Book Reviews

Gregory H. Leazer, Editor

From A to Z39.50: A Networking Primer. By James J. Michael and Mark Hinnebusch. Westport, Conn.: Mecklermedia, 1995. 166p. Paper. $35 (ISBN 0-88736-766-6).

The Z39.50 standard, as library professionals should all know by now, is a network protocol developed by the library community primarily for information retrieval among dissimilar, Machine-Readable Cataloging (MARC)-based bibliographic systems. It was adopted as an official standard of the National Information Standards Organization (NISO) and the American National Standards Institute (ANSI), NISO's parent body, in 1988; the most recent edition, known as Version 3, was issued in 1995.

In a very real sense and at long last, Z39.50 extends to the end-user many of the benefits in standardization and cooperation envisioned when the MARC formats were first developed. In its ideal implementation, Z39.50 will allow a library catalog user, using his or her own local system, to search a number of remote library catalogs in quick succession using the local system's commands and to see results conveyed in the local system's familiar, native display format. Virtually all major vendors of library automation, and a good number of providers of indexing and abstracting information, now offer access via Z39.50; the list of universities and other institutions that have implemented Z39.50 servers for their own library catalogs exceeds one hundred and grows daily.

Apart from the development of the MARC standard itself by the Library of Congress in the late 1960s, Z39.50 must be considered the signal contribution of libraries to information retrieval in this century, even though—after more than ten years of development—its promise is only now being realized. Unfortunately, for the most part, today's new global information market is characterized by dizzyingly fast technological obsolescence, and hard-won technology standards can easily be overwhelmed by popular and innovative proprietary approaches. Now that we finally have the promise of Z39.50 within our grasp, we might shortly have to face the urgent question of whether the new "wired" era will shortly relegate Z39.50 to the dustbin of good—but outmoded—ideas, or whether this visionary standard will survive to become one of the building blocks of libraries' quadrant of cyberspace.

While *From A to Z39.50* does not seriously attempt to address this new set of problems, it does serve as a useful summary of the origins of the standard and includes a detailed conceptual overview of the protocol as it was seen in late 1994 by two of the contributors to the standard, James J. Michael, vice-president of Data Research Associates, and Mark Hinnebusch, network administrator for the Florida Center for Library Automation.

The work is divided into twelve essays. The first six, by Michael, address the history and purpose of the standard, and the remainder, by Hinnebusch, discuss technical aspects of Z39.50 and related protocols. While both sections of the book convey a great deal of important information, there are, unfortunately, virtually no points of connection between the two. This is so much the case that one suspects a long distance collaboration or perhaps even two different books masquerading as one. A more cohesive work might have been better able to show the ways in which the protocol itself reflects both the peculiar requirements of the library commu-

nity and the particular standards development process that was brought to bear. Michael's sections, moreover, show a repetitiveness and first person folksiness that suggest the essays might have been cobbled together from past speeches and presentations, though this is nowhere mentioned in the publication. In style his essays too often rely on sweeping assertions and exhortations rather than carefully-reasoned arguments. For example: "Personally, I believe strongly in technical standards, (i.e., standards that are arrived at by consensus and that are formalized)" (p. 28) and "If anyone is not willing to acknowledge [library] interdependency, then forget about [Z39.50 information retrieval], ILL, and document delivery. To talk only about cooperative collection development and resource sharing is ... hypocrisy" (p. 42). However much one might agree with Michael, the reader would be better served by less posturing, fewer aphorisms, and a more careful editorial hand.

Still, Michael is persuasive in many of his chief arguments, among them the obsolescence of the ALA/NISO standards process that has held sway for the last fifteen or twenty years. He makes an eloquent plea for a process of modeling and prototyping standards rather than simply inventing them in committee. Further, he reflects the same frustration with NISO's dated paper- and fee-based approach to standards publication that many in the field have felt: "It seems ludicrous that we spend time developing standards to promulgate as widely and as quickly as possible and then insist on delaying promulgation by publishing in print format and charging for that print format. Months and dollars could be saved by making these standards available over networks" (p. 27). Of course, Michael's point would have been somewhat more persuasive if it had appeared in an essay published for free over the Internet rather than in a thin, $35 paperback book. Perhaps, however, Michael's views have already had some beneficial effect, because Z39.50-1995 is now available for free electronically in several formats from the Library of Congress at: http://lcweb.loc.gov/z3950/agency/1995doce.html. Nevertheless, NISO has not changed its overall policy in this regard.

Michael's portion of the book does provide an excellent example of how the process of creating library standards has matured during the last ten years and how representatives for library automation vendors, non-profit bibliographic utilities, and research libraries have learned to collaborate on technical standards development. Working together they have created prototypes and testbeds to serve both groups' interests. This is a process that other NISO and ALA standards groups of all kinds would do well to emulate.

This publication has the distinction of being probably the only book length treatment of Z39.50 (though LC's lack of an established subject heading for the standard makes this difficult to determine with absolute confidence). Most of the existing literature on Z39.50 has so far been found in journals, technical documents, listservs, and World Wide Web sites, and those wanting more comprehensive and up to date information will have to seek it there. The ideal audience for this book would appear to be working library professionals wanting to catch up in this important area of technology and willing to mull over a fair number of network protocol architectural and process drawings along the way. The book would seem to be ideal, as well, for a library school survey course on networking thanks to shorter sections describing related networking standards, including Transmission Control Protocol/Internet Protocol (TCP/IP) and Open Systems Interconnection (OSI). Serious library automation professionals, and those aspiring to such work, will find this a useful point of departure and a provocative discussion of library standards-making.

Because *From A to Z39.50* mysteriously includes neither a bibliography nor a "webography," it is useful to cite here the two major online information sources currently available: the Library of Congress' Z39.50 maintenance agency site (http://lcweb.loc.gov/z3950/agency/); and the InterNIC Z39.50 resources page (http://ds.internic.net/z3950/z3950.html). The LC site has grown to be quite comprehensive, with its own bibliography, links to online

versions of papers on Z39.50, minutes of the Z39.50 Implementers Group (ZIG), and many other resources.

It might be a service to the library community to see either the authors or others working with the standard follow up this book with a series of essays, preferably made available online, that present in a relatively non-technical way some of the issues and design considerations that have arisen during more recent work. Some subjects worthy of discussion include the digital collections profile, the Computerized Interchange of Museum Information (CIMI) profile, ranked list query, the Inter-Library Loan (ILL) protocol, and structured vocabulary browse proposal. Beyond these, of course, lie the larger questions: in a world of creative, new, non-library-based indexing and retrieval services such as Alta Vista, Excite, Lycos, and the many others to come—services with huge composite megaindexes that will in due course include a great deal of bibliographic information—will there still be a need for Z39.50's approach to intersystem communication? Further, when document ordering, browsing, reading, and "microcharging" can all take place over the Web, directly at the publisher's Web site, will there still be a role for Z39.50 at all?—*Stephen Paul Davis, Columbia University*

Works Cited

Z39.50-1995 Information Retrieval Application Service Definition and Protocol Specification for Open Systems. 1995. ANSI/NISO Z39.50-1995. Bethesda, Md.: NISO Press.

Knowledge-Based Systems for General Reference Work: Applications, Problems, and Progress. By John V. Richardson, Jr. San Diego: Academic Press, 1995. 355p. (ISBN 0-12-588460-5). LC 94-31851.

Two monographs on the subject of expert systems for reference services were published before this book. The first, entitled *Expert Systems In Reference Services*, was originally published as a special issue of *Reference Librarian* in 1989. It contains eleven articles that describe the potential of expert systems and document several microcomputer-based prototypes (Roysdon & White, 1989). Alberico and Micco (1990) share a scope similar to that in Richardson's book. Both provide a general introduction to artificial intelligence and expert systems, and address the modeling of reference services. Although both books include surveys of expert system applications in reference services, Alberico and Micco's is more a broad overview, while Richardson treats the subject in more depth.

In the first half of chapter 1, Richardson systematically explores the history of reference teaching and the reference paradigm. Richardson does so by examining the tools for teaching: its textbooks. Individual textbooks are considered in chronological order, and Richardson devotes a separate section to each one discussed; the name of the textbook writer serves as the section heading. Each section begins with brief background information about the textbook writer followed by an analysis of the book itself. The fact that Richardson almost always begins each section with a biographical note on the textbook writer lends his study a decidedly historical flavor. In analyzing the textbooks, Richardson looks for answers to three questions: (a) How are reference works arranged (i.e., format)? (b) How is reference work described (i.e., method, or so called procedural knowledge)? and (c) How does the reference librarian interact with the user (i.e., mental traits)? By considering these questions, Richardson is able to explore the three basic facets of a paradigm for teaching reference work. That paradigm is discussed in detail in the second half of the chapter.

Chapter 2 defines an expert system by briefly outlining its major aspects: its history, types of knowledge, inference engine, system interface, the major AI (artificial intelligence) programming languages, and knowledge elicitation methods. Richardson justifies the role of expert systems in library and information science (LIS) in the final section of this chapter, by pointing out all groups of people who should have vested interests in expert system development.