

The Emerging Global Bibliographic Network

The Era of International Standardization in the Development of Cataloging Policy

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Catalogers have become interdependent in their pursuit to provide bibliographic control and access. This interdependency has brought with it the need for greater agreement in applying common cataloging policies and rules. The expanded application of AACR2 is fostering greater uniformity in the provision of bibliographic description and access. The rules have been translated into numerous languages and used in European, Middle Eastern, and Latin American countries. Cataloging committees and individual libraries in Europe and South Africa have expressed strong interest in adopting, adapting, or aligning with AACR2. PCC is one of the most successful cooperative cataloging efforts and has a considerable international component, which encourages the use of AACR, LCSH, and MARC. AACR2 is successful on an international level because it is based in internationally developed standards, including ISBDs and the Paris Principles. ISBDs and the Functional Requirements for Bibliographic Records are examples of the contributions that IFLA has made to the internationalization of cataloging. IFLA sponsored the international conference that resulted in the Paris Principles as well as subsequent projects to craft international policy in relation to uniform headings for persons, corporate bodies, and titles.

The purpose of cataloging has always been to connect library users to the materials in which they have an interest. This goal has transcended time and place, extending from the past to the future and across geographic and cultural boundaries. This is not to say, however, that we have always shared the same principles by which we attempt to meet this goal.

Indeed, over the years, various cataloging codes, subject heading thesauri, and classification schemes have proliferated. Even within a single cataloging tradition—for example, that of the Anglo-American Cataloguing Rules and its predecessors—one finds authorized alternatives and options, in addition to which myriad local practices or institutional “interpretations” have flourished. Many explanations can be found to justify these “exceptions”—for example, the cataloging rules were considered too complex to apply as written, or they resulted in records that were felt to be too complex, or they did not entirely meet the users’ needs to the library’s satisfaction. Typically, catalogers’ copies of rule books, subject heading lists, and classification schedules were abundantly annotated to record such exceptions.

However, within the past century, and especially within the past twenty-five years, the profession has come to recognize more fully how interdependent catalogers have become in their pursuit to provide bibliographic control and access. This interdependency has brought with it the need for greater agreement in applying common cataloging policies and the same rules and interpretations in order to share cataloging.

This trend is well illustrated by the proceedings of a 1991 conference held at St. John's University titled "Cataloging Heresy: Challenging the Standard Bibliographic Product" (Weinberg 1992). As Gorman pointed out in a review of the publication:

[H]eresy is all very well in that it provokes thought and stimulates the young. The logical outcome of heresy—the setting up of an alternative church—seems very far away in the world of American bibliographic control. In fact, on the evidence of this volume, most would-be heretics remain firmly ensconced in the arms of Mother LC and of the sacred texts (LCSH, AACR2, MARC, etc.). For good or ill, one does not anticipate a Reformation in the near future (Gorman 1993).

This is not to underrate the value of enrichments to standard bibliographic records—for example, inclusion of table-of-contents information. Clearly the economics and technology of today's operating environment have made it exceptional for a library to be able to afford cataloging that routinely provides such enrichments or is extensively tailored to local policy. In short, most catalogers do not exceed the national standard and have come to accept the adequacy of this standard. Although most have been aware of this trend as catalogers within the American library community, these same developments and impacts have been occurring internationally as well.

For most of us, the expanding application of the Anglo-American Cataloguing Rules (AACR2) provides what is probably the most familiar illustration of how the emergent global bibliographic network is fostering greater uniformity in the provision of bibliographic description and access. (The growing international interest in the *Library of Congress Subject Headings* [LCSH] for subject access provides another example of where the strength of the system itself explains why librarians here and abroad are using it.) In the descriptive area, not only did this code bring into general conformance the cataloging practices of North America, the UK, Australia, and indeed, the English-speaking world, but AACR2 has been widely embraced elsewhere. Following publication in 1978, the rules were translated into numerous languages and adopted in several European and Middle Eastern countries. AACR2 has also been extensively applied in Latin America.

Since the mid-1990s, cataloging committees and individual libraries in Germany and Russia; the Baltic States; Eastern European countries such as Hungary, Czechoslovakia, and Poland; and South Africa have expressed strong interest in adopting, adapting, or aligning with AACR2. At the International Conference on the Principles and Future Development of AACR held in Toronto in October 1997, Natalia Kasparova, head of cataloging at the Russian State Library, distributed an open letter in which she spoke on behalf of the Interregional Committee on Cataloguing (ICC). In this communiqué, she stated:

The experts at the Russian State Library together with ICC have conducted a comparative analysis of the Russian and Anglo-American cataloguing rules. The analysis has confirmed the absence of any critical differences between the two cataloguing codes.

While this should not be taken to indicate that the Russian cataloguing code revision project now in progress will result in the adoption of AACR2, it does show a clear interest in seeking maximum comparability between them (Kasparova 1997).

As another example, Münnich, in her paper in this volume, describes in detail a project involving revision of the *Regeln für die alphabetische Katalogisierung* (Rules for Alphabetical Cataloging, RAK) to increase harmonization between the Germanic and Anglo-American traditions. Even ten years ago, how many of us would have foreseen the possibility of an initiative to seek to bridge these vastly different cataloging orientations?

There are many factors to explain the expanding utilization of our cataloging policies and practices. First, with regard to AACR2, the code itself must receive credit for its own success. If these rules did not embody effective principles for the bibliographic control of and access to library collections, long ago catalogers here and abroad would have moved on to another approach. Indeed, one of the objectives set out for the authors of AACR2 was to give particular attention to "international considerations" in preparing the second edition. As a result:

- AACR2 places greater emphasis on the use of systematic romanization rather than on romanized versions of words found on the item being cataloged.
- AACR2 authorizes a cataloging agency to substitute any standard romanization table prevailing in its country for the ALA/LC romanization that is used to illustrate examples.
- AACR2 recommends IFLA's publication *Names of Persons* for use as a source of information for names not treated by the rules.

- AACR2 provides an increased representation of foreign languages among the examples given to illustrate rule applications.
- AACR2 authorizes a cataloging agency that uses a language other than English to substitute this language throughout the rules whenever the rules give a preference for an English form of name.
- AACR2 deliberately refrains from referring to national library practices such as the Library of Congress Rule Interpretations in order to promote more universal interest in the rules.

In addition to the strength of its principles and to efforts to promote international interest in the code, the source of AACR2's success has been its ability to adjust to changing circumstances. In his article in this volume, Manning focuses on the continuous revision process and governance mechanisms by which AACR2 is improved and updated, with particular attention to the origins and outcomes of the International Conference on the Principles and Future Development of AACR. This maintenance process is often criticized as too slow and cumbersome, but it does have the advantages of decision making by consensus and of a conservatism that lends stability to the cataloging product.

Among the recommendations developed at the historical gathering in Toronto were several that recognized increased international interest in AACR2 and the need to encourage new stakeholders to participate more effectively in the revision process. Conference participants brainstormed this topic and offered several possible accommodations to international interests, including a recommendation that the Joint Steering Committee publicize its policies, procedures, and activities on its Web site, as well as posting the current process for submitting rule-revision proposals emanating from within or outside AACR author countries.

What are the implications of increased international interest for the future of AACR2? One possible direction would be accommodation of cataloging policies and practices that are important to new constituents abroad who are considering aligning their traditions with AACR2. If so, the overall effect of accommodating new and different practices might result in a greater number of alternatives and options than are now in the code. Some would think of such a trend as leading to a richer and more flexible code. Others who feel that AACR2 already has too many such options and alternatives might view it as a threat to the standardization.

Consider the outstanding success of cooperative cataloging during the past quarter century. Our shared cataloging programs provide clear evidence of the growing commitment to cataloging standardization. The Program for Cooperative Cataloging (PCC)—with a membership of more than 250 institutions annually producing many thousands of records—has emerged as the most successful of

these partnerships. Within the PCC, there is a considerable and growing international component that has had the beneficial effect not only of encouraging use of AACR, LCSH, and MARC, but also in furthering the development of these standards.

For example, in a recent and still unfolding effort to facilitate exchange of cataloging data, three of the national libraries that participate within the PCC—LC, the British Library (BL), and the National Library of Canada—have undertaken discussions for the purpose of reconciling differences in their MARC formats toward the goal of aligning USMARC, UKMARC, and CAN/MARC into a single MARC. These national libraries share a vision: that through harmonization of existing format differences, exchange of bibliographic information would become better, faster, and cheaper to achieve.

In this issue, McCallum examines the process by which this initiative has been pursued and reports the results to date. Suffice it to say here that this international effort provides compelling evidence of the value of bibliographic standardization to the library administrators who are promoting it.

As another example, the PCC can lay claim to providing the impetus for what has finally emerged as agreement between LC and BL in the application of AACR's provisions covering form of headings. This propitious development resulted in the signing of the Cataloguing Policy Convergence Agreement (CPCA) in 1996. BL's commitment to becoming a NACO partner was the factor that fostered these discussions. With the CPCA in place, the BL has greatly increased its contribution level and anticipates incremental growth with the volume already approaching 15,000 new records annually. Even in the few areas where the instances of existing records are so numerous that they can not be changed at this time, LC and BL have determined a common policy to follow when circumstances permit.

As a further step in this direction, the PCC is hopeful that LC and the National Library of Canada will prove able to reach a similar agreement once the combined MARC format is fully operational. However, PCC administrators do recognize that the process of cataloging policy reconciliation is labor-intensive and, indeed, not even practical except where practices are already reasonably aligned. Where major changes are involved, the agencies seeking convergence also will need automated systems that are able to accomplish the global updating—and of course, the approval and support of their constituents whose catalogs will also be impacted by these changes. Certainly, cataloging policy convergence is a much less likely approach to harmonizing cataloging rules that serve users with language and cultural values different from those addressed by AACR2.

Further regarding the PCC's international partnerships, the national libraries of Scotland and Wales along with Cambridge and Oxford universities are established NACO

contributors. Other institutions abroad are also preparing for cataloging convergence in order to join NACO: in September 1998 staff at the University of Sao Paulo, Brazil, received training in preparation for PCC participation, and the next year the University of Hong Kong Science and Technology followed suit, while nearly 20 libraries in South Africa received training soon after.

It is noteworthy that PCC has also had positive international impact in relation to subject cataloging policy through its SACO program by which partner libraries contribute to the development of LCSH. BL reinstated LCSH in 1993, began contributing to SACO, and has become the largest contributor to LCSH besides LC. Elsewhere in the British Isles, the national libraries of Scotland and Wales, Oxford and Cambridge Universities, and Trinity College, Dublin, have also joined SACO. Other international partners that regularly contribute to LCSH via the SACO program include the National Library of Canada, the American Academy in Rome, the Swedish Institute of Classical Studies, and the national libraries of Australia, New Zealand, and Lithuania.

In the few years that have followed inauguration of the PCC, international partnerships have increased to nearly fifteen in number. But, of course, like domestic members, international contributors participate in the PCC's programs selectively. Commitment to mutually agreed-upon standards is the hallmark of these programs, and some international partners are not in a position to commit broadly to the total package (CAN/US/MARC, AACR2, and LCSH) at the moment. Thus, the PCC faces two major challenges as it continues to promote increased international participation in its work. It must:

- facilitate a method to ease the exchange of cataloging data among existing partners and new partners who do not use the same cataloging formats
- find a way to broaden the current cataloging policies to accommodate non-English versions of authorized headings

Meeting these challenges will most likely entail work to map and link divergent standards, work that hopefully can be facilitated through advancing technology.

Also significantly contributing to increased internationalization of AACR have been the incredible successes of large bibliographic utilities in encouraging their worldwide constituencies to follow such well established standards. In this issue, Patton addresses this topic from the perspective of the Online Computer Learning Center (OCLC), whose WorldCat contains nearly 40 million unique records and whose constituency includes 26,000 participating libraries in 64 countries. The Research Libraries Group (RLG) is another large bibliographic utility that has a substantial interna-

tional membership and a database containing large numbers of records created by vendors, libraries, and national bibliographic agencies abroad. In addition to direct access to these records, RLG also offers Z39.50 connectivity to access a considerable number of European library catalogs.

In accounting for the successes of AACR2 as an internationally applied approach to bibliographic control and access, it is important to acknowledge that its strengths are based not only on well-established "Anglo-American" bibliographic practices, but also on internationally developed standards, including the Paris Principles and the International Standard Bibliographic Descriptions (ISBDs). This brings us to the programs of the International Federation of Library Associations and Institutions (IFLA).

The importance of IFLA's undertakings in the cataloging area, although taken for granted today, was not always fully appreciated by the American library community. This became especially apparent in the 1970s with the publication of International Standard Bibliographic Description for Monographic Publication (ISBD(M)), which introduced unfamiliar bibliographic conventions; for example, prescribed punctuation (e.g., the use of the slash, equals sign, and unconventional spacing between bibliographic fields). The ISBD(M) was first published as recommendations in 1971 and then as "first standard edition" in 1974. A "first standard editions revised" followed in 1978. The current version is the "revised edition" published in 1987.

There was something of an uproar when it became clear that AACR—through revision and separate publication of chapter 6, which deals with the bibliographic description for monographic publications—would adopt these practices, to which a vocal minority of both catalogers and reference specialists took exception. Shortly thereafter came the first ISBD for Serials (ISBD(S)). (The ISBD(S) was first published in 1974; the current version, the "revised edition" appeared in 1988). Among the many provisions disapproved here in North America was one that called for the use of the key-title as the basis for the bibliographic title recorded in area 1 (title and statement of responsibility), engendering yet another round of criticism aimed at the international community. Although these controversies might now be long forgotten, at the time they were strongly felt and quickly led to the realization that ALA needed to extend its official interests in international relations into the technical services areas.

Fortunately, the preparation of AACR2 ended what in retrospect might appear as ALA's isolationism with regard to international developments related to bibliographic control. Perhaps the event that mostly likely precipitated this about-face occurred when the Joint Steering Committee, which of course included ALA representation, formed a joint venture with IFLA to produce the International Standard Bibliographic Description (General) (ISBD(G)) to serve

thereafter as the “mother” of all ISBDs. (It was first published in 1977; the current “revised edition” appeared in 1992.) In the late 1970s, the Resources and Technical Services Division (RTSD)—what has become the Association for Library Collections & Technical Services (ALCTS)—established an International Cataloging Consultation Committee (ICCC) to participate effectively in the international arena. The ICCC proposed policies by which the RTSD/ALCTS board would approve appointment of official representatives to IFLA standing committees and commit to financial assistance for their participation. These policies also made it clear that these officially designated participants were responsible for obtaining input of and reporting to appropriate groups. Now, ALCTS’s International Relations Committee (IRC) ably carries on the work begun by the ICCC. Today, through the appointment of representatives, including several who are authors of articles in this volume, ALA has emerged as a major player within that part of IFLA’s arena devoted to cataloging standards. In a recent development, the ALCTS board appointed a task group to review ALCTS international activities and advise whether the amount allowed for them in the budget was sufficient. This task group issued its final report on February 23, 1998, including recommendations that reflected the “strong value [it places] on the importance of international activities.”

The IFLA activities most relevant to the readers of this publication are assigned to the Division for Bibliographic Control. The Division of Bibliographic Control is the parent to the Section on Cataloguing, the Section on Bibliography, and the Section on Classification and Indexing. Obviously, the work agendas pursued by these groups—past, present, and future—have great implications for the world’s cataloging communities.

IFLA sections establish their activities within what are called Medium-Term Programs, currently covering work to be pursued between 1998 and 2001 (McCallum 1998). Ingrid Parent, chair of the IFLA Section on Cataloguing, provides in her article in this issue a clear briefing on the agreed-upon agenda that unit will undertake. I will only briefly mention that the Classification and Indexing Section’s objectives include a charge to promote standardization and uniform application of such tools by institutions generating or utilizing bibliographic records. For an excellent summary of the section’s recent work, see Chan (1998).

The Section on Cataloguing completed its study of the Functional Requirements for Bibliographic Records (FRBR) in 1998; this momentous project is covered in depth by Olivia Madison in this volume. The outcome of this investigation resulted in the specification of minimum data elements recommended to national libraries and bibliographies as needed for “base level” records. This base level national bibliographic record provides a further impetus for

increased international standardization, establishing on a solid basis the descriptive and organizing elements that meet the needs of most users.

Related to Madison’s article, the Library of Congress Cataloging Directorate recently prepared a study to compare the IFLA basic level national record with the LC core level standard (<http://lcweb/catdir/catmodes.html>). This study established that the LC core level met—indeed, exceeded—the IFLA recommendations with the exception that the LC core requires uniform titles only when known or readily inferred from the item. Subsequently, the Cataloging Policy and Support Office modified the LC core specifications to implement this recommendation so that full compliance has been achieved.

At the same time, IFLA’s ISBD Review Group has begun comparison of the FRBR recommendations with the existing ISBDs; preliminary indications are that only minor amendments to existing International Standard Bibliographic Descriptions will be needed to bring them into conformance with FRBR.

The Section on Bibliography “is primarily concerned with the content, arrangement, production, dissemination and preservation of bibliographic information, especially (but not exclusively) where these pertain to national bibliographic services. It is also concerned with the promotion of the importance of the discipline of bibliography to library professionals in all types of librar[ies], to publishers, distributors and retailers, and also to end users” (McCallum 1998, 29). From this, it is clear that the section’s activities are closely related to such other IFLA units as the sections on cataloging, information technology, and national libraries.

The projects that the section has chosen to pursue in connection with its Medium-Term Programme from 1998 to 2001 are to:

1. promote the production and publishing of bibliographic information for all kinds of documents, including those published by electronic means;
2. monitor and promote good practice in the preparation of bibliographic information through the use of international standards and guidelines and to take appropriate action when those standards need amplification or modification;
3. promote cooperation with the book trade in the preparation of bibliographic information;
4. monitor and promote publications of bibliographies in electronic form, e.g., on the Internet;
5. monitor and take action on new search methods and user interfaces; and
6. monitor and promote the inclusion of Internet resources in bibliographies and to promote the importance of bibliography at library and information schools.

Here is a sampling of activities to support the goals to which the Section on Bibliography is currently committed and which are relevant to international cataloging issues that the section is pursuing:

- The section arranged for the International Conference on National Bibliographic Services, which was held in November 1998 in Copenhagen. This meeting reviewed and updated the recommendations of a similar 1977 gathering under UNESCO sponsorship; these recommendations covered the full range of activities considered appropriate for a bibliographic agency, including coverage and distribution.
- They are continuing efforts to follow up on separate studies to survey organizations responsible for creating national bibliographies and establish the characteristics of their products. These follow-ups will seek to identify national bibliographies that are especially effective and the features that make them so. These efforts also will identify those bibliographies that do not feature introductions, indexes, classification schemes, etc., and consider ways to encourage their improvement.
- The section has long sought to improve cooperation between the book-trade and national bibliographic agencies—for example, to improve Cataloging-in-Publication (CIP) programs.
- The section plans to undertake a survey to assess effectiveness of the searching interfaces for online bibliographic services and to participate in a project focused on online catalog displays being pursued by the Section on Cataloging.
- The section sponsored a survey of bibliographic coverage of electronic resources in national bibliographies, with questionnaires distributed in May 1998 to more than 125 national libraries to gather information to determine the extent to which these agencies are providing cataloging for digital and digitized material. The results of this survey are available (Byrum 2000).

The activities of the Division for Bibliographic Control and its sections are supported by the UBCIM Programme, an operation with full-time staff now located at the Deutsche Bibliothek, which acts within IFLA as “focal point for the promotion of standards for bibliographic control at the national level and the international exchange of data” (McCallum 1998, 12). The program has long served as secretariat for the Permanent UNIMARC Committee, promoting the various UNIMARC formats by assisting with their development and maintenance and by sponsoring workshops and seminars for UNIMARC users. The UBCIM office also contributes administrative support to other proj-

ects by circulating drafts for worldwide review and is responsible for preparation of material publications issued by K. G. Saur in the *UBCIM Publications—New Series*. The office produces *International Cataloguing and Bibliographic Control*, a quarterly journal now in its twenty-ninth volume.

Even from this brief review, it is clear that IFLA brings a results-oriented approach in addressing the problems of bibliographic control both through its Division of Bibliographic Control and the infrastructure provided by the UBCIM Programme. Given this focus and the accomplishments of the many working groups of experts that have been formed over the years, IFLA merits credit for impressive contributions to the internationalization of cataloging.

Following are a few examples of particular and ongoing relevance to cataloging practitioners, teachers, and administrators. In presenting them, the focus is on the direct benefits of these contributions to *our* cataloging orientation.

The concept of the International Standard Bibliographic Description (ISBD) has now endured for nearly twenty-five years and has proved to be IFLA's most successful effort at promoting the cause of cataloging standardization. Indeed, one might argue that no other standard has enjoyed such a high degree of acceptance as that accorded to the ISBD concept, which is now nearly universally applied. AACR2 was among the first codes to implement the full range of the ISBDs.

In the 1980s, all existing ISBDs underwent editorial review and revision to incorporate improvements—to harmonize provisions, achieving increased consistency; to improve examples; and to make the provisions more applicable to catalogers working with materials published in nonroman scripts. The basic provisions of all the ISBDs have remained intact since this initial overall revision—with the exception of changes necessitated by the emergence of electronic publications that resulted in creation of the International Standard Bibliographic Description for Computer Files (ISBD(CF)) (published in 1990) and subsequently in the publication of the International Standard Bibliographic Description for Electronic Resources (ISBD(ER)) (IFLA 1997). AACR2 has kept abreast of these developments and is mostly in conformance with the ISBDs.

IFLA's interest in furthering efforts to deal with the problems of cataloging multiscrypt and multilingual material is probably underappreciated. In 1986, 1993, and 1995, IFLA sponsored preconferences, seminars, and international workshops to provide a focus for discussion of these issues, resulting in publication of proceedings (Bossmeier and Massil 1987; McCallum and Ertel 1994; Byrum and Madison 1998).

Throughout the meetings that IFLA has arranged to consider this topic, one constant has been to better the representation of vernacular characters. With IFLA's support

(and also strongly promoted by the International Standards Organization), Unicode has emerged as the standard that most experts regard as the best response to this concern. In this volume, Aliprand fully discusses Unicode's development, content, and potential for international cataloging.

IFLA's contributions to cataloging standardization go beyond matters of bibliographic description. However, reaching international consensus on aspects of bibliographic access is a much more difficult venture, given the linguistic and cultural differences that are necessarily embodied in national cataloging codes.

In this area IFLA's greatest success was the outcome of the international conference that formulated the Paris Principles—the success for which the profession owes enormous gratitude to Lubetzky and Verona. Published in 1961, these principles were partially incorporated into the first edition of AACR but much more fully in AACR2 (as Gorman frequently reminds us!). The Paris Principles are not only now clearly represented within our rules, but also are a part of many other modern cataloging codes (Verona 1971).

IFLA has sponsored subsequent projects to craft international cataloging policy in relation to uniform headings for persons, corporate bodies, and titles. One project of particular interest at this time is being pursued by a Working Group on Minimal Level Authority Records in consultation with the committee to revise the Guidelines for Authority and Reference Entries (GARE). Tillett reports more fully on this and other authority related projects in her article in this volume. The impetus for the project provides further evidence of the theme pursued in this overview, as it provides yet another example to illustrate increased international recognition in the cost-benefits of sharing cataloging products.

One of the interesting outcomes of this project came about from its early realization that the fundamental concept of Universal Bibliographic Control (UBC) has proved ill-suited to the practical considerations of national cataloging codes. According to the principles of UBC, each national bibliographic agency "should establish the authoritative form of a name for its country's authors, both personal and corporate." But as Danskin has pointed out (1997, 31): "In contrast to the success IFLA has enjoyed in encouraging the creation of national bibliographies and the exchange of bibliographic data, the effort devoted to encourage the extensions of these principles to authorities has borne little fruit."

In today's operating environment, while standardization in the area of bibliographic description has not only proved possible but is also widely practiced, such has not been the case in the area of headings for persons, corporate bodies, and geographic entities.

Kasparova (1997) spoke to the same concern when describing the cataloging code revision currently being pursued in Russia:

[W]e . . . hope for further cooperation . . . with IFLA and national libraries in Europe and the USA. . . . On the other hand, we would like to stress . . . some positions that should be retained [in the Russian cataloging rules]. . . . [T]he problem of variant forms and disparity of the names of persons and corporate names should be solved mainly by creating multilingual authority files in which all existing name forms for persons and corporate bodies, including the authorized ones, will be linked . . . to facilitate retrieval.

Thus, in this area an alternative to standardization seems to be a practical necessity, and perhaps through the provisions of linkages and equivalencies, the purpose of standardization will be served.

This article has sought to introduce the topic of the pre-conference whose proceedings are presented in this publication and to indicate how each author's contribution will help to produce an integrated and fairly full discussion of the topic "Cataloging on the International Level." If one would like to draw a simple conclusion regarding the complexities at issue in these papers, it might be: When the history of cataloging in the twentieth century is written, one of the most important themes to be recognized will be the steady advancement of international standardization—a development necessitated by the need to capitalize on the cost-benefits of cataloging cooperation and made possible by the advent of the electronic era and with it the emerging global bibliographic network.

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