medicine took the lead

among Federal libraries in systems design and implementation for this purpose. The Atomic Energy Commission, the Department of Defense, and the National Aeronautics and Space Administration have been putting cataloging information about technical reports into their automated systems for several years, but their methods have not been suitable for use in typical library situations.

At the National Library of Medicine an Interim Catalog Module, which became operational in January 1966, was developed by MEDLARS, the Medical Literature Analysis and Retrieval System. Computer programs of the MEDLARS input module were modified to include cataloging data. Outputs produced by the Interim Catalog Module are prepared by GRACE, the Photon-900 computer phototypesetter, for reproduction in multiple copies by other means. The Interim Catalog Module produces the Library's catalog cards and camera copy for the *Current Catalog*. Weiss and Wiggins have described the operations in their article, "Computer-Aided Centralized Cataloging at the National Library of Medicine."<sup>11</sup> As a result of a library automation workshop held at the National Library of Medicine in November 1966, study is being given to a possible experiment to send machine readable tapes of the *Current Catalog* data to selected medical libraries capable of incorporating this information into their own machine systems for production of book or card catalogs.

The Library of Congress, of course, has been concentrating on its MARC (Machine Readable Catalog) experiment. Its tapes and programs are being studied carefully; these, as well as the programs of the National Library of Medicine, will no doubt influence the development of automated systems for other libraries.

It is the desire of the three national libraries that their total systems be compatible, or at least convertible. The Auerbach Corporation is making a new study of automation activities of the National Library of Medicine. The National Agricultural Library was studied during 1962 and 1963; a report<sup>12</sup> was issued which was only partially implemented, and now a new study is to be undertaken. In November, 1966, a Request for Proposal was issued for analysis and design of an overall system for the National Agricultural Library's activities. One of the basic elements in the first phase concerns "capturing" of cataloging information for the preparation of catalog cards and book catalogs. Following publication of the King report,<sup>13</sup> the Information Systems Office of the Library of Congress was established and began working on programs for that Library. Each of these libraries has

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responsibility for supplying information, including cataloging data, to other libraries. Compatibility or convertibility among the systems is imperative in order to evolve a meaningful national document handling system for information storage and retrieval purposes.

One of the major forces for compatibility in the Federal establishment is the Committee on Scientific and Technical Information (COSATI) of the Federal Council for Science and Technology. Little has appeared in the open literature about this committee, established in 1962. The continuing functions of COSATI are to: "identify problems and requirements; review adequacy and scope of present programs; devise new programs; recommend standards, methodology, and systems; identify and recommend agency assignments; review and make recommendations concerning resources; recommend management policies; and generally facilitate interagency coordination at management levels of the executive agencies concerned with scientific and technical information."<sup>14</sup>

COSATI includes representatives from the major departments and observers from other Federal agencies including the Bureau of the Budget. Liaison with the Library of Congress is maintained. As necessary, the Committee is assisted by task groups and panels of personnel selected from the Federal government and from the private sector. The Executive Secretary of the COSATI Panel on Information Sciences Technology has reported that: "Most COSATI members are directors of scientific and technical information in their parent agencies or are directors of national libraries dealing in scientific or technical information. Most panel members are middle management experts in the various information system specialties. Further work is done by *ad hoc* subpanels at the operational agency level."<sup>15</sup>

From the viewpoint of cooperative and centralized cataloging, the work of the COSATI Panel on Operational Techniques and Systems is of major interest, since it includes subpanels working on Classification and Indexing and on Standardization of Descriptive Cataloging. The Panel is also concerned with such projects as development of a corporate author list, conventions for thesaurus construction, and alphabetization rules for machine sorting.

Resulting from the work of the Panel on Operational Techniques and Systems and its subpanel on Standardization of Descriptive Cataloging, the revised *Standard for Descriptive Cataloging of Government Scientific and Technical Reports* was published in October, 1966.<sup>16</sup> In commenting on this publication, Eleanor Aronson wrote:

This represents a major agreement among the four agencies (AEC [the Atomic Energy Commission], CFSTI [the Clearinghouse for Federal Scientific and Technical Information], DDC [the Defense Documentation Center], and NASA [the National Aeronautics and Space Administration]) cataloging technical reports. From now on, the cataloging record of one agency will duplicate or at least approximate the record of another agency for the same report . . . ; we are now using each other's intellectual and professional work with only minor changes, and may soon reach the point where no revisions will be necessary. . . . Although the revised Standard differs from ALA practice in some instances, it comes closer than any such previous attempts, and we believe that many parts of it will prove helpful even to librarians who do not wish to adopt it entirely.<sup>17</sup>

Use of the revised standard "will facilitate the exchange of bibliographic information between agencies, and simplify communications between elements of national networks in the future."<sup>18</sup> The Panel on Operational Techniques and Systems is maintaining close liaison with the Library of Congress MARC project to determine which cataloging elements of technical reports are needed for magnetic tape storage.

Applications of the revised *Standard for Descriptive Cataloging of Government Scientific and Technical Reports* and the results of cooperative cataloging of technical reports can be seen in the latest issues of such publications as *Scientific and Technical Aerospace Reports* issued by NASA, *Nuclear Science Abstracts* published by the AEC, and *U.S. Government Research & Development Reports* and *Government-Wide Index to Federal Research and Development Reports* published by the CFSTI.

Since corporate author entries present a problem in cataloging technical reports, just as they do in cataloging the open literature, "plans for producing and publishing a combined Corporate Author List [revised and updated by the rules in the revised *Standard for Descriptive Cataloging of Government Scientific and Technical Reports*] are being worked out. If these plans are approved . . . it will take at least a year to convert the present list to conform to the new Standard, and to edit and publish the List."<sup>18</sup> It is hoped that the list "would be prepared from a computer record that would permit constant updating and provide flexibility for preparation of other types of information."<sup>17</sup> Should such a list prove feasible, it might well lead the way toward development of a world-wide corporate entry list

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which would give libraries the means to convert entries established under the American Library Association rules to the form of entry as called for in the new Anglo-American rules, and vice versa. With such a capability, both cooperative and centralized cataloging and communication between systems could become more effective.

Another area of major concern to COSATI's Panel on Operational Techniques and Systems is that of vocabulary development. In December 1964, the first edition of the *COSATI Subject Category List*<sup>19</sup> was published in order to provide a uniform subject arrangement for announcing and distributing scientific and technical reports issued or sponsored by executive agencies of the Federal government, and for management reporting purposes. The Foreword to that list states: "The Task Group will now devote its efforts to the establishment of rules or guidelines for the development of vocabulary terms, and to develop a common vocabulary or thesaurus for indexing."<sup>20</sup> The Subpanel on Classification and Indexing of the Panel on Operational Techniques and Systems developed guidelines for thesaurus construction which were approved by the Panel. If these guidelines are approved by COSATI, they will be published. The subpanel plans to rework the *COSATI Subject Category List* to improve its index, to make it more inclusive, and to clarify its scope notes. Attention will be given in revising the list to major continuing efforts to develop specialized vocabularies, both inside and outside the Federal government.<sup>21</sup> Efforts toward building a universal vocabulary have been discontinued.

Individual documents announced in *Technical Abstracts Bulletin*, issued by the Defense Documentation Center, are identified by the fields and groups of the COSATI list, and classified documents in DDC's collection have been converted to the same fields and groups. Sherrod reported that "In order to interface with the national information system being developed under the aegis of COSATI, the [Atomic Energy] Commission has designed its cataloging to be compatible with the COSATI standard for descriptive cataloging. . . . In addition, subject categories in conformity with the *COSATI Subject Category List* are assigned. A standardized tape format in which this data can be stored and distributed has been developed and is at present being tested."<sup>22</sup> Other heavy users of the *COSATI Subject Category List* include CFSTI and NASA.

Further activities of the COSATI panels and subpanels of interest to librarians concerned with cooperative and centralized cataloging

include a study of the efficiency of various file structuring systems and query languages, and an experiment to determine the effectiveness and utility of abstract versus whole document dissemination. These studies are being undertaken by two subpanels of the COSATI Panel on Information Sciences Technology. Finally, in respect to COSATI, the work of the Task Group on National Systems for Scientific and Technical Information should be watched carefully by catalog librarians, for its recommendations to the Chairman of the Federal Council for Science and Technology included the following:

The Office of Science and Technology, in collaboration with the Bureau of the Budget, Federal departments, agencies, and other organizations involved in science and technology, should undertake the following [task] at once:

. . . To develop a comprehensive, coordinated program for ensuring the acquiring, cataloging, and announcing of the significant worldwide scientific and technical literature.<sup>23</sup>

The evidence of interest, at such a high Federal level, in coordination of cataloging, even though at present only in the fields of science and technology, speaks well for the likelihood of such coordination in the future.

Many agencies of the Federal government are working to develop vocabularies in specialized subject fields. Since late 1964, the National Agricultural Library has been developing an authoritative Agricultural/Biological vocabulary "to provide subject approaches for both published literature and unpublished research reports, by manual or machine methods."<sup>24</sup> The vocabulary will be in two parts with the terms arranged alphabetically in one part, and within subject groups under major subject categories in the other part. The category and group structure is patterned after the *COSATI Subject Category List*.<sup>19</sup> The conventions being followed in building the vocabulary are similar to those developed by the Engineers Joint Council and Project LEX (see below). The first edition of this vocabulary should be available in published form during the summer of 1967. In a later phase, specialized directories such as one for taxonomic names will be developed. The total work will replace the Preliminary Edition of the library's *Subject Heading List*, which was published in 1963. The terms in the vocabulary will be used throughout the Department of Agriculture for all information storage and retrieval systems, as well as by the Library for cataloging and indexing. In the beginning stage, librarians from four of the land-grant university libraries assisted in

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combining the basic terms from the *Subject Heading List* and from the last five years' subject indices to the *Bibliography of Agriculture*. Later, Department scientists reviewed the terms within the subject categories of their specialties to insure that the terminology would be suitable for their use.

Late in 1965, work began in the Office of Naval Research on a special project, named Project LEX, to prepare an authoritative, standard technical thesaurus for the Department of Defense. Project LEX and the Engineers Joint Council agreed on common rules for thesaurus building.<sup>25</sup> In reporting on progress, the Director of Project LEX stated: "Some 350 separate vocabularies, thesauri, glossaries, dictionaries, and word lists were accumulated . . . and merged by computer into a common data bank. . . . When duplications were eliminated, 125,000 separate terms remained. These terms, along with all usage data, such as frequency, generic relationships, scope notes, and cross indexes, provide the raw data. . . ." <sup>26</sup> Over three hundred experts representing various subject disciplines and skills participated in seventeen working sessions held from April through October, 1966, to help develop a controlled technical terminology. Following review and editing by the project staff, the work will be published and should be available in the summer of 1967.

*Medical Subject Headings* (MeSH), issued by the National Library of Medicine, has been used for several years as the authoritative subject heading list by the biomedical community. In late 1965, even though revised several times, it was still not wholly satisfactory to that community, and outside assistance in developing the terminology was requested. Individuals, as well as professional and scientific societies, made helpful suggestions. It is now planned to provide an expanded MeSH as part of the plan for developing an improved computer system for MEDLARS. There will be a greatly enlarged entry vocabulary, with more freedom of concept identification. The syndetic structure will be improved for more efficient retrieval of relevant material, if possible, within the next three years.<sup>27</sup> The National Agricultural Library is cooperating with the National Library of Medicine in the field of Veterinary Medicine to insure compatibility, if not complete uniformity, for the terminology in this field. A joint committee of government and non-government veterinarians is working with the staff members of both libraries to produce the desired end product.

Many other government-prepared specialized vocabularies are un-



der way or have recently been completed. For the field of education the Educational Research Information Center (ERIC) of the Office of Education is working on a vocabulary which is being built on the Engineers Joint Council style of display and the Project LEX manual. The Department of the Interior is developing the *Thesaurus of Outdoor Recreation Terms*, which is similarly structured. This thesaurus will be used by the Department and the Canadian Department of National Resources and Northern Affairs to prepare an index of outdoor recreation literature to which both Departments will contribute. From this joint venture a standard terminology should evolve.<sup>28</sup> A *Thesaurus of Sport Fish and Wildlife Descriptors* is also under way as a cooperative project of the Department of the Interior Library and the Denver Public Library's Conservation Library Center. Its format is similar to that developed by the Engineers Joint Council, and it is planned for electronic data processing.<sup>28</sup>

The Atomic Energy Commission has developed a standard vocabulary for nuclear information.<sup>29</sup> Since it must interface with an international nuclear information system, for which decentralized cataloging input for foreign materials is anticipated, a common indexing vocabulary developed by the European Atomic Energy Community is being used also.<sup>30, 22</sup> The National Aeronautics and Space Administration is hard at work developing a technical thesaurus.

The trend toward vocabulary development in specialized subject fields is gaining momentum daily. It is much too early to say what influence the newly developed specialized vocabularies will have on the Library of Congress subject headings or on libraries and documentation centers in general. However, it is not too early to hope that some means can be devised by the Library of Congress to show on its printed catalog cards the specialized subject headings from authoritative vocabularies for the use of specialized libraries, in addition to its own subject headings for the use of general libraries.

It would be difficult to overstate the increasingly important role played by Federal legislation in the development of libraries. One has only to refer to the February, 1966, issue of the *ALA Bulletin* on "Federal Library Legislation, Programs, and Services," to gain insight into the myriad of opportunities for Federal financial aid to improve libraries and their services. Brief mention should be made of some of the areas of most interest to catalog librarians.

The potential impact of the Higher Education Act of 1965, Title II, Part C, under which the Library of Congress was given authority

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for "providing cataloging information . . . promptly . . . and distributing bibliographic information by printing catalog cards and by other means,"<sup>31</sup> will become more and more apparent as the Library of Congress succeeds in developing its shared cataloging and acquisitions programs. Its implications for the technical services of libraries have been described by Helen Welch.<sup>32</sup> In addition to the ways in which university libraries cooperate with the Library of Congress in this program, the National Library of Medicine and the National Agricultural Library are cooperating in a unique way. Each of these libraries has national responsibility to acquire all substantive materials published in its research fields. Both supply to the Library of Congress a card for each title cataloged, and the Library of Congress borrows those titles needed for its Title II cataloging program. Under this procedure, major duplication of resources is avoided and cataloging under the Title II program is speeded up for the libraries of the nation.

Guidelines for implementation of the Higher Education Act of 1965, had not been issued by the Office of Education at the time this article was written. However, it was the opinion of specialists in the USOE Library Services Branch that catalog tools in any form from conventional cards to machine-readable tapes, including books of cataloging rules as well as other tools for catalogers, could be purchased under Title II, Part A of the Act, and also under the new Title III of the Library Services and Construction Act.<sup>33</sup>

Title II, Part B of the Higher Education Act of 1965, provides for library training and research for institutions of higher education. Research, in the meaning of the Act, includes "the development of new techniques, systems, and equipment for processing, storing, and distributing information."<sup>31</sup>

Further impetus has been given to cooperative and centralized cataloging by the new Title III, "Interlibrary Cooperation," of the Library Services and Construction Act, which authorizes funds to make "payments to States which have submitted and had approved by the Commissioner [of Education] State plans for establishing and maintaining local, regional, State, or interstate cooperative networks of libraries,"<sup>34</sup> Titles II and III of the Elementary and Secondary Education Act of 1965, are providing funds for cataloging, processing, book catalogs and mechanization of library processes for school libraries. Centralized cataloging for rural and public libraries has been receiving aid

for many years as a result of earlier versions of the Library Services and Construction Act.

The National Science Foundation, through its Office of Science Information Service (OSIS) is another source of funds for improvement of information activities. A member of the OSIS staff has pointed out; "By awarding grants and contracts to qualified organizations, OSIS supports science research and development projects relating to two goals: (1) major improvement of local science libraries to meet local science information needs, and (2) design of optimal library system components within the framework of national programs in science information."<sup>35</sup> Grants have been made to such projects as Swanson's requirements study for future catalogs; the Rutgers University seminars on systems for the organization of information; the University of Chicago's development of an integrated, computer-based bibliographical data system for a large university library; and the design, development, and evaluation of an unconventional library catalog by the Massachusetts Institute of Technology. Grants and awards are reported annually<sup>36</sup> and currently<sup>37</sup> in publications of the National Science Foundation. Project reports are published in various journals or are available from the Clearinghouse for Federal Scientific and Technical Information after announcement in its *U.S. Government Research & Development Reports*.

It will be inexcusable if with such encouragement and financial aid from the Federal government, libraries do not take advantage of the opportunities to develop cooperative and centralized cataloging, and to conduct fundamental research into methods and machinery to catalog materials efficiently and in whatever depth is necessary.

A newer organization, not Federally financed, although its membership is composed of Federal librarians, is the Federal Library Committee. Established in 1965, with the blessing of the Bureau of the Budget, and funded for three years by a grant to the Library of Congress from the Council on Library Resources, Inc., this committee may have a strong influence on cataloging in Federal libraries and eventually on centralized cataloging.

It has six task forces engaged in investigations, as it is charged with considering policies and problems relating to Federal library programs and resources, determining priorities among library issues requiring attention, examining the organization and policies for acquiring, preserving, and making information available, studying the need for and potential of technological innovation in library practices,

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and studying library budgeting and staffing problems. Westrate, of the Bureau of the Budget, stated: "The Committee will seek to develop recommendations for solving the problems it identifies. The Bureau of the Budget intends to express its interest whenever necessary to provide added support for these recommendations. Also, when it appears desirable, the work of the committee will be brought to the attention of the Executive Officers' Group, composed of Federal officials at the subcabinet level."<sup>38</sup>

The committee's executive secretary, in response to a query about potential influence on cooperative and centralized cataloging, wrote:

Cataloging is certainly one of the operations of concern to the Federal Library Committee. Its concern, however, is more with cataloging policy than with cataloging technology. It should be interested in seeing that there is more widespread use of cooperative and centralized cataloging, that the centralized cataloging is adaptable to varied needs and is available when needed, that cataloging practices throughout the Government are compatible and really reflect holdings. The Committee's greatest impact on Federal library cataloging practice will probably result from its function as a channel of communication.<sup>39</sup>

The *FLC Newsletter*<sup>40</sup> serves as the communication channel from the Federal Library Committee to Federal libraries and to all other libraries which wish to receive it.

The newest arrivals on the national scene are the National Advisory Commission on Libraries and the National Library Committee, established by President Johnson's Executive Order No. 11301, signed September 2, 1966. One of the purposes of these groups, as stated in the Order, is to "Develop recommendations for action by Government or private institutions and organizations designed to ensure an effective and efficient library system for the Nation."<sup>41</sup> No one can foretell how the recommendations of these groups will affect cooperative and centralized cataloging, but it is probably safe to predict that there will be an effect, and it should be a beneficial one.

As has been shown above, there are definite trends, fostered by the Federal community, toward centralized and cooperative cataloging. These may be summarized briefly as follows:

1. Publication of book catalogs by Federal libraries to make known their unique resources and to provide cataloging information of a more specialized nature than that of the Library of Congress.

2. More realistic recognition of both the limitations and the potential of systems development and computer technology for capturing and retrieving cataloging information; and first steps toward using this technology effectively and on a national basis.
3. Advances toward compatibility and standardization of descriptive cataloging of technical reports, in the interest of effective cooperative cataloging.
4. Greater awareness of the need for compatible specialized subject approaches, and major attempts to achieve them with the help of the scientific community rather than through the efforts of librarians alone.
5. Concern at the highest Federal levels with the need to solve library problems, including those of cataloging, and action through legislation, funding and research by the Federal government aimed at solutions to the problems, ranging from the local to the national levels, in cooperation with those outside of government.

Such trends augur well for the development of national information systems through which the requirements of the scholarly, scientific and technical world will be met. Without doubt it will take both cooperative and centralized cataloging to meet these goals.

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