Becoming Digital: Policy Implications for Library Youth Services

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ABSTRACT

THE AUTHOR FRAMES THE POLICY ISSUES surrounding children and digital libraries by establishing two criteria for decision making: (1) Does this policy facilitate access to information by children and young adults? and (2) Does this policy enable the library to provide better service to children and young adults? The intellectual freedom issues are discussed along with the range of responses to them, including the use of filtering software and the teaching of information literacy skills. Both the digital challenge to conventional collection development policy and the problem of equity are linked to the issue of access to information. The outcomes for children from digital libraries are weighed, and a policy metanarrative is constructed from the conflicting images of the child in the digital world by including the computer as an active protagonist interacting constructively with the child.

INTRODUCTION

Nicholas Negroponte (1995), founding director of the Media Lab at the Massachusetts Institute of Technology, writes persuasively about an emerging digital world that is defined in electronic bits, not the physical atoms that comprise books, magazines, and videocassettes. This transformation from atoms to bits is both irrevocable and unstoppable, he claims, and the rate of change is exponential.

Much of the literature on digital libraries also seems to be making the claim that the transformation from libraries with walls surrounding

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collections of print to virtual libraries with access to unlimited electronic resources is both irrevocable and unstoppable. This is not to say that there have been no skeptics or voices of caution. Walt Crawford and Michael Gorman (1995), for example, write about the fallacies of what they term "technolust" in the library community and argue for the addition of digital materials to collections of print and other media, not the replacement of print with digital artifacts. David M. Levy and Catherine C. Marshall (1995), both researchers associated with the Xerox Palo Alto Research Center, have also been critical of the assumption that libraries will become completely digital, pointing out that collections have never been completely print either. Much of the discussion of digital libraries, however, has been informed by a kind of technological imperative and a belief in their potential for providing better information services. Karen M. Drabenstott (1994), for example, in her *Analytic Review of the Library of the Future*, offers the following as a "shared vision of the future": "There is an evolving shared vision of the new information world. It is a world of ubiquitous, reasonably priced digital information in any and all media, available to everyone from a computer, television, palm, or wrist, as predictable, ordinary, and universal as a toaster" (p. 7).

The rate of change to the new information world described above, if not exponential, is faster than many might have predicted. In 1994, 20.9 percent of all American public libraries were connected in some way to the Internet; in 1996, this number had grown to 44.6 percent, an increase of more than 100 percent (Bertot et al., 1996, p. 13). The percentage of schools with Internet access increased from 35 percent in 1994 to 50 percent in 1995 (National Center for Education Statistics, 1996, p. 9).

What Drabenstott describes as a "shared vision," however, is actually the product primarily of individuals associated with large research libraries and electronic library utilities. It has its origins in a perceived paradigm shift from acquisition to access in many large libraries, in the need to control or reduce the costs associated with acquiring and storing large complex collections, and in the explosion of a number of enabling technologies which facilitate digital access to information.

Librarians serving youth in public and school libraries have been early and active adopters of information technologies of all kinds. Frances Jacobson (1995) is exemplary of these reflective practitioners; in addition to her own thoughtful implementation of digital resources in the library that she manages at the laboratory school at the University of Illinois at Urbana-Champaign, she has investigated the meaningful integration of information technology in other high school library settings and shared her findings with the professional community. Scholars such as Delia B. Neuman (1993) and Paul Solomon (1993), among others, have contributed to a small but growing body of research on young people's use of electronic media. The Science Library Catalog project at UCLA

was an extended research study of children's use of electronic catalogs which yielded a number of findings that have contributed to our understanding of the ways in which children search for information in a digital environment and have led to the development of more age-appropriate interfaces to electronic catalogs (Borgman et al., 1995; Hirsh, 1995; Walter et al., 1996). In spite of these and other indicators that children and young adults comprise an important segment of the emerging digital library user community, the particular needs and interests of children and young adults have not been highlighted in the general professional discourse on digital libraries.

The focus on children's interaction with networked information has come from outside the library and information science field, primarily from those who seek to protect young people from sexually explicit materials and from contacts with adult sexual predators. There is some danger, therefore, that other policy issues relevant to libraries serving young people may be overlooked or misrepresented. This article is intended to provide a framework for integrating the policy implications for youth services into the larger discussion on digital libraries. The author assumes that library services for youth are, in fact, becoming digital and argues for the development of policies that will meet the needs and best interests of children and young adults during this transitional period.

Thinking about Policy

Policy is about choice. Policies are deliberate choices or decisions that guide actions and influence outcomes. Foreign policy guides a country's relationships with the outside world. Economic policy attempts to guide the complex exchange of goods and currency in a society. National information policy is the growing arena represented by such recent legislation as the Communications Decency Act and the Clinton Administration's initiatives to connect schools and libraries to an Information Superhighway. Organizations also have policies which guide such matters as personnel decisions and interactions with the media. Libraries typically have internal policies which guide collection development and service priorities. Library policies are traditionally informed by principles of intellectual freedom, as defined by the American Library Association's Bill of Rights and by their own tacit or implicit mission statement. In other words, choices made by library decision-makers are presumed to facilitate, rather than restrict, access to information and to advance the library's ability to serve its clients.

The overarching criteria for decisions made in the process of digitizing libraries intended for young people then should be: (1) Does this policy facilitate access to information by children and young adults? and (2) Does this policy enable the library to provide better service to children and young adults?

Digital Libraries and Children's Access to Information: The Intellectual Freedom Issues

The American Library Association has adopted an interpretation of the Library Bill of Rights that relates specifically to access to electronic information, services, and networks (American Library Association, 1996). This document reiterates ALA's long-standing commitment to the rights of minors to information. In language which has become customary in library intellectual freedom documents, concerned parents and legal guardians are advised of their responsibility to provide guidance only to their own children. Some youth advocates may feel that libraries have an obligation to ensure that even parents do not limit children's access to information; ALA has resisted taking this more radical position and stops merely at the point of libraries acting *in loco parentis.* The potential for accessing pornographic materials or for adults to obtain personal information about children through the Internet has, however, raised a firestorm of concerns, policy responses, and technical innovations designed to restrict children's access to networked information.

The cover of the July 3, 1995, issue of *Time* magazine showed a bug-eyed toddler with chubby fingers poised on a computer keyboard. Bold capital letters across the child's chest screamed "Cyberporn." The cover story by Philip Elmer-Dewitt (1995) reported a study of online pornography conducted at Carnegie Mellon University in which 917,410 sexually explicit items on the Internet were surveyed. The author notes: "The great fear of parents and teachers, of course, is not that college students will find this stuff but that it will fall into the hands of those much younger—including some, perhaps, who are not emotionally prepared to make sense of what they see" (p. 40). He goes on to tell about a New York City ten-year-old who received a mysterious file from a stranger in the children's Treehouse chat room on America Online. When he downloaded the file, he got a screen containing ten small pictures of couples engaging in various forms of sexual activity. Although the methodology of the Carnegie Mellon study was subsequently determined to be flawed and its findings suspect, the damage had been done in the national policy arena. The Internet was cast in the public's mind as a potential conveyor of smut to children.

In spite of the assertions by a number of experts that the likelihood of such an occurrence is small, the possibility of children's exposure to such graphic pornography online was the trigger for the passage of the Communications Decency Act, sponsored by Senator James Exon. The law, which was successfully challenged in the courts by a coalition which included the American Library Association, criminalizes the act of knowingly making indecent material available to children under eighteen years of age. ALA has taken the high road on this issue, challenging the law as being inconsistent with individuals' First Amendment rights. Some li-

brarians and educators have admitted, privately, however, to being uncomfortable with the uncontrollable anarchy and untrammeled content of the Internet and question its appropriateness as an information resource for children.

When Bruce Flanders (1994), director of technology for the Kansas State Library, surveyed a number of school librarians in 1994, he learned that restriction of student access to the Internet was common. In spite of librarians' personal commitment to intellectual freedom, they reported conflicts with other public school policies and mandates. Parental pressures made the issue of networked information sensitive in many school settings. There was an expressed assumption held by these school librarians, however, that public libraries might offer more unrestricted access to young people. Are public libraries ready to take this risk?

MultiMedia Schools is a journal devoted to extending the use of information technologies in K-12 schools; its articles tend to be up-beat and practical, full of tips for using multimedia resources in classrooms and school library media centers. It is interesting to note, therefore, the cautionary tone of a recent article by Sally Laughon and William R. Hanson (1996). In "Potholes on the Infobahn, Hazardous Conditions Ahead?" they outline the problem areas that are emerging as schools connect to the Internet. They note the potential for abuse of e-mail as a conduit for offensive speech and harmful materials such as information for organizing terrorist activities. The authors call attention to sexually explicit and racist newsgroups and Web sites. They warn about students' ability to clog bandwidth by overuse of File Transfer Protocols, downloading lengthy files from distant servers. They describe the twin phenomena of cyberstalking and trolling, forms of sexual harrassment practiced in MUD (Multi-User Dungeon) and MOO (Multi-User Object Oriented) digital environments.

Yet another objection to the content of the Internet has been spearheaded by the Washington-based Center for Media Education (CME). This group has called attention to what they feel is manipulative advertising and child-centered marketing which businesses such as Kellogg, Nabisco, and Frito-Lay have launched on the World Wide Web. The concern is not just that children are being exposed to commercial advertising, but also that they are being asked to provide personal information about themselves as a price of entry to these attractive Web sites (Gellene, 1996). CME is pressuring the Federal Trade Commission (FTC) to develop guidelines on Internet advertising to children comparable to guidelines in place for commercial television. While it is possible that there will be some action to restrict the practice of companies' collecting information directly from children online, the FTC is not expected to move to eliminate these child-oriented commercial sites completely (Branscum, 1996). Disney and other companies who target children and

families are not likely to abandon this opportunity to build brand loyalty in the affluent computer-literate segment of their market. Partnerships between corporate interests and children's library services have occasionally generated controversy in the past, with segments of the profession objecting to the alignment of libraries with MacDonalds to promote children's reading, for example. It is reasonable to expect that some libraries will feel uncomfortable about serving as a conduit for commercial messages on the Internet, however passive the library's role might be.

The Technical Response: Filtering Software

The Communications Decency Act is just one example of an initiative designed to limit children's access to digital information. The development of a variety of blocking and filtering devices is another. Commercial products such as SurfWatch block access to objectionable sites; Net Nanny monitors online interaction and pulls the plug when prohibited phrases such as "What's your name?" appear (Quittner, 1995). While such software programs may reassure concerned or paranoid parents, intellectual freedom advocates feel that they violate the First Amendment responsibilities of libraries. In an interview reported in *American Libraries*, Judith Krug, the executive director of ALA's Office of Intellectual Freedom, objected to the practice of libraries turning over parental responsibilities to a commercial vendor and expressed concern about the potentially useful information about sex that would be blocked (Goldberg, 1995). Use of filtering software may not even provide the protection from liability that some schools and libraries are seeking. There is some speculation that, if an institution claims to be blocking access to inappropriate sites through use of a filter, it may be legally responsible for any objectionable materials that minors do manage to find (Buchanan, 1996). The murky waters of cyberspace law leave this and many issues unresolved.

In a far-ranging polemic about children's rights in cyberspace, Jonathan Katz (1996), a contributing editor to *Wired*, criticizes some leaders within the online community for advocating the use of blocking software for children. He feels that some people are selling kids out in order to divert attacks away from their own online liberties. His defense of children's access to online information is based on a vision of the responsible child, one who works well in school, has demonstrated that he or she does not intend to hurt others, carries a reasonable share of work at home, and avoids drugs, alcohol, and cigarettes. Such children have earned the right to be respected, Katz argues, along with the related rights to help redefine education, literacy, and civics for their generation; to have unrestricted access to their culture; to assemble online; and to have equal access to new technologies that deliver information, education, and culture, regardless of socioeconomic level (p. 166). The use of blocking devices such as software filters or V chips is an abuse of adult power and

the antithesis of trust and rational discourse between adults and children, he says. Katz worries that censorship and restrictions in one area—e.g., sex—will spread to other topics that adults want to limit, from politics to evolution. Even more seriously, he speculates: "Some children reared on this stuff will inevitably grow up thinking that the way to deal with topics we don't like is to block them—remove them from our vision and consciousness" (p. 170). He also points out that the software won't work; kids will figure out how to get around it. They would be better off if parents guided them personally into cyberspace, helping children understand what is inappropriate or dangerous. The real world is sometimes pornographic and violent; children would be *more* protected if they learned how to deal with it in a rational and supervised way than if they were sheltered by the artificial limitations of filtering software. There is no filtering software on reality. While Katz makes an articulate, impassioned, and convincing plea for guaranteeing minors access to digital information, he is still basing his argument on a narrowly defined understanding of a "responsible" child. Does this mean that irresponsible children who do not carry their weight with household chores or those who dabble with cigarettes should be denied intellectual freedom rights in cyberspace? Librarians are not accustomed to restricting rights to merely those individuals who prove that they are responsible; they guard the intellectual freedom rights of all people.

Information Literacy: The Educational Response

What Katz is actually advocating, of course, is that children be given the skills they need to survive in the digital age. In the library profession, we have begun to think about these skills as a package we call information literacy. School library media specialists have been among the forerunners in understanding the need to move beyond their traditional library skills training to a more sophisticated and relevant training in information literacy. Their credo is stated in *Information Power: Guidelines for School Library Media Programs* (ALA, 1988): "The mission of the library media program is to ensure that students and staff are effective users of ideas and information" (p. 1). The information-literate person has been more specifically defined as one who recognizes the need for information; recognizes that accurate and complete information is the basis for decision-making; formulates questions based on information needs; identifies potential sources of information; develops successful search strategies; accesses sources of information, including computer-based technologies; evaluates information; organizes information for practical applications; integrates information into an existing body of knowledge; and uses information in critical thinking and problem-solving (Doyle, 1994). These abilities, closely related to critical thinking and problem-solving, have long been linked to the teaching of the research process in formal

education programs. There is a growing awareness, however, that the proliferation of digital information poses new challenges to the acquisition of information literacy and, at the same time, makes these skills even more important. The vast unorganized digital resources available through the Internet make developing successful search strategies more problematical and evaluating the authority of the information found both more difficult and more important than in a traditional library with its carefully chosen collection.

It is likely that offering Internet access to library patrons will require that all public service librarians become educators, offering training in the effective use of digital resources. Whether this is done formally, in Internet classes, or informally, as a routine part of reference work, it may become a matter of policy that we ensure that our users have access to information literacy skills as well as to information resources. Some libraries are already offering "drivers' training" for the information superhighway. At Enoch Pratt Free Library, for example, at-risk youth ages nine to fourteen are given an eight-week training session that gives them the competence and the confidence to explore the Internet and the World Wide Web on their own (Mondowney, 1996). At a minimum, librarians may need to be certain that they are competent themselves to guide users to the complex world of digital information.

The Digital Challenge to Conventional Collection Development Policy

In addition to providing one-on-one reference assistance, librarians serving children have long relied on their collection development policies to ensure that appropriate and needed information resources were available to their users. Collection development is still a mainstay in most graduate programs in library and information science, and standard texts for children's library services devote considerable space to the topic. Jane Gardner Connor (1990) confidently asserts: "The materials collection is the heart of a library" (p. 15). She then goes on to give good advice on how to develop a collection that responds to the needs of the community and that provides an appropriate balance between quality and demand. Mae Benne (1991) notes that children's collections have a somewhat different emphasis from adult collections, being designed to promote reading as well as to provide reading. She writes: "If children's librarians were asked to define the major purpose of their specialty, most if not all would emphasize the reading experience and the obligation to help children become readers of literature that can make a difference in their lives" (pp. 114-15).

Information Power (ALA, 1988) is more forthcoming in its acknowledgment of multiple formats and nonprint media as integral components of the materials collection but is no less compromising on selection crite-

ria. The authors note that the primary criterion for selection is the educational suitability of the resource for its intended use. Other criteria include the intellectual content of the material, the philosophy and goals of the school district, and characteristics of the user (pp. 74-75). How do school library media centers which adhere to these criteria make room for the Internet, with its many noneducational applications, the dubious authority of much of its intellectual content, and the lack of consideration for the age and experiences of its users?

Adding the resources of the Internet to the materials already available to children in a library throws most of the traditional assumptions about collection development into disarray. Internet resources are not evaluated in any way; they are not selected for their relevance to a particular library's users or for their quality or their accuracy. We all understand now that literally anyone can publish on the Internet. There is no assurance of editorial authority or even basic integrity. The promotion of reading is not a consideration for most Web sites. It is obvious that many materials are available on the Internet which no children's librarian would consider for inclusion in their regular collections. Children's librarians and library directors may wonder if they are abandoning a professional responsibility by allowing this anarchic flood of information into their libraries.

The Internet in effect shifts the responsibility of collection development from the professional librarian to the individual user. World Wide Web surfers must sift through all available resources and make decisions about which ones are useful, interesting, or appealing. This can be empowering; it can also be frustrating. Internet users, faced with a sea of information where they once encountered only a pond, may be more likely to "satisfice"—to make do with information which is easily available—than to persist in a search for the best information. Some libraries are responding with programs of user education such as the one at Enoch Pratt Free Library and with the imposition of "acceptable use" policies.

Schools are increasingly adopting acceptable use policies and technological codes of conduct in an attempt to raise consciousness about the nonselective nature of information on the Internet and to protect themselves from parental complaints and legal difficulties. These policies, often signed by both students and parents to indicate compliance, outline the student's responsibility to use the Internet in a prescribed manner. Both Flanders (1994) and Jacobson (1995) found and reported useful examples of such policies that are already in place. Such policies can be extended to cover fair use of copyrighted material as well, an area of increasing concern as students in constructivist learning environments with access to digitizers and scanners and electronic authoring tools are turned loose to devise their own learning materials (Becker, 1996). More public libraries may want to consider adopting similar policies which in

effect would license only those Internet users who agree to adhere to a set of acceptable use practices. At a bare minimum, public libraries may want to be sure that they make available to parents copies of the pamphlet *Child Safety on the Information Highway* distributed free of charge by the National Center for Missing and Exploited Children (1994).

Equity Issues

Some children are denied access to digital resources not because of national information policy or local censorship efforts but because of their socioeconomic status. Neither their families nor their schools and libraries have computers, CD-ROM drives, or modems. In spite of the exponential growth in telecommunication capabilities noted earlier, most American families still do not have domestic access to digital information. A survey conducted by the Electronic Industries Association for the Consumer Electronics Manufacturers Association revealed that, at the end of 1995, only 19 percent of all American households owned a computer with CD-ROM capability; only 16 percent had modems (Lohr, 1996, p. 6). NetDay, an initiative to use private resources and volunteer labor to get the 13,000 schools in California connected to the Internet, showed a considerable disparity in the ability to generate volunteer resources as well as in the basic technological capacity of the schools. Affluent neighborhoods attracted many volunteers while help was scarce in poor areas (Harmon, 1996).

This inequity in access to the information superhighway is, of course, the problem that ALA Goal 2000 was designed to solve. The ALA Goal 2000 is "to have the American Library Association as closely associated with the public's right to a free and open society—intellectual participation—as it is with the idea of intellectual freedom" (American Library Association, 1994). ALA is committing considerable resources to advancing this cause, including the establishment of an Office for Information Technology Policy in Washington, DC, charged with promoting the development and utilization of electronic access as a means to ensure the public's right to a free and open society (American Library Association, 1996a). Betty Turock (1995), the 1995-1996 ALA president, made equity on the information superhighway the theme of her term in office and tried to get across the message that libraries are the logical social institution to ensure equal access to electronic information.

It remains to be seen how effective school and public libraries will be in facilitating equal access to digital resources. It is clear that they can help. Librarians can be advocates for computer access in poor communities. It is better for children to have access to the Internet in their schools or public libraries than to have no access at all.

The issue of equity has more dimensions than physical access to a computer, however. Pat Tarin (1995) points out that women and minori-

ties tend to benefit less from information technology than do white males because the information has less relevance for them. White men tend to be the ones who design the hardware and software and create the information resources themselves, usually reflecting their own interests and their own styles of information-seeking behavior. Librarians may find it necessary to alert teachers to the inequity of assignments which require students to use digital resources; they may also want to encourage the publication of more ethnically diverse materials in electronic format—as they have already done with print publishers.

Weighing the Outcomes

After the issues relating to children's access to digital information have been solved by wise policies and practices, it still remains to address the second policy criterion: does this policy benefit children? Will children be better served by the digital libraries than they are by traditional libraries? What are the potential outcomes for children and young people of the emergence of digital libraries?

There are some warning signals that the immediate digital future may not be completely beneficial for children. Some studies have failed to show any significant value from the use of multimedia materials in elementary classroom settings (Large et al., 1995). There is still general agreement, after all, that children need to learn how to read, and that appealing, entertaining, informative, inspirational books are still an important element in a child's education. Even Nicholas Negroponte (1995), who claims that his own dyslexia has kept him from ever enjoying books, admits that digital formats have some limitations. Writing about the failure of current interactive multimedia products to engage the imagination, he adds: "By contrast, the written word sparks images and evokes metaphors that get much of their meaning from the reader's imagination and experiences. When you read a novel, much of the color, sound, and motion come from you" (p. 8).

Multimedia and digital publishing, whether in stand-alone CD-ROMs or through networked environments, are still primitive. David Macaulay, whose book *The Way Things Work* has been transformed into an enormously successful CD-ROM, is skeptical about the publishing industry's rush to transform print products into digital formats. When asked if he would recommend the print or the CD-ROM version of his book to a child, he chose the print version. He worries that the entertaining aspects of his CD-ROM—what he calls "the goofy stuff"—may overwhelm the informational aspects (Olson, 1995). Other critics of current early childhood multimedia software are Yasmin Kafai and Eliot Soloway (1994), two scholars who are associated with the development of appropriate computer applications for children. They are particularly dubious about the electronic books on the market today, finding them slow-paced and poorly

produced, with the narration sometimes out of synch with the text highlighting and an overuse of gratuitous click-and-point animation. They are skeptical of the educational value of "edutainment" programs, such as the Carmen Sandiego series, which present decontextualized facts. The potential of multimedia is better met, they feel, in programs such as Kid Pix, where the power of the computer is harnessed to engage a child's sense of play and where the child can use the computer as a tool for creativity.

Yet some school administrators are so eager to join the digital parade that they are investing heavily in technology to the detriment of print collections in libraries. In California, public school libraries are seriously underfunded; the average library has only thirteen books per student, compared to a national average of eighteen or more, and as many as 85 percent of those books are more than twenty years old. School library advocates in the state are noticing a disturbing trend; when limited funds are made available to the library, the money is spent on technology rather than books (Colvin, 1996).

Digital libraries do offer some potentially exciting benefits for young people, of course. Gary Marchionini and Hermann Maurer (1995) paint a scenario of the digital future in which teachers and students have access to information resources and tools that have been both physically and conceptually inaccessible to them. They envision vicarious field trips and virtual guest speakers and opportunities for students to actively publish information where in the past they could only access it.

The National Association for the Education of Young Children has cautiously moved to support the integration of computer technology in early childhood classrooms, as long as computers are used to supplement but not replace such traditional activities as blocks, sand, dramatic play, and books. They find that, when used appropriately, digital resources can enhance children's cognitive and social abilities. In recognition of this finding, their position paper mandates that early childhood educators promote equitable access to technology for all children and their families (National Association for the Education of Young Children, 1996).

Most claims for the value of electronic technology for children have centered not on information retrieval, the traditional library application, but on more constructivist activities in which children are actively engaged in creation, construction, and problem-solving through the computer. Seymour Papert (1993), one of the first gurus of children's computing and the creator of LOGO, a programming language for children, calls the computer the children's machine. He muses about its attraction for children, who have entered into a passionate and enduring love affair with the computer. He notes that many children see the computer as "theirs"; they understand that they are more comfortable with the ma-

chine than their parents and learn to use it more easily. "For the moment," he writes, "some of us old fogeys may somehow have acquired the special knowledge that makes one a master of the computer, but children know that it is a matter of time before they inherit the machines. They are the computer generation" (p. x). Papert expresses the hope that schools will use computers to tailor learning to individual learning style but confesses to being discouraged by the "drill-and-kill" applications he sees being used in most classrooms. Yasmin Kafai (1993) echoes Papert's conviction that children learn best when actually using the computer as a tool, designing computer games, for example, not just playing them. When they are in control, children's understanding of both the computer and its applications grows. The implication for library youth services may be that we need to actively involve children in the creation of our Web pages and the design of catalog interfaces even as we provide them with access to digital information created by others.

Some preliminary research on children's information needs suggests that the most critical of their needs, those related to their own health and safety, are not easily met from traditional print sources. Children ages ten and older are more likely to seek information about personal matters, for example, from their peers than from adults or books. What they receive, of course, is frequently misinformation (Walter, 1994). Perhaps libraries could engage young people in the creation of authoritative digital information resources on topics of local interest—community information for children, neighborhood maps, safe places for kids.

It is difficult to see that children would benefit at this time from libraries which offer only digital resources. In spite of the development of such multimedia products as Knowledge Adventure's "Jump Start Toddlers," Byron Preiss Multimedia's "Baby Rom!" and Dorling Kindersley's "P.B. Bear's Birthday Party," there is little that the digital world has to offer to the youngest library patrons that can compare with the delight and educational value of the best board books and picture books. The magic of story sparked by the immediacy of interpersonal communication makes the traditional library story hour a service that is irreplaceable digitally. Multimedia substitutes pale in comparison, although Microsoft has used the Association for Library Service to Children (ALSC) as a conduit for promoting their alternative vision of CD-ROM storytelling (Herb, 1995).

Perhaps children's libraries that see their vision as being primarily the provision of information will more readily move to an environment that is predominantly digital. Information does seem to move efficiently in bits, as Negroponte claims. Mae Benne is correct, however, that most library services for children are still grounded in a belief in the value of fiction reading, whether the fiction is the Goosebumps series or Newbery Award winners. This is a niche which children's librarians have fought

hard to gain and which they will abandon reluctantly. For more libraries serving children in the foreseeable future, digital materials will probably be an addition to, not a replacement for, print materials.

A Children's Digital Library Policy Narrative

A new approach to policy analysis constructs policy narratives, stories which illuminate and highlight the assumptions for decision making. Emery Roe (1994), one of the proponents of narrative policy analysis, argues that the traditional quantitative methods of assessing costs and benefits are not useful in making sense out of situations characterized by uncertainty, complexity, and polarization. He has applied his methods for narrative policy analysis most successfully in areas where technology is involved. The method involves first identifying the dominant policy narratives surrounding an issue, those stories that illuminate the dominant assumptions held by parties in the issue. These stories are analyzed using any of a number of techniques of literary analysis and, from this, a metanarrative is constructed (or deconstructed, to use the appropriate literary term) that recasts the policy issues in a way that makes them amenable for decision making. Roe points out that, in highly polarized situations, the metanarrative turns the polarization and conflict into another story entirely and may suggest a policy direction where no consensus or common ground was possible (p. 4).

It is tempting to try to construct a metanarrative out of the stories surrounding children and digital libraries. One strand of narrative surely revolves around the efforts of crusading adults determined to protect innocent children from being ravished by cyberpornographers. Another story features the equally innocent child being seduced by digital hucksters, hawking their wares under the guise of harmless online play. There is a whole story cycle about the junior technogeek, surfing the net with ease if not grace, master of HTML and URL, the kid who will hack her way into the library's automated circulation system and erase her fines. There are earnest story lines about the worker of the future, diligently acquiring the job skills he or she will need to be competitive in the twenty-first century or the young digital scholar, online with the world, acquiring educational resources from astronauts in space and pen pals in Russia, the joyful occupant of a virtual classroom or library in a school without walls. There are cautionary tales about unlicensed drivers on the information superhighway.

The differences in these stories lie in their varying construction of the image of the child; they converge only in their placing the child at the center of the story. A metanarrative might bring the computer into the story as an additional character. Sherry Turkel (1995) has been studying the effect of computers on our sense of self, on our identities. Her studies on children's understanding about the nature of computers in

the late 1970s and early 1980s showed that children were unclear about whether computers were alive or not. This ambiguity was not triggered by the fact that the computer exhibited motion, which is the usual source of young children's confusion about what is alive, but because the computer seemed to respond to them. Computers were able to communicate with them, carrying on virtual conversations. These machines seemed to have gifts of speech and reason. Children wondered if the computers "knew" things, whether they could cheat at games. Because the children couldn't see inside the machine, its inner workings were opaque. With no evident batteries to ascribe its functions to, children could only assume that the computer was alive.

More recent research with children who have grown up with more experience with even more sophisticated computers indicates that contemporary children do understand the boundary between people and computers. They understand that the computer is not alive. However, it does seem to have psychological properties. Children apparently regard the computer now as a new phenomenon—a machine with a personality—and they have personal relationships with these likable machines.

Our policy metanarrative might take this personal relationship into account and try to define what kind of relationships we would like children to have with computers, those conveyors of digital information resources. As librarians with a tradition of intellectual freedom, we would seek an open and unguarded relationship between children and computers but one built on mutual trust and respect. We would hope that the relationship is not an exclusive one, restricting or eliminating relationships with other media. In our policy narrative, children and computers would speak the same language and teach each other new skills and tell each other new stories. In our story, adults would be present to pick the children up when they fall and help to fix the computer when it breaks. Adults would be minor characters, however; the children and their machines would take center stage. Our story is likely to be episodic, proceeding in fits and starts to no determinable end. It is not a fairy tale, ending with a "happily ever after"; it more nearly resembles one of the interactive "choose your own adventure" tales.

The policy narrative about children and digital libraries is being told right now. Whatever the outcome, it is probable that it will be more beneficial to children if children's librarians, traditional storytellers that we are, participate in the telling. The "shared vision" that dominates at this time does not include the interests of children; at the very least, we can include them in the story.

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