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# Serial Conversations



# An Interview with Diane Hillmann and Frieda Rosenberg

Jian Wang, Contributor Bonnie Parks, Column Editor

OCLC recently announced a plan to implement MARC 21 Format for Holdings Data (MFHD) and invited holdings experts Frieda Rosenberg and Diane Hillmann to serve as advisors and to aid in the implementation process. In December 2004, Jian Wang interviewed Rosenberg and Hillmann. They discuss their longtime involvement with the holdings standard and provide interesting perspectives on the issues, challenges, and benefits for the constituencies (libraries, the serials community, system vendors, and bibliographic utilities) involved with and responsible for implementing and using MFHD. Serials Review 2005; xx:xxx-xxx.



The term "MARC 21 Format for Holdings Data" (MFHD) is no longer a strange name to most librarians, but how it is understood and practiced by the library community varies. To some, MFHD is the established holdings standard used by libraries in managing serial publications in a standardized and consistent manner.

To others, it is still a vague concept with little application in local use. I was honored to be able to interview two well-known holdings experts, Diane Hillmann (at left) and Frieda Rosenberg, to discuss serials holdings related issues with a focus on MFHD.



Diane Hillmann is the metadata specialist, National Science Digital Library at Cornell University. Besides her expertise in metadata, she is also one of the pioneers in the development of holdings standards. Frieda Rosenberg is head of serials cataloging for the University of North Carolina (UNC) at Chapel Hill. She is also known as the "mother of serials holdings" because of her numerous workshops and publications in the field.

Wang is Serials Cataloger, Branford P. Millar Library, Portland State University, Portland, OR 97207-1151, USA; e-mail: jian@pdx.edu.

doi:10.1016/j.serrev.2005.02.006

Parks / Serials Review xx (2005) xxx-xxx

#### **Professional Questions**

JIAN WANG (JW): What initially sparked your interest in serials holdings/holdings standards?

DIANE HILLMANN (DH): I was a law librarian at Cornell in technical services from 1977-1995, so I was interested in both serials and non-serials holdings. Law libraries traditionally have had the most creatively misbehaved publication patterns, and it was the law community that developed the understanding of "continuing resources" that eventually spread to other libraries.

FRIEDA ROSENBERG (FR): Ironically, my interest began in the late seventies, when, after seven years as a paraprofessional turning out catalog cards by both typewriter and terminal keyboard, I moved to North Carolina, went to library school in Chapel Hill, and worked as a volunteer at the information desk in a local university library. The coordinator told me that for serials I should steer people toward the microfiche holdings list rather than to the card catalog. I felt ambivalent about that (remembering previous efforts at producing cards!). I wondered what could be done, if holdings were all important, to bring cataloging and holdings together. As I finished my library degree in 1978 and actually got a job as a serials cataloger at the UNC Library (where the same separation prevailed), I noticed even more files of holdings: the Kardex, the binding records, the serials printout, the microfiche and a separate card file called the Srec (serial record)—and this was just the serials department's portion of all existing serials holdings files! As standards began to arrive in the next few years along with online catalogs, it began to dawn on me that the holdings needed for so many purposes would be more efficient in one place, but only if they were able to serve adequately for those purposes-and that was what standards, plus online access, could help to achieve.

JW: Frieda, you said, "Holdings are at the hub of library serials use and serials management, just as central as the bibliographic record."<sup>1</sup> Why is that?

FR: Now I can say, "Together with the bibliographic record, holdings are at the hub of library serials use," because the resource is all the richer when the bibliographic and holdings records are finally united. But the experience that I described above showed me how important holdings were even in alphabetical title lists without a lot of bibliographic information. Our physical "com-fiche" (computer output microfiche) list was sent all over campus and the state. The reference desks in each branch, as well as in our main library, were extremely active users of the list. Serials managementcheck-in, binding, inventory, preservation, interlibrary loan, circulation, "hooks to holdings" or even manual notations of holdings in printed periodical indexes-all these processes involved holdings and contributed their own holdings data to the mix. In an integrated system they still do, though we still haven't managed to run all these operations off of one file.

JW: When was MFHD first introduced? What was the driver in the development of this holdings standard?

Why has it taken so long for MFHD to be accepted in practice?

DH: The MARC Format for Holdings was developed in the mid-1980s. I wasn't involved with MARC development that early (I began in 1988), so I'm not entirely sure what the driving force behind the development was, but I suspect it was union listing. I believe that one reason it took so long for the holdings standard to be implemented in libraries was that it was designated as a "draft" for a long time, probably almost fifteen years, even though it was relatively stable long before that. Also, it was complex and heavily encoded, even for a MARC standard. Very few people understood its power and potential sufficiently to attempt to use it, and the library management system vendors were very reluctant to be at the bleeding edge of development. VTLS was the only integrated library system with full MFHD capability for many years, and consequently they contributed significantly to its development. We owe them a great deal.

FR: The MARC Format for Holdings Data began as a project within the Association of Southeastern Research Libraries (ASERL). Eight ASERL libraries began in the very early eighties to develop a way to communicate holdings data by computer. Eventually the Library of Congress commissioned them to develop their new standard as a MARC Format, and it became the MARC Format for Holdings and Locations, later USMARC and finally MARC21 Format for Holdings Data. So, unlike the bibliographic standard, an LC development, and the holdings display standard, developed by ANSI Z39 subcommittees, MFHD was inspired and created through the efforts of libraries working together. Nonetheless, it has been slow in both development and implementation. The format got a reputation for difficulty, so much so that some features (such as expansion and compression) barely exist in the field even today. It is a standard for communication, so it cannot in and of itself guarantee standard data, though it certainly helps encourage it. All holdings standards were harder to implement than bibliographic standards because, in the minds of many, holdings are considered local data and thus up to each individual library, so that adoption of standards seems like a loss of local control. Furthermore, the sheer bulk of this free-form, legacy data in large libraries, its existence at different levels of granularity and in different forms suiting a variety of functions were all deterrents to standardization.

JW: What are the major reasons to implement MARC Holdings?

DH: I believe we're at a point where that question shouldn't need to be asked. Those of us old enough to remember when the bibliographic formats were new remember that there were similar questions asked before everyone fully understood how essential standard data were for libraries sharing data amongst themselves and investing heavily in their own data in an environment where systems change and data must migrate from one system to another. Unless you believe that there is some value in going it alone,

#### Parks / Serials Review xx (2005) xxx-xxx

and bowing out of the incredible data sharing infrastructure that makes libraries in this country a model of common sense collaboration, you need to implement MARC Holdings. Nobody can afford not to implement—that train has left the station.

FR: Using MARC Holdings makes more sense than ever now. It has been adopted by all the major integrated library systems and is about to be adopted by OCLC as the basis of its local data record. In some cases the ILS (integrated library system), or OCLC, will be able to map your data into MARC, so you will receive a database of holdings which will be compatible with new systems, new versions of your present system, and computers accessing your data remotely. What a great benefit! Acquiring or adding publication patterns enables you to predict serial receipts and saves you check-in labor. Both patterns and data save you costs, enable you to share records and acquire records from others, and then multiply these benefits across the library community as other libraries share information with you.

JW: What challenges or difficulties have libraries experienced in the actual implementation process?

DH: The biggest challenge has been the inclination of many library systems vendors to implement the standards in a proprietary way, emphasizing interfaces that protected library staffs from the horrors of encoding. Some sort of interface for check-in staff (who may be students or part-timers) is very necessary, but librarians and managers must understand what sits below those interfaces and be able to interact with and understand the coded data. I remember the days when systems developers were convinced that librarians would never be able to deal with numeric field tags and coded subfields. We think that's hilarious now, but it's essentially the attitude that is hindering the full implementation of MARC Holdings.

FR: Developing onsite knowledge of MFHD takes some time and effort. Leadership is needed in order to create the necessary training. Administrative support is essential for these priorities. If holdings work is shared among various groups of staff engaged in different activities, their buy-in and their training is a crucial foundation for the task of developing the holdings database. We'd like to be able to say that you are guaranteed smooth sailing once you have this database, but since systems vary widely in their accommodation of the format and its functionality, migration between systems may still offer some setbacks and risks. This is something we need to work on.

JW: What advice or suggestions would you offer libraries that are thinking about implementing MFHD? What should libraries consider before they make that decision?

DH: I think the question is not "if" but "when" and "how." CONSER provides great training for libraries in holdings, and good documentation. Librarians should approach this issue the same way they do anything else new: learn, plan, implement. There are libraries that have already done this and are happy to help others and to pass on their experience to new implementers. No rocket science here, really!

FR: Look at the considerations in the last paragraph: your library's human resources and administrative support for intensive training and the creation and maintenance of the data, at whatever detail you can manage. Look at your data, too: it is easiest to map if it is or can be delimited, categorized, and labeled. If it can't, it's apt to be still mapable to textual holdings. Develop as much expertise as you can. Visit other libraries. Read the literature; for instance, the NASIGuide to Holdings is complete and at this writing will soon be available from the NASIG (North American Serials Interest Group) Web site. If possible, attend one of the workshops available on MFHD. Include MFHD in the discussions with prospective vendors and include specific detail in your query. For example, do you 1) support the current edition of MFHD for all types of material; 2) support encoding for base volumes, supplements, and indexes; 3) support the creation and maintenance of paired 853 and 863 fields; 4) support all subfields of the publication pattern data; and 5) allow receipt of materials according to input publication patterns? Ask for demonstrations of the features. Discuss your particular data with vendors. And when you finally choose one, test by submitting records for trial conversion.

JW: What do you see as the benefits of standardized holdings data for the serials community in a global environment?

DH: We have far more experience in this arena than many of our potential partners in the publishing and serials service industries, and I think we shouldn't be shy about sharing that experience. Standard data are something that libraries believe in fervently, and we've built up a significant economic infrastructure around the sharing of this data. I hear calls for "simplification" among some of these partners, and I find myself a bit mystified by some of this. Recall that it was not libraries that developed the complex publications that required complex standards to record, it was certainly publishers! I think it's also sometimes forgotten that standards like MFHD are designed for machine-to-machine communication, not human-to-human. Computers deal with much more complex data than encoded holdings even before breakfast.

FR: Accrual of benefits tends to be circular. As more libraries implement the standard, everything improves: the data, the standard itself, the implementation of the standard in systems in the market, and the availability of shared archives and templates in systems and utilities, enabling further rounds of improvement.

JW: The CONSER Publication Pattern and Holdings Initiative was a major step forward in promoting the use of MFHD.<sup>2</sup> What's the idea behind this initiative? What challenges were involved in carrying out the experiment to add publication pattern data to CONSER records in OCLC?

#### Parks / Serials Review xx (2005) xxx-xxx

DH: I was there for that one so I'm happy to spill the beans. I attended some of the very early meetings back in the 1980s and early 1990s about sharing publication patterns. I'd gotten a bit frustrated by the lack of momentum in implementing the standard and had snapped at far too many people who opined that holdings were only local data, after all. I approached Jean Hirons on this issue, and there was a historic lunch at ALA at which Jean, Linda Miller, and I hatched the Publication Pattern Initiative. We wrote up a charge and got going convincing the rest of the serials community that the time was ripe for this kind of effort. Thankfully, Rich Greene at OCLC shared our vision and helped us figure out how to jump-start the effort, using local fields in CONSER records and a file of records from Harvard. and we were in business.

FR: The Pattern and Holdings Initiative grew out of the realization that although a specific library's holdings might be local data, looked at another way they were a subset of "universal" holdings, which were holdings as they came from the publisher. Diane Hillmann, who first suggested the project, wanted to harness these universal holdings, or publication history, for each title as 1) an archive of information for the larger world and 2) a database for all libraries to draw on for assessing their holdings, creating local holdings, and informing their users. Major challenges in designing the experiment were identifying which data, both retrospective and current, would be most useful in a shared database. For example, how important are patterns to retrospective data? Deciding how to deal with limited space within the OCLC bibliographic record in the old platform was another challenge we no longer need to face. Jump-starting our work with a data load from the Harvard University Library database made the process much clearer and showed that the idea would really work.

JW: What impact, if any, has the CONSER project had on libraries that are still not ready to implement MARC 21 for holdings?

DH: I hope it has lit a warm little blaze under their desk chairs! Seriously, though, even libraries that knew they couldn't implement right away have been instrumental in bringing some of the library system vendors around to fully implement MFHD, and we couldn't have done it without their cooperation.

FR: If Wen-ying Lu also is participating in this interview series, she will be the best person to answer this question! She and Paul Moeller recently conducted a survey on serial holdings which you may have seen on several discussion lists. They asked, among other questions, whether pattern fields now displaying at the bottom of a large number of OCLC serial records had at least attracted the notice of many libraries. The results of this survey should be out soon. The fact that two system vendors have developed loaders for the MARC data should definitely attract some of their reluctant customers, who may be considering predictive check-in and would benefit from some ready-made patterns. We would also like to see more loaders developed rapidly.

[Ed. note: By pure coincidence, their survey results are published in this issue of *Serials Review*].

JW: One of the goals of the CONSER project is to work with ILS vendors to develop systems that support MARC holdings. What is the current state of MFHD compliance by ILS vendors?

DH: Much better than it was in the beginning. Some vendors made false starts, hoping to implement in ways that would give them competitive advantage and an easier interface, but most of them have come round to understanding that it's the ability to exchange full standard data that's at the core of the effort, and sexy proprietary interfaces won't sell if they get in the way of that goal.

FR: It is mixed but improving. It would be difficult for any vendor to keep up with the changes (really improvements) in the format designed to predict more serials accurately. Implementations are some years behind what the Format contains; however, we have to remember that the Format does not tell vendors how to implement its provisions. Instead, change happens as vendors are challenged to accommodate incoming MARC data. If the system isn't adequate to handle it, the customer will probably not be satisfied with a "down-migration." I think this, along with competition in general, is the greatest spur to better implementations.

JW: Diane, you noted in a NASIG presentation that Z39.71 is to MFHD as AACR2 is to MARC bibliographic standards, which marvelously illustrates the two tracks of holdings standards.<sup>3</sup> Could you elaborate a bit more on the relationships between Z39.71 and MFHD? How different is the current standard Z39.71 from the previous standards such as Z39.42, Z39.44, and Z39.57?

DH: The earlier standards maintained a somewhat artificial separation between serials and non-serials, which were coming undone as MFHD was developing and digital resources finished the job. Z39.71 brought the serial and non-serial standards together into one standard. It is interesting to note that the late (and sorely missed) Ellen Rappaport, who was working for Albany Law School at the time, was co-chair of the NISO committee that developed the standard. She wrote an excellent summary of its history and highlights for her law library colleagues, available at http://www.aallnet.org/sis/tssis/tsll/26-0304/serliss.htm (accessed February 13, 2005).

The Z39.71 standards contain most of the context and definitions crucial to understand MFHD, and the MARC standard provides the "packaging" that supports the sharing of holdings data created according to Z39.71. They are very intertwined at the conceptual level, certainly.

JW: Frieda, you have played a key role in developing the CONSER Guidelines for Input of Captions/Patterns and Holdings Data, the Serials Holdings Workshop course materials for the Serials Cataloging Cooperative

#### Parks / Serials Review xx (2005) xxx-xxx

Training Program, and Holdings Guidelines for NASIG. What are some of the issues that you have been dealing with when writing the documentation? How do you think librarians and library staff benefit from using these educational materials?

FR: Each of those guides was designed for a different user group with different objectives. The guidelines are in the initiative's participant manual, and solely written for those who input 891 fields (embedding 853/863 fields, the basic "paired fields" of the MFHD) into OCLC bibliographic records. They would probably bewilder someone unfamiliar with the special aims of that project, and they leave out all sorts of information that would be necessary in creating local holdings, since the 891 fields are meant to contain "universal holdings" or "publication history" fields. The holdings workshop, within its time constraints, is designed to give an overview and introduction to the subject of local serial holdings, along with some concrete guidance to get people started creating holdings records. It does answer some "why" questions and has appendices, which tackle a few subjects that the workshop can't cover in depth. One of these appendices is a brief code-by-code handbook also available on the Web (http://www.lib.unc. edu/cat/mfh/mfhhandbook.html, accessed February 13, 2005). The NASIGuide, which should be available by the time this issue is released, is a much more leisurely and in-depth survey of the MFHD. It tries to cover many more issues, such as migration and conversion of specific fields, than previous guides. Where interpretations have differed in the past, the NASIGuide will discuss them at length and give the reason why one interpretation has prevailed or is favored. I hope that not only librarians and library staff, but also system vendors and bibliographic utilities can take advantage of any of these documents and feel on more solid ground in an arena of competing demands.

JW: We know that OCLC is implementing MFHD; you both have been invited to serve as advisors to aid in the implementation. What sorts of results do you envision with this project?

DH: I was very impressed with the group at OCLC that is working on their MFHD implementation. They went through the standards documentation with a finetoothed comb and asked us a great number of really good questions. Their first task is translating their union list data, and I think they've found the right balance in approaching that task.

FR: We are understandably elated by the whole idea of the LDR (OCLC's Local Data Record) finally being MARC-based. We understand that OCLC is taking this step because they are receiving better data from many libraries and no longer find it acceptable to use only part of it. The most revolutionary benefit, however, will be that OCLC will convert non-MARC records (far more reasonably, we feel, than a library could do on its own) and the library will have the benefit of that MARC data for further use. Even libraries not intending to union list that data could have it processed for migration or other purposes. It would be impossible to take such a giant step forward without the willing cooperation of our largest bibliographic utility, which also hosts the CONSER database and the Publication Pattern Initiative data.

JW: Diane, you currently chair the CONSER Task Force to Explore the Use of a Universal Holdings Record. What is a universal holdings record? How is it different from "publication history?" Why do you think the concept of universal holdings is important in today's shared environment for holdings records?

DH: In late summer 2001, Ellen Rappaport and I floated a short discussion paper beginning to define a universal holdings record, based on the notion that what was published for a title was important data bibliographically and should be represented in a holdings record (available at http://content.nsdl.org/dih1/ PubPatt/Universal\_holdings\_statement.html, accessed February 13, 2005). Once the Publication Pattern Initiative began, the Task Force to Explore the Use of a Universal Holdings Record was charged. One of our first tasks was to find a new name for the "thing" we were talking about because apparently the one Ellen and I chose was confusing people. The task force finally settled on "publication history record" after some discussion sessions with groups of interested librarians, and it seems to have stuck. But of course, the task force still has the old name!

I think what confused people at first was this notion that holdings were institution-based, but the publication history record is really part of the complete bibliographic description, conceptually speaking. But if you think about it, what it provides is a template against which holdings can be matched and compared. From that basis, a display relating holdings within an institution, among versions (digital, print, microform) can be constructed. With a publication history record with a currently maintained publication pattern, you also have the basis to exchange information on newly published or available issues and volumes, as well as almost enough detail to construct a standard citation for an article. It is a really powerful underpinning for many of the data exchange challenges we're struggling with today, and the best thing is that increasing numbers of libraries are committing to using and maintaining it in common with others. We are building the same kind of shared environment that we've had for almost forty years with bibliographic data, with the same strengths and infrastructure that did the job for us then.

JW: The term "serial super record" came up at the 2004 ALA Annual Meeting last June. Could you tell me a bit more about this new record model? How does this type of record fit into the FRBR concept and how does it relate to the "holdings record"?

DH: Frieda and I have been circulating a short paper on this for some time (see http://www.lib.unc.edu/cat/mfh/ serials\_approach\_frbr.pdf, accessed February 13, 2005), but this fall an article in *LRTS* by Kristin Antelman came which really supports our notion, with some excellent research and summarization of various approaches included.<sup>4</sup>

The "super-record" operates to a great extent as a FRBR work record in ways that make far more sense in a serials context than an authority record does. The best part of it is that most of the relationship links needed to support such an entity already exist in serials bibliographic records, which suggests that much of the work in creating these records, at least at first, could be done algorithmically. There are still a lot of critical questions to be answered, primarily concerning how these records fit into our current bibliographic universe, how should they be distributed and maintained, etc.

FR: Again, we are delighted that OCLC is also interested in the "super-record." The "super-record" actually stems from a concept first encountered in an article by Melissa Bernhardt (Beck) in Cataloging & Classification Quarterly in 1988.<sup>5</sup> The article suggested utilizing the encoded control numbers within 780 and 785 linking fields in searches to create a tree display of related serial titles. Though the article did not discuss holdings in detail, it did suggest that some local holdings information be displayed along with the tree. When the Task Force on the Uses of a Publication History Record, chaired by Diane Hillmann, took up this idea, we used Melissa Beck's concept along with Rahmatollah Fattahi's terminology of a "super" work<sup>6</sup> to collocate the related titles for successive entries (780/ 785) and simultaneous versions (776). The record might be a virtual record created on the fly by a looping search of the appropriate linking field control numbers and titles on each record, continuing until a match was found, and displaying the results in a variety of ways including graphical displays. Most important for the Initiative was the provision that the publication history record for all successive titles-a MFHD record showing a "perfect" or complete set of volumes and issues-be constructed and displayed as a unit for each format. The concept might be further adapted to local holdings. More elaborate ideas, suggesting some different and more exhaustive ways of attaining this kind of collocation, are coming out of the FRBR task groups as they tackle serial relationships in their discussions.

JW: Diane, you were one of the invited speakers for the 2005 ALA Midwinter Symposium on "Codified Innovations: Data Standards and Their Useful Applications," which brings together collective efforts from systems vendors, standards representatives, and librarians. What specific standards were discussed? What roles does each constituent play in implementing the standards?

DH: I talked about some of the work we've been discussing, and, in addition, there were discussions of ISSN (and other identification standards, as well as OpenURL), standards relevant to electronic resource management, ONIX, ISTC and dispatch data used by serials vendors and publishers.

JW: Frieda, you gave a workshop titled "Do Holdings Have a Future?" several years ago.<sup>7</sup> What *is* the future for holdings in your view?

FR: I think it is only being realistic for even a die-hard cheerleader for holdings to say that once all present and past serial literature is digitized and readily available online at the issue and article level, local holdings-and surely the local catalog as well-will be only relics, replaced by newer systems of organization of information. Both digitization and the user flight from printed resources are already starting, but they are still gradual processes and reserved for institutions and libraries in the parts of the world that can afford the increased cost of digital materials. For a long time to come there won't be digital access to everything or the access won't be universal. If we abandon our stored treasury of information instead of finding ways to make it more accessible, we won't be fulfilling the library's mission.

JW: Is there anything else that I haven't asked, but you would like to add?

DH: I think it's important to stress how the work above fits into the larger picture. Libraries have an enviable tradition of metadata sharing, supported by a strong infrastructure. Building on that base, and moving, as libraries have always done, from the monographic to the serial (and beyond), I think we'll start to see the same kinds of standardization and normalization that we saw in the early days, as shared bibliographic data became the norm in libraries. CONSER was in the forefront of those efforts and continues to provide important leadership now. I remember well the grousing and grumbling of that era, as we moved towards a common understanding of our goals and realized some truly astounding efficiency in the process. We take all that for granted now, so these efforts to expand on that success seem new and different. We somehow need to reassert what we already know to be true-shared data built on standards is cheaper, better, and the only way to go!

FR: I'd like to expand on something related to your second question. That is the increased importance of local item information to online remote searching. Item information conveys the physical (or conceivably virtual) unit in which the sought piece is available. This information is being created separately from holdings and stored in many proprietary formats as textual strings. Transactional information, also proprietary is added to the items to reveal the status of an item at a particular time. Communication and migration of this information is often problematic. I think that in an ideal library system, the summary holding, physical item information, and uncompressed issue information would be a view of one file obtained through automatic compression and expansion. That may no longer be possible. But since remote communication of information at the more granular level, along with its status, has proven important, what can we do to standardize it within library systems? ... And I'd like to thank you for some interesting questions.

Parks / Serials Review xx (2005) xxx-xxx

### Notes

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