This paper discusses AACR2 (Anglo-American Cataloging Rules, 2nd edition) and its place in the digital world. The first section describes changes in the bibliographic universe since AACR2 was first published in 1978. The second section addresses the perceived shortcomings of AACR2. The third section considers processes for change, including the Joint Steering Committee (JSC) for revision of AACR. The fourth section reports on progress at the 1997 International Conference on the Principles and Futures Development of AACR related to the following action items: (1) to pursue the recommendation that a data modeling technique be used to provide a logical analysis of the principles and structures that underlie AACR; (2) to create a list of the principles of AACR2; (3) to formalize the recommendations on seriality endorsed during the conference and introduce them into the rule revision process; and (4) to solicit a proposal to revise one of the rules to advance the discussion on the primacy of intellectual content over physical format. Other topics covered include: alignment of ISBD (ER) (International Serial Bibliographic Description for Electronic Resources) with AACR2; reorganization of Part I of AACR2 according to ISBD areas of description; additional issues associated with the cataloging of electronic resources; JSC's program of work; long-term direction for AACR; the relationship between AACR2 and metadata schemes; an integrated approach to accessing bibliographic resources; and recommendations for the future. (MES)
As Chair of the Joint Steering Committee for Revision of AACR (JSC) I am conscious that I wear several hats. I wear an official one when I am acting as the spokesperson for the committee. There is an Australian version that I wear when I represent the views of the Australian cataloguing community. Then there is my own hat that I wear when I express my personal views. Throughout most of this paper I wear my JSC hat (as I have been asked to contribute to this conference in that capacity). However, there are times when I give my personal views, and I will make it clear when I have changed hats to do this.

Changes in the bibliographic universe

The universe of information has changed significantly since AACR2 was first published in 1978. It is now hard to remember what it was like before personal computers and the Internet became part of our daily lives. In retrospect, the changes we have all been through represent a true paradigm shift in the way we communicate and distribute information.

In 1978 print was the predominant medium of recorded communication. Formats such as videorecordings
and audiocassettes were in use, but we were using them rather self-consciously, almost as adjuncts to the real thing. Since then a variety of new media has emerged, and instead of being just added extras or embellishments they are the real thing. Some new formats are notoriously difficult to pin down and classify. For example, a DVD can be considered either a computer file or a videorecording, depending on the nature of the content. A digital map is both computer file and cartographic material.

Twenty-two years ago there were serials and there were monographs. Loose-leaf publications were problematic, but we were able to squeeze them into the monographic mould. Electronic publishing has unleashed a whole new stable of hybrid beasts. Electronic documents are unstable; they can transform into different versions of the original or completely different creations. A book or a videorecording has a visible boundary; we can see where it begins and ends. Documents on the Internet are not so clearly defined.

Users in this new environment have completely different expectations. Although they are still seeking information to fulfil their needs, they expect it now (and in full text). They are more sophisticated in their searching techniques, and there is a great variety of different approaches. At the same time, the ready availability of information has created a new set of problems associated with information overload.

There are now more players in the business of information storage and retrieval. Of course AACR2 has never been the sole system for providing intellectual access to bibliographic resources - library cataloguing encompasses only a subset of the information universe - but now experts are emerging in many other domains and disciplines. Metadata developers, for example, are now debating the very issues that cataloguers have been dealing with for generations.

At the same time that this revolution has occurred there has been growing pressure on publicly funded institutions to reduce costs. Libraries throughout the world have been cutting back on expenditure and services. It is ironic - and perhaps tragic - that at a time when our profession's most creative minds should be applied to studying the implications of the changed environment that we are forced to focus on local and short-term issues.

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**Perceived shortcomings of AACR2**

The rules in AACR2 were intended to be used for any type of material, including electronic resources. Over the last few years this underlying assumption has been challenged. The emphasis on the item in hand - embodied in the method of procedure stated in rule 0.24 in the introduction to part I - is seen to be inappropriate for cataloguing remote access electronic resources. In its current form, this rule states: "It is a cardinal principle of the use of part I that the description of a physical item should be based in the first instance on the chapter dealing with the class of materials to which that item belongs." Is it logical, or indeed possible, to apply this method of procedure when there is no physical item in hand - when the bibliographic entity exists in digital form on a remote computer?
The class of materials concept also appears to be breaking down. Some types of new media do not fit neatly into a given class of material, and may display characteristics of more than one class. The work conducted recently by Tom Delsey has shown that different criteria are applied to assign bibliographic entities to the specified classes, which does not bode well for the code's ability to extend to new and emerging media. The underlying principles must be internally consistent if the code is to expand indefinitely.

There is also concern that the current rules are not sufficiently flexible to adequately describe materials that change over time - a common characteristic of electronic resources. The snapshot approach that has been applied does not work so well for resources that leave little evidence of when the changes took place and what the changes were.

In the past, documents were normally produced in a single format - print - with occasional examples of reproduction in another medium, usually microform. The rules in AACR2 require the starting point for description to be the physical form of the item in hand, not the original or any previous form in which the work has been published. This requirement has led to what has become known as the "multiple versions" problem, where several catalogue records can exist for the same work. The rapid growth in electronic publishing has compounded this problem and is causing real inconvenience for catalogue users. Many libraries have adopted a "single record" approach for cataloguing their journal collections, based more on expediency than on sound principles. As the trend towards parallel print and electronic publication extends to monographs, this problem can only get worse.

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Processes for change

The responsibility for ongoing revision of AACR2 rests with the Joint Steering Committee for Revision of AACR (JSC), working in conjunction with the Committee of Principals of AACR. The members of JSC have been acutely aware of the concerns expressed by the cataloguing community about the ability of the existing rules to adequately describe electronic resources, and over the past few years the committee has embarked on an ambitious program of reform.

JSC sometimes comes under fire for its slowness in responding to perceived problems (the word "glacial" has been used to describe its progress). It is by nature a consultative committee, and to a large extent bound by the decisions of its constituent bodies. This is the source of both its strength and its weakness. By seeking wide input it benefits from considered, specialised opinion and has a sound mandate for action. However, it cannot move as quickly as many would like.

In recent years JSC has been proactive in seeking solutions, but has stressed the importance of taking a fundamental, long-term approach rather than applying short-term, "band-aid" measures. In particular, it believes that we must first deeply understand the principles embodied in the existing rules to determine
whether they are sufficiently sound and internally consistent to support ongoing change.

International Conference on the Principles and Future Development of AACR

At the JSC meeting in Boulder, Colorado, in 1994, the idea was first mooted to hold an international conference of cataloguing experts to discuss the main issues facing AACR2 and to provide direction to the committee for the ongoing development of the rules. The idea gained momentum, and in 1997 JSC organised the International Conference on the Principles and Future Development of AACR. The conference was held in Toronto, Canada with sixty-four invited participants. Following the presentation of papers at the conference, several discussion groups were formed to discuss the main topics and to recommend further action.

JSC met immediately after the conference to establish a plan to be implemented in conjunction with the Committee of Principals of AACR. A number of items for immediate action were identified. The items with particular relevance to this discussion were:

1. To pursue the recommendation that a data modeling technique be used to provide a logical analysis of the principles and structures that underlie AACR;
2. To create a list of the principles of AACR2;
3. To formalise the recommendations on seriality endorsed during the conference and introduce them into the rule revision process;
4. To solicit a proposal to revise rule 0.24 to advance the discussion on the primacy of intellectual content over physical format (the "content vs carrier" problem).

The following is a report on progress with these items.

Action item 1: data modeling

Tom Delsey was commissioned to undertake a logical analysis of the code using the entity-relationship technique used previously by the IFLA Study Group on the Functional Requirements for Bibliographic Records (FRBR). The schema subsequently developed was intended to serve as a tool to assist in an examination of the principles underlying the code. Two reports were prepared for the two parts of AACR2, each accompanied by several recommendations.

The model has revealed a complex underlying structure, with some anomalies and inconsistencies. The concept of class of materials has not stood up well to the analysis, and Delsey has recommended that options for restructuring part I of AACR2 be explored, with one option the use of the General International Standard Bibliographic Description (ISBD(G)) areas of description as the primary
organising element. Progress on this recommendation is outlined later in this paper.

Delsey's conclusions about the code's ability to adequately describe "continuing" publications and materials that change over time have strongly influenced the rule revision proposals on seriality (also described later in this paper).

Delsey's analysis of part II of AACR2 calls for a re-examination of some of the more fundamental concepts of the code, such as "authorship," "work," and "edition." The issues are complex, and JSC has decided to move forward in the first instance on a more practical issue, the limitations imposed by the "rule of three." The rationale for this rule has its origins in the card catalogue era, and makes little sense in an online environment. The Australian Committee on Cataloguing is currently working on rule revision proposals to make this limitation an option.

Action item 2: list of principles

JSC has compiled a list of principles based on submissions by its members. Barbara Tillett is doing further work on refining this list, and her report will be discussed by JSC at its September 2000 meeting.

Action item 3: revising AACR2 to accommodate seriality

The paper by Jean Hirons and Crystal Graham, "Issues Related to Seriality," aroused a great deal of interest at the International Conference, and there was consensus that rule revision proposals should be prepared to move their recommendations forward. Jean Hirons was asked by JSC to coordinate the revision process. Hirons has been working closely with the ISBD(S) and ISSN communities to facilitate harmonisation of the three sets of standards.

Rule revision proposals particularly relevant to the cataloguing of electronic resources include the following:

- The extension of the scope of the current chapter on serials to all continuing resources, including integrating resources, such as loose-leaf publications and databases (with the chapter proposed to be called "Continuing Resources" instead of "Serials");
- The inclusion of rules specific to integrating resources;
- The inclusion of rules specific to electronic continuing resources;
- The inclusion of special rules for remote access serials that are not organised in issues and that lack the kind of bibliographic information present in print serials;
- The inclusion of examples relevant to electronic continuing resources.

At the time of writing these proposals had not been discussed by JSC. They are currently being reviewed by the constituencies and will be considered by JSC at its next meeting in September 2000.
Action item 4: content vs carrier

The ALA/ALCTS/CCS Committee on Cataloging: Description and Access (CC:DA) was asked to create a proposal to advance the discussion on the primacy of intellectual content over physical format. This is not a trivial issue, and the report presented to JSC by a CC:DA task force in September 1999 was both detailed and comprehensive.

The task force pointed out that the current rule 0.24 has two main functions. Firstly, it instructs the cataloguer to assign a bibliographic item to a particular class of material, and gives some guidance on how to describe an item when it exhibits characteristics of more than one class. Secondly, it gives indirect guidance on when to create a new bibliographic record; it implies that two items containing identical content (i.e. containing the same expression of the same work) but stored in different physical carriers should have separate records.

The report contained three recommendations. The first proposed a change to the wording of rule 0.24, emphasising the need to bring out all aspects of the item being described. The wording of the proposed revision, with one change, was endorsed by JSC at its March 2000 meeting and will be incorporated in the next revision package.

The second recommendation dealt with the complex issue of format variation, or multiple versions. JSC agreed with the proposal that explicit guidance on when to create new records should be included in the rules; the draft of an appendix containing such guidelines is currently underway. JSC also agreed that further investigation of this vexed issue is needed, and will set up a working group to move this forward. The working group will be asked to consider as a starting point an option developed by the task force that instructs the cataloguer to ignore any mere physical variation or any mere variation in distribution information (i.e. any manifestation variation) in determining when to make a new record. This option would require that the definition of "edition" in AACR2 be revised to be more in conformity with the definition of "expression" in FRBR.

The third recommendation echoed a proposal in the seriality recommendations to include a statement of principles and other information in the introduction to AACR2 to clarify and facilitate the cataloguing process. JSC expects to review a draft of this expanded introduction at its September 2000 meeting.

Alignment of ISBD(ER) with AACR2

The ALA submitted a proposal in 1998 to begin the process of harmonisation of the rules with the recently published International Standard Bibliographic Description for Electronic Resources (ISBD(ER)). The change of the General Material Designation (GMD) from "computer file" to "electronic resource" was seen to be a high priority.
As JSC further considered the proposals, it became clear that this was not going to be a simple matter, and that far more was required than the mere substitution of one term for another. Since that time the ALA proposals have undergone a number of iterations, and JSC hopes to be able to finalise the revisions at its September 2000 meeting. A completely revised Chapter 9 (to be renamed "Electronic Resources") will be the result, together with the revision of a number of associated rules in other chapters.

The revisions have not always followed the ISBD(ER), and in some cases have gone beyond it. The task force decided that complete harmonisation was neither possible nor appropriate in some cases, and subsequent consideration of the proposals by the constituent bodies has resulted in further refinement. Significant areas of change from the current rules include:

- The use of a new GMD ("electronic resource");
- The updating of terminology throughout;
- The expansion and clarification of the scope of the chapter;
- A new definition of chief source (the resource itself instead of the title screen(s));
- The inclusion of references to the new appendix (to give guidance on when to create new records);
- The inclusion of examples appropriate to contemporary electronic resources (particularly in the note area);
- The updating of terms in the Glossary, using ISBD(ER) terminology where appropriate.

At the March 2000 meeting, two new and significant proposals were put forward by the Library of Congress; these are currently under discussion by the constituencies.

Firstly, the Library of Congress proposed that Area 3 (currently the File Characteristics Area in AACR2 and Type and Extent of Resource Area in ISBD(ER)) be removed from Chapter 9, or at least made optional. It does not support the inclusion of the list of designations as given in this area in the ISBD(ER), maintaining that it amounts to little more than a list of genre terms, which would be difficult to keep current. It proposes that the information recorded in this area could be transferred to the note area.

The current rules instruct the cataloguer not to give a physical description (in Area 5) to remote access electronic resources, despite the fact that this area contains information relating to the content of an item. The Library of Congress has proposed a re-examination of the logic of this exclusion, in light of the change of emphasis in the rules from "carrier" to "content."

Another issue yet to be resolved is whether all remote access electronic resources should be considered published. ISBD(ER) has taken this practical approach and the JSC constituent bodies are currently considering whether to follow suit.
Reorganisation of part I of AACR2 according to ISBD areas of description

Tom Delsey recommended that consideration be given to reorganising part I of AACR2 according to ISBD areas of description, and this suggestion has been supported by other groups - in particular those dealing with the issues of seriality and content vs carrier.

JSC has been pursuing the suggestion. The first stage of a prototype has been developed by Bruce Johnson and Bob Ewald from the Library of Congress, using Cataloger's Desktop to rearrange the current rules under each area.

Not all constituent groups support the proposal. The Australian Committee on Cataloguing, for example, is not convinced that the reorganisation would achieve a great deal. It believes that the end result could be complex and unwieldy, and that it would still not address the difficulties associated with cataloguing material that exhibits characteristics of more than one class.

A simple reorganisation of the rules still preserves the class of materials concept. The cataloguer still has to select a predominant class in order to determine chief source and prescribed sources of information, General Material Designation (GMD), and Specific Material Designation (SMD). Cataloguers describing particular types of material may have difficulty locating the relevant rules. A serials cataloguer, for example, would have to go through the rules for each ISBD area to find the rules relevant to serials.

The CC:DA Task Force on Rule 0.24 has pointed out that the GMD remains one of the most intractable problems when considering the content vs carrier issue. It has presented some options for dealing with the problem, including the provision of a table of preference for selection of the GMD, allowing the formulation of compound GMDs, and abandoning the use of GMD altogether. The Library of Congress is currently preparing a discussion paper on this issue for review by the JSC constituent bodies before the September 2000 meeting.

JSC examined the prototype at its March 2000 meeting, and decided that in the interim a more sensible approach may be to consolidate the rules for general description (chapter 1). To achieve this the rules for each type of material would be examined to determine whether they could be generalised and moved to chapter 1.

In its initial response to the Delsey papers the Australian Committee on Cataloguing suggested that consideration be given to exploiting the potential of the electronic version of AACR2. The current electronic version is little more than the print version transferred to electronic form. In an ideal world a cataloguer should be able to re-order and customise the rules according to the needs of the moment.
**Additional issues associated with the cataloguing of electronic resources**

Some additional problems associated with the cataloguing of electronic resources remain unresolved and will need to be considered by JSC when it is working on the list of principles that underlie the code. The following are some problems that I have identified; there may be others yet to be raised by the cataloguing community or yet to be manifest. As cataloguers continue to gain more experience in the cataloguing of electronic resources other issues will surface, and issues that seem to be a problem now may disappear. It will be an iterative and evolving process, and we would be foolish to think that we are at the end.

**Defining the boundaries of electronic documents**

In his analysis of part I of AACR2, Tom Delsey pointed out that the current rules normally assume that the entity being described is a physically discrete object (Delsey, 1998, p.29). If this remains central to the logic of the code then it becomes difficult to define the boundaries of a document not defined in physical terms. For example, when cataloguing a Web site the cataloguer has to decide whether the document (or "information package") is the Web site itself or to include documents attached by hypertext links.

**Describing electronic documents with presentation variations**

An electronic document stored remotely can alter depending on the software used to display it. Not only can there be variation in style but also variation in content. The current rules are based on the assumption that one copy of an item is identical to another.

**Describing electronic documents that change over time**

Delsey has highlighted the shortcomings of the existing rules when it comes to describing electronic documents that change over time (Delsey, 1998, p. 34-35). The snapshot approach that has worked well enough for print documents is more difficult to apply to electronic documents that may not leave any clues about when changes have occurred and how the content has altered. Two cataloguers describing the same document at different times may give quite different descriptions. Delsey proposes that the code should allow multiple values of an attribute that changes over time, with the problem then being to decide how to represent these multiple values in the description.

**JSC's program of work**
With so many revisions planned and underway, the task of coordinating JSC's program of work is becoming increasingly complex. Four main areas of change are interdependent and should occur simultaneously: the revision of chapter 9 (computer files/electronic resources); the revision of chapter 12 (serials/continuing resources); the expanded introduction; and, the new appendix. The revisions to chapter 9 are very nearly finalised but those to chapter 12 are not so well advanced. JSC would like to be able to incorporate the revisions into a revision package at the end of the year, but this assumes widespread agreement by the constituent bodies.

JSC members keep in touch by email but are largely constrained by the meeting timetables of the bodies they represent. It must also be borne in mind that all the members have busy working lives and can only commit part-time hours to their JSC responsibilities. Even with the best of intentions it is difficult to introduce major changes quickly. However, there is considerable momentum at present and we do expect that AACR2 will undergo significant change over the next five years.

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**Long-term direction for AACR**

This is where I must take off my JSC hat and don my personal hat. Let us jump ten years hence to see what AACR might look like and what role it might be playing.

**Scenario 1: More of the same**

Print still dominates the publishing industry. Despite predictions about the demise of the book it is still flourishing. Libraries look much the same as they do today.

AACR also looks much the same but may be AACR4 or AACR5. The electronic version is more widely used but the print version is still popular.

It is still arranged in much the same way, with chapters in part I devoted to different types of material. There are difficulties with the class of materials concept but cataloguers are making do. They would like it to be easier but accept that no better alternative is easily found. Most of the time they get it right and most of the time users find what they are looking for in library catalogues.

The MARC format is still in use - creaking at the edges perhaps, but the library industry does not have the resources to invest in developing a better medium.

**Scenario 2: A hybrid universe**

Print and other tangible formats are still widely used, but electronic publishing is starting to dominate the industry. The technology and usability of the e-book have vastly improved, and young people in
particular have abandoned print. Book stacks are disappearing from libraries and being replaced by computer terminals.

AACR is published only in electronic form. It is no longer called "AACR" but something like "International metadata standards for information centres." It is a fine example of an electronic manual - flexible and easy to use with an intuitive interface.

There is still an underlying logic and structure to the rules, but there is no longer a class of materials concept; bibliographic entities are considered to have particular characteristics which are included in the description as required. Conventions such as chief source of information and GMD have been generalised to apply to all types of material. The primary focus in cataloguing an item is its intellectual content, not its physical manifestation.

The MARC format has been adapted to allow multi-level description: a solution has been found at last to the multiple versions problem.

Cataloguing is moving into another golden age as the demand increases for specialists to filter worthwhile resources from an increasingly complex and disordered information universe. Precision in description is seen to be the only way of achieving this.

**Scenario 3: Postmodern chaos**

Libraries have virtually disappeared and can only be found in remote and aged communities. People access information resources and entertainment from their homes. Print and other tangible formats are the exception.

AACR is long out of print and nobody has bothered to archive the electronic version.

The postmodern ethos has overtaken society and style is always preferred to substance. Thus the universal dictum has become "near enough is good enough." Some metadata standards exist in particular domains where precision is still important (such as medical science), but the general public - and most undergraduate students - are satisfied with anything remotely related to their topic of interest.

Anyone left in the library profession has very sensibly retrained so that they can move on to something else.

Any of these scenarios (or infinite variations on them) is possible, and I defy anyone to predict what it really will be like in ten years time. Future-gazers have a very poor record of success. In this age of rapid technological change we are lucky if we can correctly predict three years ahead. AACR will be the product of its time; given sufficient resources and the support of its profession, it will continue to meet the needs of most of its users most of the time.
It will be a challenging time for JSC. The members and the constituent bodies they represent must try to strike a delicate balance between responding to immediate needs while at the same time taking a strategic, long-term view. It must also continue to solicit a wide range of opinion from the cataloguing community but avoid the paralysis of indecision. The members must continue to be proactive while being sensitive to the representative nature of their roles.

Unlike metadata developers, those responsible for the ongoing development of AACR2 are constrained by the weight of what already exists. Consideration of any major change must take into account the impact on existing catalogues and systems. Developments that are theoretically and intellectually desirable may be too costly to implement.

Relationship between AACR2 and metadata schemes

The point has often been made that the distinction between "traditional" library cataloguing and metadata is artificial - that they are both performing the same function, but at different levels of complexity and specificity. However, although cataloguing is metadata, metadata (in the narrow sense) is not cataloguing. It does not go anywhere near meeting the functions of the catalogue as commonly understood.

It has been interesting to watch the evolution of the Dublin Core standard from one originally conceived for use by authors of electronic documents to a more formal standard for use by specialists, including librarians, in a retrospective mode - following the model of traditional cataloguing. The tug-of-war between the "minimalists" (who want to preserve its simplicity and usability) and the "structuralists" (who advocate the use of qualifiers to improve precision) seems to be edging towards the structuralist camp. As the standard develops and the number of Dublin Core records grows, its developers are starting to come up against some of the conundrums of information storage and retrieval. The natural tendency is to refine the standard, but the result may be to move it so far from the original concept that it is neither one nor the other.

This is not to say that metadata does not have a role to play in the organisation of the bibliographic universe. Obviously it is impossible to catalogue even a small proportion of all the electronic documents on the Internet. Using a form of simplified "cataloguing" is a good way of meeting an immediate need. My concern is that metadata is being promoted as the ultimate solution. I think that there are many in our profession who sincerely believe that AACR2 is obsolete and that metadata will become the new standard. This is a very attractive proposition, as metadata is relatively easy to create and does not require the expertise of professional cataloguers.

Let us imagine for a moment that these predictions prove to be correct, and that metadata standards continue to develop and move towards the level of precision that AACR2 currently achieves. Before long the same issues will surface. The same questions will be asked. Another group of people will be trying to
decide when to create new records, how to deal with multiple versions of a work, how to describe resources that change over time, and so on and so on. The problems inherent in cataloguing Internet resources - their instability, their lack of boundaries, etc - are problems for metadata developers as well.

Ultimately metadata developers will have to confront the issue of authority control for names of persons and corporate bodies. A reliance on keyword searching alone will prove to be unworkable, as standardisation and consistency of access points are essential for effective searching. In library catalogues this has been achieved through the application of the rules in part II of AACR2. If we ceased to apply these rules then bibliographic chaos would result.

At a generalised level there is correspondence between AACR2 and metadata standards, and one can be converted into the other. However, when AACR2/MARC is converted into metadata there is significant loss of precision. When metadata is converted into AACR2/MARC it does not immediately become the shell of a full record. Considerable editing of the content must take place to make it conform to AACR2 standards.

**Integrated approach to accessing bibliographic resources**

In many libraries the provision of access to electronic resources has become the responsibility of reference and systems librarians. Library Web sites commonly contain lists of electronic resources selected for various reasons; for example, the full-text electronic journals to which a library subscribes, or electronic resources that reference librarians consider to be of interest to library patrons, usually arranged in broad subject categories. The lists vary in fullness of description; they may be simple title lists, or in some cases they may contain records that bear some resemblance to catalogue records. Links directly to the resources themselves are provided. In most cases reference librarians are responsible for the creation of the records, often acting quite independently of the technical services area of the library.

These lists are little more than parallel "catalogues." It seems odd that electronic resources should be considered so different from their tangible counterparts that the provision of description and access has moved away from the area with the expertise to provide those services, namely the cataloguing department. It also seems odd that print and other tangible resources are given full cataloguing while electronic resources are given brief and non-standard treatment. It is a kind of discrimination!

As a result users are denied integrated access to the range of resources available. Even those users who are aware of the existence of these parallel "catalogues" must search in two different places and adjust to two totally different approaches. How much more useful it would be if records for the electronic resources were routinely included in the library catalogue (with the MARC 856 field linking directly to the resources). Lists on the library Web site should be constructed from the existing cataloguing data, thus eliminating duplication of effort and ensuring consistency in description.
The way forward

Michael Gorman has identified four possible approaches to the cataloguing of Internet resources: full cataloguing using AACR2 and MARC; enriched Dublin Core records (the structuralist approach); minimal Dublin Core records; and, reliance on unstructured full text keyword searching (Gorman, 1999, p. 20). He proposes that the level of cataloguing applied should depend on the relative value of the resource. He accepts that determining the inherent value of an electronic resource will not be an easy task, but maintains that this is the only way of resolving the debate about whether to apply traditional library cataloguing standards or those for the Dublin Core.

From this perspective the nature of the debate changes completely. It is no longer a question of how to catalogue Internet resources; the rules in AACR2 are perfectly adequate, and metadata schemes provide a measure of access. It is a question of what to catalogue. The decisions to be made relate to collection development, not cataloguing. Library collection development policies should include criteria for the identification of Internet resources of continuing value so that records for them can be included in the catalogue.

In the end it is a question of resources. Cataloguing requires expertise and time, both of which are expensive. The library profession must look to the model that has served us so well - that of cooperation and sharing. Contribution of catalogue records for Internet resources to shared databases must be encouraged and rewarded.

The profession must recognise that there is no need to reinvent the wheel, for the wheel that already exists is still rolling along quite nicely. To return to the analogy of the bibliographic universe, it seems to me that AACR2 is a little like gravity. Gravity is invisible and therefore somewhat ignored - not many of us stop to think about it in the course of our daily lives - but in reality it is the force that holds the universe together. Similarly the rules in AACR2 impose structure and order; without them the bibliographic universe would degenerate into chaos.

May the force be with you!

Recommendations

1. That JSC, in conjunction with the Committee of Principals of AACR, continues to proactively pursue revisions of the code to accommodate changes in the environment.
2. That JSC, in conjunction with the Committee of Principals of AACR, continues in its quest to re-examine the underlying principles of the code to determine whether they are capable of supporting ongoing change.
3. That JSC continues to strive to expedite the rule revision process.
4. That the co-publishers of AACR2 explore the potential of the electronic version of AACR2 with a
5. That the library profession throws its full support behind the continuing development of AACR.
6. That libraries be encouraged to include in their collection development policies criteria for identification of Internet resources of continuing value with a view to giving them full cataloguing.
7. That cooperative cataloguing of electronic resources be encouraged.
8. That libraries be encouraged to provide integrated access in their catalogues to both electronic and tangible resources.

References


Library of Congress
January 23, 2001
Comments: lcweb@loc.gov

view to making it more flexible and user-friendly.
Ann Huthwaite is currently the Library Resource Services Manager at the Queensland University of Technology Library, where she is responsible for the cataloguing and acquisitions functions. She has been the Australian representative on the Joint Steering Committee for Revision of AACR (JSC) since 1994, and was appointed Chair of the Committee in 1999.

Ann has a long involvement with cataloguing in Australia. She has been a member of the Australian Committee on Cataloguing since 1992, and was that committee’s representative on the ABN Standards Committee. She was a joint editor of *Cataloguing Australia* for several years, and convened the 13th National Cataloguing Conference in 1999. She has served on the executive of the Queensland Group of the ALIA Cataloguers' Section since 1987, generally as President of the Group.

Prior to her appointment at the Queensland University of Technology as the Cataloguing Librarian in 1989, Ann worked in various positions at the State Library of Queensland.
Ann holds a Bachelor of Arts degree and graduate diplomas in education and librarianship. She also holds a Master in Applied Science (Information Studies) from Charles Sturt University. The focus of her research for this degree was user interaction with the catalogue.

**Summary:**

The context in which cataloguing operates has changed significantly since AACR2 was first published. We have seen the emergence of new media and new modes of publication. Electronic documents are less stable and more difficult to define than their print counterparts. The ready availability of networked resources on the Internet has changed the way in which users obtain and use information. More stakeholders are involved in the provision of access to bibliographic resources. The ability of the current rules in AACR2 to adequately describe electronic resources has been called into question. The emphasis on the item in hand—the physical object—is considered inappropriate for cataloguing remote access electronic resources. The related class of materials concept has also been shown to be flawed. The proliferation of records for the same work is becoming confusing for users, particularly for serials published in different formats. The Joint Steering Committee for Revision of AACR (JSC) is acutely aware of the concerns expressed by the cataloguing community about the adequacy of the existing rules, and significant work has taken place in recent years to address these concerns. Work undertaken includes the organization in 1997 of the International Conference on Principles and Future Development of AACR. The relevancy of the rules in the online environment was a major focus. Principal outcomes included the commissioning of three reports: a logical analysis of the rules by Tom Delsey, using a data modeling technique; a report on seriality; and a proposal to revise Rule 0.24 to advance the primacy of intellectual content over physical format. Several initiatives are being pursued as a result, including a major revision of Chapter 12, a revision of Rule 0.24, an expanded introduction, and a new appendix defining major and minor changes. At the same time, a major revision of Chapter 9 has been in progress, to bring the rules into closer alignment with the International Standard for Bibliographic Description for Electronic Resources (ISBD(ER)).

This paper will review progress on these developments, including the outcomes of the JSC meeting to be held in London in September, and will focus on the implications for the cataloguing of electronic resources. JSC is also considering suggestions for the reorganization of Part 1 of AACR2 according to ISBD areas. The first stage of a prototype has been developed to test the feasibility of the proposal. This paper will review progress to date, and will present the advantages and disadvantages of the proposed restructure.

Various possibilities for the long-term direction of AACR will be explored,
bearing in mind that JSC members represent their constituent bodies, and
decision-making takes place in a consultative environment. Future changes
to the code will be in the hands of the Anglo-American cataloguing
community, not a small group of individuals. The paper will also explore the
relationship between AACR2 and metadata schemes. It will present the
case that both sets of standards have a role to play, and that AACR will
continue to be used for electronic resources of lasting value.
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