

Introduction

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The quest to evolve bibliographic control to an equal or greater standing within the current information environment is ongoing. The pace is often uneven, peppered with furious starts and stops, but it is moving; the price of inactivity, of not moving at all, is too great. This special issue of the *Journal of Library Metadata* focuses on the functional future of bibliographic control and was intended to substantiate the need for a decade of research in our profession (Carlyle, 2009). In hindsight it seems childish to ask for a mere decade, especially when compared to the large number of paper proposals received for this issue. We need a good 20 years' research just to accommodate the study of the shifts in thinking and in practice that our field is currently undergoing, then another 20 to evaluate the impact of that shift. The articles in this issue show that we are perched at the top of the big events coming our way—we are leaning over—and gravity is starting to pull us in a new direction. It is how we react to these events that will be a deciding factor.

The 14 articles comprising this issue are divided into two parts (for convenience) and are ordered in such a way as to give the reader a road map of sorts through some of the common themes and ideas expressed in each one individually and collectively as a whole. The more prominent themes revolve around (1) our taking a step back in order to contemplate and reconsider what we do within the broader context of the current and future information environment; (2) how we need to rechart or redirect our efforts within that context; (3) how we need to reassert our expertise of the processes and practices through learning/relearning and through retraining, exploring, and integration, and perhaps even giving ourselves permission to do all of it in a way that is comfortable and nonthreatening; and (4) the transitioning into new communities of practice and awareness. Several papers address specific issues such as subject access, authority control, serials management, and philosophical foundations in light of Functional Requirements for

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Bibliographic Records (FRBR) and Resource Description and Access (RDA), while others address more general issues such as education, awareness of trends and issues, and metadata creation, control, and use.

On one hand, it is all very exciting. We are working in a time when information and communication technology (ICT) has pushed our status quo to its limits and where innovation often needs the pressure of do or die in order to get started. On the other hand, it is terrifying, depressing, and has many experienced professionals thinking of an early retirement. (The Clash's anthem "Should I stay or should I go?" has been rolling around in my mind for a while now).

This issue starts with an article on authority control in molecular biology. Why? Sometimes it's good to pull our minds out of our collective professional and academic environments in order to see how processes that we know so well work somewhere else. Wu, Stvilia, and Lee provide an opportunity to see a different kind of metadata and the processes used to organize it for access by biologists and bioinformatics professionals. The authors write that "providing open access to data and integrating data from different contexts also highlight the need for better reasoning about the quality and interoperability of identifier and reference/knowledge organization systems use for data referencing and entity resolution." The conceptual similarities (named entity recognition, disambiguation, and unification in molecular biology, and name and subject heading identification, validation, justification, and contextualization in descriptive cataloging) are quite evident and the authors make a good case for how bioinformatics professionals and information professionals can inform the other, especially "with academic libraries increasingly involved with scientific-data curation through institutional data repositories." It also provides a good opportunity to emphasize the value of looking with new eyes at the kinds of data we work with every day. Data in need of control for access and use should be familiar to us, regardless of its origin, its carrier, and its eventual "context." Furthermore, we mitigate that data with structure and standards. Ellero and Cody "strongly contend that continued and deepening participation in the review and creation of standards by librarians will significantly add to building a functional future of bibliographic control that is vibrant and flexible." One of the most important components of bibliographic control is "control" itself—where and when it is needed, or not—and a crucial part of ensuring that control is reliant upon what goes on behind the scenes. Ellero and Cody relate their collective professional experience of reviewing NISO standards through their participation on the Medical Library Association's Technical Services Standards Committee (MLA/TSSC) and in doing so provide a strong example of the importance of professional participation and responsibility for what goes on behind the scenes.

It is not surprising at this stage in the development of RDA and its implementation that many of the papers focus on training, retraining, and overall changes in cataloging practices. It isn't just "change," this shouldn't

be in question, but rather how fundamental the change.¹ Several authors employ theories to address issues such as adult learning and how technology changes a profession, as well as to explore conceptual boundaries of works and texts. Hoffman uses Abbott's "System of Professions" to show "how technology can both destroy and create professional work". There is no doubt that the future will entail new tasks and new work jurisdictions. We have already seen it in play. As a profession we will need to decide how competitive we want to be and how much territory we will claim. There will be no easy pathway, with new models (FRBR, FRAD, etc.), new rules, and new information environments to navigate. As shown in the past with the implementation of AACR2, there was a period of craziness, criticism, and resistance and, as we are seeing with the change to RDA, a tendency to sit back and wait to see who makes the first move. Hoffman states that "professional work can be given away, taken away, or simply abandoned." New work needs to be claimed. This will be difficult because much of it has already been given away (i.e., to vendors, paraprofessionals) or claimed by other professionals (e.g., metadata librarian vs. catalogers). As to the latter, including both types of work in a name many show library administrators that cataloging units want to do the work. Furthermore, Hoffman feels that cataloging could be put in a tenuous position if catalogers give up or abandon tasks without claiming new ones. She argues that RDA, FRBR, and Functional Requirements for Authority Data (FRAD) provide new work, especially authority work, but only if there are enough catalogers to claim it, or reclaim it, from library vendors. This also puts much great emphasis on educating and training new catalogers. It would be beneficial to come to terms with the similarities and the differences of metadata work and cataloging work as neither has to be mutually exclusive. In many ways, Hoffman echoes what Jesse Shera wrote about the library profession exactly 40 years ago: "The profession cannot go on as it has in the past; it must either remold itself into a true profession or it must surrender its age-old responsibilities to others" (Shera, 1972, p. 498).

But how can a profession claim work if the right tools (i.e. the catalog) are not there to help convey the results of that work to the users? Through an examination of the interface characteristics of an ideal "FRBR-ized" catalog and a conventional catalog, Rose concludes that "it isn't possible for catalogers to catalog for a future FRBR-based catalog and simultaneously modify cataloging practices to promote the effectiveness of current interface design." Unfortunately, there are few FRBR-based catalogs populated with MARC-encoded and RDA-based records currently on hand to provide an environment in which this modification can take place. Rose rightly points out that collaborating with the interface designers and "changing cataloging practices to optimize the effectiveness of the catalog interfaces being developed" is the only way to move forward. Just as put forward by Hoffman, catalogers have to make a choice about in which direction to move and the

work that is to be done. Rose offers some practical suggestions for going about enhancing a key component of our future bibliographic control.

Another of these key features, especially in the proper functioning of the catalog information system, is subject access by way of quality subject metadata. Zavalina provides a discussion of the treatment of subject entities, attributes, and relationships in FRBR, FRAD, and FRSAD models as well as empirical evidence of users search queries in a large-scale digital library in order to inform how subject access, subject entities, and representation are addressed in RDA. While it is true that there are placeholder chapters in RDA intended to address subject access and control, it is apparent to Zavalina that “subject access is not currently sufficiently addressed by any of these documents” and that it has long been an inadequacy in bibliographic control. She concludes that priority should be given to providing more detail about the “relationships of *objects* to other entities, in particular to other FRBR Group 3 entities of *event*, *concept*, and *place*.” This study is a good example of the type of research involving the FR models and RDA that should take place now and in the future.

The issue of richer entity relationship representation is bringing to the forefront the possibility of bibliographic control moving to new domains, or evolving into something radically different. In particular, linked data and the Semantic Web have become popular discussion points of late in the cataloging arena. This falls squarely within the theme of looking at what we do within the broader context of the current and future information environment and how we need to rechart or redirect our efforts within that context. Dunsire, Hillmann, and Phipps present an argument for placing metadata statements within Resource-Description-Framework-based environment so that “individual metadata statements represented by three-part data triples in the form subject-predicate-object statements”, instead of a traditional catalog record, are created and linked. They write:

RDF [Resource Description Framework] “records” represent arbitrary collections of statements. These statements may be defined and validated by any number of metadata “formats” and a collection of such statements can be composed of properties selected by the publisher of the metadata. Systems aggregating this published data are free to choose the properties from this record that the system “understands.” Properties defined by MARC21 can be freely mixed with properties defined by RDA, or any other vocabularies. RDF “records” can vary widely in terms of overall content and there are no constraints on what a system may publish.

If we are to remain relevant within new and emerging information infrastructures then we need to consider best methods and best practices for working within and across multiple metadata schemas and in systems that may not

necessarily use the traditional “record” unit as the vessel for containing data. As suggested by Dunsire, Hillmann, and Phipps, shifting our focus from a top-down approach of controlling data to a bottom-up approach hinged on semantic mappings is developing as one of these possible futures.

Moving away from a records-based system certainly would bring about a radical shift in what we do and how we do it. Krier’s article takes the idea of linked data in an RDF-based framework and applies it to serials cataloging. Krier contends,

[that the] separation between the journal and the articles it contains has been deeply embedded in cataloging practices for over a century, and current ideas about bibliographic relationships haven’t adequately addressed the issue of trying to bring these two work-level resources together.

If the model were to be expanded then it would be possible to effectively use RDF as “the engine that drives collocation and discovery.” This greatly hinges on both the journal and the article being considered a “work” as defined in FRBR. Krier’s article makes a strong argument for what really comes down to the bibliographic-control community making the decision to accept new definitions and new models. This includes modifying the FRBR model to better reflect the variations of attributes and relationships between entities when dealing with different information resources. FRBR gives us a good starting place, but there are still changes that could be made (Zhang & Salaba, 2009).

The articles in Part 2 reflect and reinforce the themes from Part 1 by examining issues such as education, training, integration, awareness, planning, and exploration, some within specific scenarios or environments. The first two articles focus on new and changing communities of practice and how they will greatly inform changes in practice as the profession moves forward. Young addresses the need to change our teaching and learning habits during this time of upheaval by viewing the profession through the lens of adult learning theory. She advocates that as a profession we can “bring about long-term understanding and fluency to the profession” by exploring new types of education and training practices, instead of limiting them to the traditional workshops and seminars. Young also highlights the emotional side of learning to show how our personality type is closely tied to how we do our job, and that we need to create learning environments that take personalities into account.² She concludes by stating that “this time of upheaval will lead to the ascendancy of new experts and the decline of former ones, and the re-forming of alliances of various kinds.” Keenan also discusses some of the more personal aspects of transition in the workplace by relating the steps involved and lessons learned about changes in cataloging workflow while working on digital projects. Keenan echoes Hoffman’s

earlier conclusions about new work tasks and new jurisdictions by relating how at each stage of the NOMAP project “workflows have been evaluated and redesigned to better integrate metadata creation into the general workflow of traditional cataloging.” Overall, the lessons learned from the project brought about changes in philosophies and procedures.

The next three articles highlight specific issues of training and educating of new and experienced catalogers. Through a survey of cataloging department managers in U.S. academic libraries, Sanner provides evidence of the kind of preliminary training taking place, training that should occur in the future, and perceptions of the usefulness and effectiveness of the training as the implementation of new standards and new cataloging rules comes closer to realization. The data suggest a positive move toward the successful implementation of RDA, but Sanner also found gaps that need to be addressed. In particular, she found that willful ignorance with regard to some of the changes coming down the pipeline could be harmful to all. She writes that “the cataloging community cannot remain ignorant and must begin learning about RDA in order to avoid being left behind.” This echoes Hoffman’s sentiments that a profession has to claim its territory. If we want to move forward, then we adapt.

Welsh, Carty, and Williams also study awareness and training needs via action research in which they characterize two days of email exchange in an online forum in the United Kingdom. The e-forum focused on current awareness of RDA, in addition to the issue of from where and from whom the training would come. What is most interesting about this piece is the emotional perspective of the catalogers in the United Kingdom. The authors write,

The issues we identify are the same on both sides of the Atlantic, but without the culture of the annual ALA conference and the structured training provided by the US RDA Test (which can now be cascaded from test institutions to other cataloguing agencies), UK cataloguers in these emails express themselves less confidently about their actions and observations so far.

Participants also expressed concern about the possible demise of the MARC standard, which had just been made known to both the United Kingdom and, in truth, much of the global cataloging community.³ The thought of having to work with records created using AACR2 and RDA in a sort of “hybrid” catalog was a prominent concern on its own. (In the United States there was almost instantaneous protest of RDA records mixed in with AACR2 records during the national testing.) The possibility of a new or radically changed encoding standard served only to heighten the level of tension.

Harden’s study, however, offers an interesting spin on future education and training, especially as it concerns new catalogers, paraprofessionals, and student workers. The professional music catalogers at the University of

North Texas were part of a subgroup of music catalogers who participated in the national RDA test. In addition to the professional catalogers, student workers were also used in the construction of AACR2-based records. Harden feels that the project “produced the ideal situation for making a preliminary determination of how easy it would be to train catalogers to use the new cataloging code” and that it “provided a treasure trove of errors from which it was possible to deduce how readily new catalogers were apt to accept the new rules.” Harden found that beginning catalogers creating AACR2-based records, and without ever having read RDA, very often produced RDA-compliant cataloging. In terms of training, this would shift the burden of more elemental cataloging away from experienced catalogers and allow them to concentrate more on the harder aspects of cataloging such as “challenges of clarifying the links among the applicable FRBR entities.” At the very least, Harden’s study illuminates a future area of research that looks at how RDA may support more instinctive cataloging judgment.

Theimer’s essay on language death and language planning and Allison-Cassin’s essay on the possibility of an infinite library brings this special issue to a close. Both authors delve into the more philosophical aspects of bibliographic control and both offer food for thought as we lean forward into what will surely be a terribly terrifying and exciting time. Instead of the brutish and mocking attacks on MARC found throughout the literature, Theimer presents one of the finer and more scholarly examples of a thoughtful essay on MARC by examining “environmental and cultural factors that typically accompany language death to determine if those traits are exhibited in MARC.” Is MARC really a language? We cataloger’s often joke that we “speak MARC” or that we engage in “MARC-speak.” (Our secret language. The purity of the numerical tag has long had universal appeal; the 245 designates the title regardless of where in the world the record originates.) Theimer’s essay is timely. Library of Congress (LC) made the announcement in 2011 to investigate how to transition to a new bibliographic framework in order to better support the type of bibliographic control that is relevant for the current and future information environments. MARC will surely make a long, slow shuffle out the door. Hopefully it will be with the respect that it deserves and in a way that Henriette Avram would approve.⁴

Whatever that future is for MARC and for bibliographic control overall, Allison-Cassin contends that “radical re-thinking of traditional conceptions of the bibliographic universe, work, text and information is required if we are to truly have a new vision of “the library,” one that truly approaches and approximates a “universe of knowledge.” She asked how we might create a more performative form of bibliographic control. Like Hoffman, Allison-Cassin echoes Shera (and so too Margaret Egan) and the idea of a social epistemological foundation for librarianship—social activity interacting with knowledge.⁵ How can we create a functional environment in which we move beyond just recording attributes of information resources as a

mechanism for matching query to resources and support what Allison-Cassin describes as social connections and “the messy, serendipitous ways in which our everyday interactions with information build human culture.” While this isn’t an unfamiliar goal, it is something we have consistently neglected for the desire of making a good descriptive record. We need “to connect” and not just “represent.”

While this collection of articles in no way covers all the issues as it concerns the functional future, it does address some of the more important issues that we should take note of as we move forward. As a profession we consist of many communities of practice and as happens again and again over time we need to reassess and reorient ourselves in order to keep moving in the right direction. Perhaps the more important action for us is to keep the larger picture in mind; to look overall at what we do, how we do it, and, most importantly, why we do it.

NOTES

1. For example, instead of bibliographic control, why not multigraphic control?

2. Young cites a study of library personality types using the Myers-Briggs Type Inventory (MBTI) and not surprisingly most technical service librarians were classified as ‘introverts’. Interestingly, at the time of my reading Young’s paper CNN’s news website was running a story by Susan Cain in which she discusses how introverts quietly run the world. See <http://www.cnn.com/2012/03/18/opinion/cain-introverts-power/index.html?ref=allsearch> for a video clip and article. In the article Cain writes “. . . the more freedom we give introverts to be themselves, the more they’ll dream up their own unique solutions to the problems that bedevil us” (para 17). Cain’s book is entitled *Quiet: The power of introverts in a world that can’t stop talking*.

3. I doubt it came as a big shock, though, considering the volume of literature advocating for MARC’s retirement.

4. In January 2012 at the ALA Midwinter meeting, Dr. Deanna Marcum, only recently retired as Associate Director of Library Services at LC, fittingly asked how Henriette Avram (primary developer of MARC in the 1960s) would view MARC in the age of Google. See <http://www.loc.gov/marc/transition/news/minutes-alamw-2012.html>.

5. Shera wrote that “the new discipline that is envisaged here (and for which, for want of a better name, Margaret E. Egan originated the phrase, *social epistemology*) should provide a framework for the investigation of the complex problem of the nature of the intellectual process in society—a study of the ways in which society as a whole achieves a perceptive relation to its total environment.” (Shera, 1972, p. 112)

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