The ISBD(ER) and New Developments in Cataloging Electronic Resources

by

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I am honored to speak at this very important conference, and wish to thank Professor Mauro Guerrini for inviting me. My topic is the ISBD(ER)--the International Standard Bibliographic Description for Electronic Resources--and a discussion of new developments affecting the cataloging of these resources that have taken place since the ISBD(ER) was published in 1997. The ISBD(ER) is a revision of the ISBD(CF)--the International Standard Bibliographic Description for Computer Files, which was produced and published in 1989. That first edition, in turn, was developed from the ISBD(NBM)--the International Standard Bibliographic Description for Non-Book Materials--which was first published in 1977 and contained the earliest provisions for covering materials that were then called machine-readable data files. The ISBD(ER) is one of seven ISBDs. While all have been affected over time by developments that have resulted in their revision, the ISBD(ER) has been particularly vulnerable to revision due to rapid advances in the technology and the emergence of new materials and formats that are--and continue to be--volatile.

Each edition of the ISBD(ER) reflects the technological developments that have defined its content. When the ISBD(NBM) first edition was published, large mainframe government and institutional data files defined its provisions. In the early 1980s, a radical technological shift had taken place with the development and introduction of the Personal Computer. The PC and the variety of products to be used with it served to define the content of description in the ISBD(CF). Within the last decade, yet another profound shift occurred with the emergence of the Internet and the World Wide Web, which introduced a whole new realm of resources available by remote access. This emergence along with advances in optical technology and the development of multimedia objects defined the content of description in the ISBD(ER).

The present scenario is no less eventful. More content is becoming digital and more of it accessible via remote access. Technological developments are also occurring that may well influence the content and direction of the next ISBD(ER). Here, I am thinking of wireless technology, in particular, an example of which is handheld computers. These devices, which are small enough to fit into the palm of one's hand, originally started out as organizers/planners for people with busy schedules. They have since been expanded in both operational power and function. Academic and professional programs, for instance, are using them in experiments to improve student learning and diagnostic skills. Recent models can connect to the Internet and have speech recognition capabilities that will eventually support vocal interaction between the software and user. It is not difficult to imagine their segue into the library environment, just as in the case of e-books. E-books were not part of a library's acquisitions or collections at the time the ISBD(ER) was published. Since then, hundreds of libraries around the world are offering e-books loaded on handheld readers. While most are pre-loaded with printed titles whose copyrights have expired, we can expect to see this change in the future with a dramatic increase in the number of new titles that will eventually become available in libraries for users to download to their own devices. Other technological developments are yet to appear or to be applied in the library environment. In the case of the latter, we are beginning to see more imaginative uses of automation in the creation of end-user displays, which some vendors are exploiting and incorporating into their new generation of system software.

On another front, there are several bibliographic developments that have generated

considerable discussion and actions on the part of the AACR community over the last couple of years. The impetus for much of this discussion was the publication of the ISBD(ER). Soon thereafter, the cataloging committee in the American Library Association (ALA) appointed a task force to review the ISBD(ER) for harmonization with AACR2, particularly chapter 9 rules for computer files. The task force recommended incorporating many of the ISBD(ER) provisions, but it did not fully support complete harmonization. Further discussion ensued on issues apart from the ISBD(ER) and included proposed rule revisions, some of which were already underway when the task force was conducting its work. Ultimately, the Joint Steering Committee for Revision of AACR, which oversees revision of the code, decided to compile the rule changes it had approved and issue a revised chapter 9. This chapter was just recently published as part of an amendments package. Meanwhile, another ALA task force was appointed last year to look into remaining areas and rules in chapter 9 that are in need of further study. This task force recently concluded its work with a report that proposes additional rule changes and a number of options for consideration.

Within the context of this brief historical account, I will highlight those major changes and issues that are seen to have a direct or potential impact on the provisions of ISBD(ER). I would also like to mention here that the ISBD Review Group met during the IFLA conference in Boston this past summer and agreed to initiate a project to revise the ISBD(ER). The focus is on particular problem areas that are of immediate concern to the group. I will identify these as I proceed. Following these highlights, I will conclude with some very brief comments on the direction of the ISBD(ER) and AACR2.

The bibliographic developments I will be covering in sequence of the areas of description are:

0.5 "Sources of information"
1.2 "General material designation"
2 "Edition Area"
3 "Type and Extent of Resource Area"
5 "Physical Description Area"
7 "Note Area"
8 "Standard Number (or Alternative) Area"

0.5 "Sources of information"--The ISBD(ER) has a distinctive hierarchy of sources which acknowledges the preference for the use of internal sources. Labels on the physical carrier, along with documentation, containers, and accompanying material, are to be used only as alternative sources when the internal sources are insufficient or unavailable. Revised chapter 9 has adopted this principle in its rule for chief source but without the hierarchy. It states that the entire item is to be used as the chief source, including internal sources and the physical carrier. If adopted in the ISBD(ER), it would have its greatest impact on local access resources where the description could be based on formally presented information that appears on the physical carrier providing it supplies the fullest or most complete information available. This is a problem area that the ISBD Review Group has identified in its project to revise the ISBD(ER).

1.2 "General material designation (GMD)"--The ISBD(ER) chose "electronic resource" as the GMD to replace "computer file." The adoption of that term resulted in a change to the title from ISBD(CF). This new term was felt to better satisfy the requirements of a GMD, namely, that it was general, understood outside of the cataloging community, and relevant to collections of local and remote access resources. The revised chapter 9 has adopted this term, and with some notable exceptions which I will discuss later, replaced all occurrences of the earlier term "computer file."
There is now renewed discussion on whether the GMD is a meaningful addition to the bibliographic record and if there might be more suitable alternatives to employ in its place. GMDs were first used as early warning devices to alert users to the equipment

needs of audiovisual materials, and to also help them, if only superficially, distinguish different manifestations of a work. They were introduced as the cataloging rules for audiovisual materials were developed without any guiding or overarching principles. Last year, Jean Weihs conducted a survey of the cataloging community on the status of GMDs. She found that respondents confirmed their usefulness, but felt that the present list needed to be rethought. In suggesting possible solutions to some of the problems involving terminology and choice, respondents favored as their first solution the use of qualified GMDs, such as "game (electronic)." The advantage of using this approach is that the same or many of the same terms would be retained but with qualifications that would provide more specificity. As their second solution, respondents supported establishing a table of precedence for the choice of a GMD. This is seen to be particularly useful in the case of media made up of two or more formats, such as a digitized map. Their third solution was to use compound GMDs, such as "electronic game."
When asked about their acceptance of the ISBD(ER) GMD "electronic resource," many respondents believed the term "electronic" to be too broad since there are many items that are electronic but do not require the use of computers. While there may be some merit to this argument, the term is commonly used and understood in a variety of contexts that disambiguate it, such as e-books, e-commerce, e-learning, and so on. Translation of the term into other languages has not been deemed a problem, which is also a point in its favor.

It is premature, in any case, to determine the direction or outcome of this discussion, but it appears to be leaning towards exploring other possible alternatives. Among these are the use of icons or other devices in end-user displays, such as I mentioned earlier. It has been pointed out that these could serve to both identify and collocate resources following the user's selection. Barbara Tillett, in assessing the development of GMDs, has recommended that a group be created to explore such options while we continue to use the present GMDs. Here is where automation may help to resolve this issue!

2 "Edition Area"--The ISBD(ER) and the revised chapter 9 are in basic agreement on what constitutes an edition and when new or separate bibliographic records would be created. The AACR community has been concerned for some time with identifying for all formats major changes that require a new bibliographic description. Recently, an ALA task force completed drafting a document that will eventually be added as a new appendix for inclusion in AACR2. In addition, there is an international working group exploring format variation or the multiple version issue. It is too early to assess the outcomes of these developments, but their impact would be considerable affecting all the ISBDs, not just the ISBD(ER).

3 "Type and Extent of Resource Area"-- The ISBD(ER) presented a greatly expanded list of resource designations that appears in Appendix C. The list was developed for use in preparing descriptions of remote access resources, but it could also be applied optionally to describe local access resources. Three levels of specificity were introduced starting with the original three designations--"Data," "Program(s)," and "Data and program(s)"--at the top level. Specific designations representing these categories were next listed at the second level, followed, in turn, by even more specific designations for these categories listed at the third level, e.g.:

First level: Electronic data
Second level: Electronic text data
Third level: Electronic bibliographic database

A library could use the designations singly or in combination at any one of these levels as desired.

The new revised chapter 9 did not adopt this expanded list and has, instead, retained the use of the three generic designations noted. More recently, the AACR community has

recommended that area 3 be eliminated from chapter 9 altogether. The ALA task force charged with examining this area last year found in its electronic survey of the cataloging community that the area:

1) was not useful
2) was redundant with other parts of the description, and
3) was not indexed in MARC catalogs.

In addition, the designations were viewed as being largely genre terms that required maintenance and, more pointedly, were considered inappropriate for area 3. In retrospect, some of these criticisms are resonant of some that the ISBD(CF) Review Group received in the worldwide review of the ISBD(ER). Responses from about twenty-five percent of the reviewers ranged from calling for the elimination of area 3 in favor of giving the information in area 5 or 7, to suggesting that the stipulations in areas 3 and 5 be harmonized, to requesting that all stipulations in area 3 be made optional. Not surprisingly, the ISBD Review Group has identified this as a problem area in its project to revise the ISBD(ER).

Unfortunately, no data is available on how extensive the list in the ISBD(ER) has been applied, or when it has, how effective or successful it has been judged for users in retrieving remote content. Experience in the practical application of the list would be helpful in providing some much-needed insights into its value and usefulness.

Throughout the discussions I have mentioned, there has been a serious concern about where to place area 3 information in the bibliographic record should area 3 be eliminated. A variety of ideas have been presented, some of which I will discuss below in conjunction with areas 5 and 7.

5 "Physical Description Area"--Area 5 of the ISBD(ER) applies only to local access resources as remote access resources have no physical carrier to describe. Five physical carriers are identified as specific material designations (SMDs), all of which are introduced with the term "electronic." In addition, there is the provision to record specific formats of optical discs by placing the terms in parentheses following the SMD, e.g.:

1 electronic optical disc (CD-ROM)

The revised chapter 9 differs in two major respects. It

1)introduces all the SMDs with the term "computer," and
2)provides an option to use the term "CD-ROM" and other conventional terms directly as the SMD in place of standard prescribed terms. The option applies to magnetic as well as to optical disc formats. For example:

1 CD-ROM
2 DVDs
1 ZIP disk

The rationale that has been offered for retaining the term "computer" in the SMDs is that "electronic" has not been used or established to describe or refer to these physical carriers. In the case of the option to use conventional terms as SMDs, I expect AACR libraries to eagerly exercise it, which they have been proposing for some time. The likely result is that conventional terms will become the norm for describing local access electronic resources. The last ALA task force, which was charged with examining this and other problem areas in chapter 9, argued strongly for rewording the rules to obligate the use of conventional terms for the SMDs and to make the use of the standard prescribed terms an option.

Conventional terminology is appealing for a number of reasons, not the least of which it is easily understood and has wide acceptance across a broad range of communities. Such terms, however, have serious drawbacks. They are often short-lived and have the propensity to fade into oblivion. An example is "LP" which was clearly understood in the 1940s to refer to long-playing sound discs and with the exception of music aficionados is virtually unknown today. More importantly, employing conventional terminology in the physical description could lead to inconsistent descriptions resulting in duplicate records. This is a possible outcome that needs to be monitored. Again, not surprisingly, the ISBD Review Group has targeted area 5 as a problem area in its project to revise the ISBD(ER).

Two other developments well underway that also relate to this area are:

1)The proposed option to use area 5 to relocate area 3 information for remote access resources, and
2)The proposed option to describe all remote and local access resources in area 5 blending content and carrier information

The first development resulted from the proposal to eliminate area 3. Although there was at first a decided reluctance on the part of the cataloging community to move in this direction since no SMDs had been established for remote access resources, the cartographic community argued that its SMDs represented content terms that could be used in this area. Further, it argued that this area was essential for users of cartographic resources, who needed to have information available early in the record. The second option expanded on the first, which proposed that the area be opened up to describe *all* resources, both remote and local, blending information on the content with information on the physical carrier as appropriate. With this proposal, other physical details, such as sound and color along with accompanying material, could be recorded here for remote access resources in place of area 7 where this information was currently being given, e.g.:

184 remote-sensing images on 1 CD-ROM
maps on 3 CD-ROMs : col.

In the absence of SMDs with content, which would be the norm for other materials including electronic resources, the cataloger would be directed to employ conventional terminology, e.g.:

1 digital photo
1 sound file

As might be expected, this proposal has generated considerable debate. Criticism has centered on:

1)its impracticality because of the lack of SMDs that express content
2)the confusion over what constitutes actual content, and how to record mixed content, such as text and photos, or maps, charts, and tables that are relevant to two or more chapters of AACR2
3)the instability of remote content, both in extent (e.g., number of maps) and substance (e.g., continually updated Web sites)
4)inconsistency with physical "tangible" items associated with the area which have a carrier that can be described
5)the radical philosophical and structural change that would result if implemented

At the same time, another option for replacing area 3 information was proposed, which focused on area 7.

7 "Notes Area"--Area 7 was identified, at least initially, as the most desirable location in the bibliographic description to place area 3 information. The Nature and scope note, the Type and extent of resource note, and the Summary note were all obvious places for recording this information. The main advantage is that it is the least disruptive alternative. It affirms the current practice of reserving area 5 for direct access resources, which lend themselves naturally to a physical description. It presents no philosophical or structural changes to users or catalogers; at most might be some minor rewording of present rules. However, two disadvantages are:

1)It does not accommodate the cartographic community's desire to use area 5 to include the description of remote access cartographic resources, and
2)It does not enable the blending of content and carrier information also proposed in area 5.

In an effort to reconcile these drawbacks, the ALA task force charged with examining this area of chapter 9 proposed a third option, namely, delay opening up area 5 for all electronic resources except cartographic resources for now; then later phase in other formats when content SMDs are developed or become available. Discussion of this and the other options continues, and is likely to generate new or revised proposals..

8 "Standard Number (or Alternative Area)"--A remaining and important development affecting the cataloging of electronic resources concerns uniform resource identifiers (URIs). URIs have evolved over the last ten years to include uniform resource locators (URLs) and uniform resource names (URNs). URLs, as we know, serve to identify the place where an electronic resource resides and are sometimes compared to shelf or "call" numbers. URNs, on the other hand, serve to identify an electronic resource or unit of information independent of its location. The information may be intellectual content or a particular presentation of such content, or whatever the name assigning authority determines is a distinct namable entity.

The ISBD(ER) does not provide for URIs specifically, but does show an example of a URL in a Mode of access note. The ALA task force on the harmonization of ISBD(ER) and chapter 9 rules, however, discussed the need to record URIs in the bibliographic description apart from MARC field 856. It considered a proposal to treat them as standard numbers in area 8, but also discussed other areas in the description where they might be incorporated. A possibility that received some support included the creation of a new ISBD area (area 9). In the end, there was disagreement among members as to whether URIs qualified as standard numbers; whether URLs, in particular, should be repeated in the description when they were by nature so volatile; and whether it was even appropriate for AACR2 to provide instructions for recording this information. The outcome was that the task force did not recommend any change.

This position was reversed earlier this year when a task force was formed to specifically address these issues. Most encouraging is the growing recognition of the critical role that URIs play in the electronic linking of the bibliographic record both to the resource itself and to related resources that it may reference. The ISBD(ER), as well as AACR, needs to move to accommodate this information in future stipulations. The task force is expected to conclude its work early next year.

What lies ahead?--Much that will keep the catalogers of electronic resources and the developers of future ISBD(ER)s challenged! Issues such as "rights management" are being discussed but have yet to be addressed in the context of a bibliographic description. These embrace a broad range of rights including intellectual property rights (IPR), copyright, and various property rights that impact the user's access to digital information. The treatment of resources with a multi-ISBD character is another issue of increased concern as technology continues to incorporate what were once discrete formats into single informational products. In the case of a resource such as a digitized map that involves two ISBDs, which should take precedence in preparing the bibliographic de-

scription, and in what order should the information be recorded? This issue was examined in the revision of rule 0.24 in AACR2 and continues to be discussed now in the cartographic community. These and the other major issues I have discussed lead to the final question:

Where are the ISBD(ER) and AACR2 headed?--I believe both documents will continue to evolve with new or revised provisions in response to future changes that can be expected to arise in technology and society. What is especially essential in this evolution is that the two documents be compatible. Indeed, the primary purpose of the ISBD(ER), as stated in its Preliminary notes is to provide stipulations for "compatible descriptive cataloging worldwide" which will aid the global exchange of bibliographic records between national bibliographic agencies and throughout the international library and information community. The absence of compatibility creates a serious obstacle for library users trying to access and retrieve digital information effectively and efficiently. For this reason, there is a need for developers of these documents to expand their communication with one another and to explore common issues in a cooperative, deliberative environment. Not only do library users benefit from this communication and exchange, but also libraries and the information community at large.

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