

The View from Here: Thinking About Libraries and Technology

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Group

Portions of the draft speech, including segments that won't be given and omitting some last-minute segments added after mid-February 2002.

Key Points

I'd like to start with a series of nine central assertions. You might even call these my current credo.

- Good public and academic libraries are both physical institutions and sets of services. They serve a variety of purposes within real communities and colleges, and some of those purposes can only be served effectively through physical libraries.
- We will continue to see revolutionary predictions based on oversimplification, bad economics, infatuation with technology, and failure to appreciate people. Librarians who fall prey to such predictions will suffer, as will their users. Librarians and library supporters must be ready to challenge unlikely projections, analyze faulty economics, and assert the need for choice and the importance of both history and the present.
- Technology and media will continue to interact in unexpected ways, but ways that will lead to more rather than fewer media. Different media serve different kinds of stories well, and new media should enable new kinds of stories—but the kinds of stories that books serve continue to be critically important for libraries.
- Print books will survive, and will continue to be at the core of all good public libraries and the humanities and social science portions of good academic libraries.
- All libraries and librarians need to deal with increasing complexity, not as “transitional” issues but as the reality of today and tomorrow.
- Libraries must serve users—but all users, not just today's primary users. There's a difference between being user-oriented and pandering, and it's a difference librarians should understand.
- Libraries matter, and librarians should build from strength. There are many fine public libraries and many more that do remarkable work with inadequate resources. The goal should be to improve and diversify from what libraries do well, not to abandon existing services and collections in search of some monolithic futures, whether all-digital or otherwise.
- Libraries will change, just as they have been changing for decades. Good libraries will maintain live mission statements—and the missions won't change rapidly.

- Effective libraries build communities, and the need and desire for real communities will continue to grow. Libraries that work with their communities should prosper; those that ignore their communities will shrivel.

I give you that credo early on for several reasons. I don't expect to spend time on the second point; it's old hat, even if the digital strawmen continue to write and speak. I won't address some of the other points directly—but I hope you'll see the connections between what I discuss and these nine assertions.

Why I Don't Offer A Vision for the Future

Until fairly recently, I felt a little guilty about dissecting and demolishing past and present dreams of simplistic futures: after all, where was my own superior vision? I've been reading a number of books about the future—specifically those written at least five years ago, always good for a laugh and for evaluating the current claims of high-profile visionaries. The track records of most pundits and futurists have been pretty awful. But pundits and futurists continue to make equally flawed predictions and projections, and keep getting paid handsomely for those predictions. Futurists and trendspotters have learned something critical to their trade: there are no penalties for being wrong, as long as you're interesting.

One of the books I picked up began with a thoughtful discussion of the dangers of futurism. We can't know the future. Futurists (myself included) proceed either by extrapolating from simplified versions of the present or by telling us what they *want* to see happen. This author's point was that future visions are, by and large, *designed* to get us to ignore the present and focus our energies on the “inevitable” path laid out in the vision. To the extent that we live in the future, we miss the richness of the present and reduce our possibilities for the future.

I won't mention the book's title or author because, as it turns out, the author was a hypocrite. He really meant that we should ignore all futurists *except* for the ones he favors, namely the neosocialists, anti-everythings, and other negativist charmers such as Jeremy Rifkin. Whose track records are, of course, no better than those of George Gilder and Faith Popcorn—but they're wrong on the side this author favors. Such is life.

I came away from that book thinking that I'm right to disclaim specific visions of the future. This speech will focus on aspects of the future that I would *prefer* to see, which naturally means that I think those trends are probable. Not inevitable, to be sure: inevitable is one of those words that puts my back up.

Another, much better book points out in some detail and with extensive background why predictions don't work. This one's by William A. Sherden, published in 1998 by Wiley, entitled *The Fortune Sellers: The Big Business of Buying and Selling Predictions*. It makes a compelling case that chaos theory (where weather is concerned) and complexity theory (where economics, technological development, and other societal issues are concerned) effectively assure that prophets won't have very good track records. Sherden also makes the case that societal prophets are actually trying to bias the future in their direction—and he doesn't seem to exempt any group from his focus.

My belief is that life tends toward more choices rather than fewer. Additionally, I believe

that technological change is neither smooth, nor inevitable, nor fully predictable, and that people don't change as rapidly as technology—and that it's people who count. I began using the slogan “And, not or” more than a decade ago; I now couple it with the claim that the best answer to most multiple-choice questions is “Yes.”

The White Queen and Coping with the Future

The White Queen in Lewis Carroll's *Through the Looking-Glass* has useful advice for those trying to find the one true path for the future. When she tells Alice that she's one hundred and one, five months and a day, Alice responds, “I can't believe *that!*”

“Can't you?” the Queen said in a pitying tone. “Try again: draw a long breath, and shut your eyes.”

Alice laughed. “There's no use trying,” she said: “one *can't* believe impossible things.”

“I daresay you haven't had much practice,” said the Queen. “When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast.”

Substitute *contradictory* for *impossible*, and I'm on the side of the White Queen. It's too easy to assume that if A is going to happen, that means that B can't possibly happen—or, vice versa, that B precludes A. But many contradictory situations arise because we substitute “all” for “most,” and the world is much subtler and more complex than most of us wish to consider. When I see “we all” in an article, I'm finding it useful to raise the same immediate yellow flag that I do when I see “inevitable.” “We all want to be connected all the time.” “We all use cell phones.” “We all watch too much television.” “We all” is generally a dangerous oversimplification. Take away the simplification, and contradictory trends can be reconciled, if only because life tends toward complexity.

Complex Realities: Desirable Futures

The future that I regard as most probable and most desirable grows out of the present, becoming more complex rather than less. In that future, the Web will serve libraries and archives in a multiplicity of ways—not as a replacement for buildings, physical circulating collections, and carefully conserved archives, but as a set of tools to improve current services, provide new services, and gain access to resources beyond local collections.

I've been talking and writing about such futures for years. Every library conference, every library periodical, includes discussions of ways that the Web is being used and will be used in the service of libraries and archives. Do I really need to provide a laundry list of current and future examples? Probably not, but here are just a few samples—things that you already know about or can learn about readily.

- Most good libraries and archives now use the Web as an entrée to the library: a way to inform the world what you're about, where you are, your hours, your special services, your calendar and more
- Many institutions now offer their catalogs on the Web, frequently with access to circulation information, holds, and renewals for registered patrons. Some good online

catalogs are now entirely Web-based (that is, have only Web interfaces); unfortunately, so are some not-so-good catalogs.

- Many institutions band together to go beyond their own catalogs, offering regional and other union catalogs both within the libraries and on the general Web.
- Some archives are mounting detailed finding aids on your own Web sites, either using SGML via EAD or through less standardized Web methods. RLG's Archival Resources combines thousands of SGML-encoded finding aids, thousands more available as Web resources, and the half-million Archival and Mixed Collections bibliographic records into a new national resource. We do charge for that resource, as we add significant value to the set of source materials.
- Many museums and archives are mounting locally digitized surrogates for key elements of your collections as Web exhibitions, telling your stories in new ways and sometimes telling new stories.
- RLG's Cultural Materials initiative aims to develop new ways to combine digital surrogates, in order to improve access to existing resources and to support new forms of scholarship.
- And, of course, you use the open Web to increase your store of resources—and the protected Web as a carrier for full-text articles, vocabulary-controlled databases, and many other resources.

Those are just a few examples of present and future use. Libraries and archives will find new ways to use the Internet and the Web (separately and together) to improve services and resources—but as part of a complex mix, not as the sole future.

Finding the Ways that Work

With apologies to Environmental Defense, I think “finding the ways that work” is a particularly good slogan for libraries and librarians in the new century. The ways that work may be Internet-based, or as old as storytelling. One problem with new developments is that most of them *don't* work—because they emerge for reasons other than the needs and desires of potential users. Too many gizmos and gadgets appear because they're possible, not because they serve any real purpose. Too many more appear because they meet the needs of producers or middlemen—but at the expense of users.

It's fair to estimate that 80% of new developments fail. It's useful to know that when you're being urged to jump on a bandwagon that doesn't make sense to you. Continued skepticism serves you well. When (if) you heard about the :CueCat, a sensible first thought might have been that sane people don't read magazines while sitting at computers connected to the Internet—and that most “connected” people are perfectly capable of keying in URLs. The :CueCat is a wonderful example of technology run amok—indeed, as you'll see in the February 2001 issue of *Cites & Insights: Crawford at Large*, I awarded it my “DivX Award” for most absurd new consumer technology of 2000. It's gone now.

RCA's dedicated ebook readers fall into a middle category. Fundamentally, I believe that all dedicated ebook readers *for the general marketplace* fall into the 80%: they don't work very

well and don't appear to meet a real consumer need. That's not to say there aren't valid applications for dedicated ebook readers. There are, one of which could be a billion-dollar annual market, but only one company seems interested in that particular market at the moment.

- I could provide other examples of the 80%, but what's the point? What we *want* to do is find the other 20%—the ways that work. I'd like to suggest a few possibilities for ways that work—some I'm certain of, some where the jury's still out.

Projecting survivable, useful innovations

DVDs work, and if your library doesn't already collect and circulate them (but does circulate other video), you should work on that soon. By now, any sensible observer can say that DVDs will not only survive but become the dominant physical video medium within a very few years. The players already have between 20% and 25% household penetration in the U.S., player prices are down to levels that encourage impulse buying, disc prices have reached impulse-buy levels, almost every new movie comes out on DVD and VHS on the same day—but almost always with extra material on the DVD—and DVDs work better both for rental and circulation than VHS. At this point, DVD player sales exceed VCR sales (at least in dollar volume) and, astonishingly, DVD *disc* sales exceed prerecorded videocassette sales in dollar volume.

Is that just hindsight? Not really. It wasn't hard to project the success of DVD, although the timing of that success was (and still is) less predictable. I can't project just when DVD will become the dominant medium—that is, when you'll see DVD versions of movies appear *before* VHS, or possibly movies that don't appear on VHS at all. I'd guess that will happen within ten years, but quite possibly not for at least five years.

DVD looked like a winner for several key reasons. First, it does things that no other medium does as well. Second, it's an incremental change, so familiarity favors it—the discs are like CDs and the idea is like VHS, but better. Third, it began *without* a format war and *with* advance participation of every major consumer electronics firm and every major movie studio—the kind of primary inertia that also assured the success of CDs themselves. Fourth, it was *predictably* headed for appropriate pricing: both players and discs were only incrementally more complex than CD players and discs, reusing most of the same elements.

That's a fairly clear case: really a matter of when and how conclusively, not whether. But, as always, some market analysts overstated not only the speed of DVD's success but the extent, with claims that it would wipe out VHS within a couple of years. That was and is unlikely, for two reasons that should be obvious to any observer—and librarians need to be thoughtful observers. One, VHS does things DVD doesn't yet do all that well, namely record on a standard and inexpensive medium—but I'll get back to that. Two, and equally important, the installed base of VHS recorders is simply too large to be replaced or made obsolete rapidly. VHS is technologically obsolescent—but then, that's been true ever since Super VHS came out more than a decade ago. It's not obsolete, and unlikely to be so for at least five more years.

It's rare that you can project both usefulness and survivability so clearly. I'd like to give you a list of likely winners, and in my newsletter I sometimes offer opinions on innovations that I *hope* will succeed. But I'm not a prophet. Here are some key factors that I think are worth

considering.

- Innovations should do something better than existing devices and media, or do something that existing systems just don't do.
- Innovations should resonate with popular need and desire, or at least with needs and desires within the targeted audience.
- Innovations should either be incremental—with enough familiarity to help us understand how and why we'd use them—or so substantially desirable that we're willing to deal with the unfamiliarity.
- Innovations supported by many agencies tend to do better than those exclusively provided by a single agency. MiniDisc may be finding its niche in the U.S., the second time around, at least in part because half a dozen other manufacturers have joined Sony in building the recorders and players. Personal computers would never have proliferated as rapidly if IBM had locked down the design, and Apple's one-vendor proprietary model helps to keep the Mac at a 5% market share.

Near-Future Small Solution: DVD Recording in the Library

- What: DVD recording *within* the library.
- Why: Much more compact and durable storage for “mandatory nuisances” such as council meetings, and good DVD software will automatically create scene menus based on timing or obvious breaks. Quality, durable, compact storage for some “desired services”—library events that deserve to be retained (speeches, etc.), local history, etc.
- How: Right now, you can add a DVD burner to a PC for somewhere between \$400 and \$700 or buy a high-end (typically \$2,500 and up) PC—but you might be better off with an \$1,800 flat-screen iMac G4. Add a \$700 digital camcorder with Firewire output and you're set to go. Right now, DVD-R blanks cost \$8-\$10 and rewritable 4.7GB discs cost \$15-\$30, but that will change. A single disc can store two hours at better-than-VHS quality, up to six hours at quality probably adequate for council meetings. And they're as compact as CDs: you can store a bunch in almost no shelf space, particularly when they can be clustered into albums.
- Shortcomings: There are three different, incompatible, rewritable formats, although all the burners will write DVD-R. You *can't* easily store two hours of S-VHS quality video because that requires more sophisticated software and two-pass compression. Creation may still be a hassle. And some users won't have DVD players (but you can buy them for \$99). Right now, the blanks are much more expensive than videocassettes.
- Probabilities: Blanks will probably never come down to a buck a piece because of royalty and other issues, but I'd bet DVD-Rs get down to \$3-\$5 within a year. If there's a single winner for rewritable, expect \$5-\$10 for blanks. Recorders will continue to get cheaper, down to a point—but the software is simply more complex

than for CDs, so you'll wait a while for the \$100 DVD burner.

Immediate Small Solution: OpenURL

[Brief notes on why it's a "small solution" and how it works; how it could free you from the rigors of the Big Deal and paying twice for the same info; why academic libraries need to talk to administrators about OpenURL vs. Blackboard and its ilk. "Watch some space."]

Near-Future Small Solution: PoD in the Library/PoD for the Library

My own favorite among my books (at least before *Future Libraries: Dreams, Madness & Reality*) appeared in 1988: *Current Technologies in the Library: An Informal Overview*. It was (and is) a crisp, well-edited pass through various media and aspects of computers and communications. Two Australian reviewers both attacked my choice of a first chapter, "the most important current technology for libraries"—the printed page. Why, that isn't even technology and it's about to disappear, they said. Where's the chapter on Artificial Intelligence?

If I ever write a new edition of that book—which I might, some day—the first chapter would be about the most important current technology for libraries. It would be about the printed page. There would be some changes in the lineup—but I still wouldn't have a chapter on artificial intelligence!

Current projections for a multibillion dollar "ebook" market have most of that market appearing in a category that is not, I will argue, an ebook category at all—any more than my books are "ebooks" because they were composed and typeset on computers. This category deserves some comment, as it offers some interesting possibilities but also some problematic areas for libraries.

I speak here of Print-on-Demand (PoD) books: books that are printed when purchased, using machines that combine high-speed laser printers, full-color cover printers, and binding mechanisms. It's a more expensive process on a per-book basis than regular book production—but there's no waste, and the end result is just as much a print book as any other print book. Indeed, if the paper used is acid-free (as it's likely to be) and the binding is high quality, a PoD book will have archival qualities just as good as the best traditional books, since properly-fused toner is *at least* as long-lasting as the best printing ink.

Right now, PoD systems are at regional centers and warehouses in various locations; it takes a day or two to get your "edition of one," since that's what a PoD book is. In the future, it seems likely that most large bookstores will have backroom PoD systems (or will share them with other stores). I can imagine library consortia and large library systems arranging to own or share PoD systems. In a store, you'll identify the book you want, order it, go get a cup of coffee, and buy your instabook half an hour later (or possibly less).

For that matter, projections are that PoD systems will come down to \$30,000 within a couple of years. With their bindery modules, they'll never be quite as trouble-free as even copiers, but still—could a large public library or academic library be its own PoD retailer, particularly in areas without good bookstores?

Whether the unit is in the library or back at one of Ingram's Lightning Source centers, PoD affects libraries in a number of interesting ways:

- PoD means out-of-print materials can be brought back into print as rapidly as they can be digitized; that has enormous potential for retaining our literature and history of ideas.
- PoD means that “midlist” and backlist materials need never actually go out of print. That's good for readers but may not be so good for writers. Most of us have reversion clauses in book contracts: six months after a book goes out of print, we regain rights so that we can find another publisher (or whatever). With PoD, “out of print” may become a myth—and I suspect future contracts will require different wording for the reversion clause.
- PoD vastly extends vanity and self-publishing, and makes it even more difficult to distinguish between the two. That's great, as self-publishing breaks through the publishing monopoly and brings new voices into our hearing. That's terrible—if you believe the estimate that 750,000 book-length manuscripts are written in the U.S. each year, as compared to the 57,000 (or so) that are published. As some of you may remember, I touched on this in my first “Crawford Files” column in *American Libraries*, with more than a touch of hyperbole.
- Should libraries do more of their own publishing, for such purposes as local history, substantive annotated bibliographies, or whatever else? PoD removes one major barrier to such publishing—the need to predict sales in advance and justify a print run.

PoD is a wonderful new tool—but like most new tools, it has good and bad points. It will allow libraries to expand their resources in unusual and effective ways; it can also swamp libraries with tidal waves of stuff that should never have been bound between covers.

Facing Change While Avoiding Despair

I've been struck by some individual responses to the future on some library lists. There's one public librarian who's pretty well given up on the future of libraries and librarians—and I'll assert that his future may be fairly grim. A few librarians seem to think that you're doomed unless you jump on every hot new trend, “keeping ahead of the users”—and I'm not sure that's a much better idea. These are both forms of future despair, and you do well to avoid both.

The problem with despair is that it makes you desperate—and desperate acts rarely work well. Did your public library buy a bunch of Rocket eBooks or REB appliances so you'd be in on this hot new trend? The good news is that you probably got grant funding. The bad news is that they're likely to be expensive paperweights in the near future—and general adoption of ebook appliances is no closer now than it was in 1998. (I believe it's further away for reasons relating to Gemstar's patent portfolio, but that's another, speculative discussion.) Have you canceled print subscriptions wholesale, without regard to browsing needs and long-term prospects, to make way for massive full-text access? Was that a good decision?

Libraries and their users will change, just as they've been changing throughout their history. Some of that change will be difficult, some disruptive. But there's reason to believe that most change will be evolutionary and that both libraries and librarians will survive—and maybe even prosper.

You—as in, your library staff as a whole—do need to keep up with trends and technologies, at least to some extent. You also need to think about those trends within your local environment, recognizing that each library differs from every other.

I'd love to give you a list of technologies and trends to track, but that list keeps changing. What I can tell you *for sure* is that you can't individually keep up with everything. It's not possible, even if you devote every waking hour, particularly as the rest of society impinges on libraries at all turns.

I don't have a list—but I can recount some “trends” as asserted by LITA's Top Technology Trends group, of which I'm a member. I'm not going to include trends discussed at this year's Midwinter Meeting because the edited notes haven't yet emerged; you can find them at LITA's Website when they do. Here, quoted in part from a recent issue of my free Webzine, *Cites & Insights: Crawford at Large*, are some supposed key trends for the last three years:

- Midwinter 1999 “You don't have to pay attention to all the trends.” I would add, “And you'll drown in information overload if you try.” We arrived at seven “trends worth keeping an eye on” three years ago: Library users will increasingly expect user-focused approaches such as MyLibrary@NCState; librarians can improve electronic resources by evaluative guidance; we need “a human face on the virtual library”; we should co-opt existing technologies outside the library field; isolated scholars need service; authentication and rights management matter; and you need to watch out for submerging technologies—for example, delivery of index and full-text databases should be moving from CD-ROM to Web. My current take? We may have exaggerated the user demand for “MyWhatever” (an open question) and I'm not sure we're doing that much for isolated scholars (I may be wrong), but most of these are still valid, important trends.
- Midwinter 2000: Six new trends. Libraries need to work with the Internet, not against it. Librarians need to decide their roles in the world of ubiquitous electronic information. “Convergence” in yet another redefinition matters—patrons using library computers for wider functions, library and museum collections mingling, etc. We need to collaborate beyond libraries. Privacy matters. We can't ignore ebooks and “the world of e-books is taking shape.” I could argue that the final point was insufficiently skeptical, but otherwise this was another set of issues that still matter.
- Midwinter 2001: I can say “they” rather than “we” as I took my first break from ALA in 27 years. Five trends were spotted: Ebooks as a murky emerging area that could redefine the meaning of “book”; user demands for speed and convenience even if that means paying; the danger of irrelevance if we “continue to see the world solely through the prism of the library catalog”; the need to “automate the shop floor” of the library; and attempts to “repatriate” the Web such as France's hassle with Yahoo.

Comments: I believe the continued concentration on ebooks was a mistake—and I do know

that we generally agreed this year that libraries could ignore ebook appliances. I also suspect that most people are *not* willing to pay much for speed and convenience outside their primary work areas—and that those who will don't use (public) libraries anyway. I think we damage ourselves by concentrating too heavily on Googling or Amazoning the library. I'm not convinced that the “repatriation” issue has much effect on libraries and librarians. I could be wrong on every one of these.

How do you keep up? You don't, to some extent. A few quick suggestions, however:

- Apportion the job. Find people with interests in certain areas and have them join the appropriate lists, track the appropriate literature, whatever.
- Use secondary sources. Those may be Weblogs and lists. I'd argue for inclusion of two free publications with “Cites” in their titles—*Current Cites* from Roy Tennant and his band of coconspirators, and *Cites & Insights* from yours truly.
- Don't pay too much attention to daily news and weekly journals. Too many hot new things never even make it out of the lab; it won't hurt you to be a little bit behind.
- Focus on fit—when you see something that looks particularly interesting, and when the same interesting trend pops up over and over, think about its relationship to your library's strengths and weaknesses.
- And, of course, think about some of the issues I'd like to talk about now.

Situations, Problems, Solutions, Consequences

A colleague recently reminded me of a useful distinction between problems and situations. A problem has solutions; a situation does not—at least not yet. In the library field, some difficulties may be part situation, part problem—for example, the STM serials pricing situation and the situation of open Internet access.

One classic difficulty with technophilia is proposing solutions for problems that don't exist, sometimes by suggesting that these solutions will somehow address *other* problems. You need to watch for that.

You also need to be aware that every form of refuge has its price—every solution has consequences and, typically, causes new problems.

Consider the situation of Web access in the library. Most libraries would *not* acquire everything under the sun even if space and cost were not issues. Certainly, few but the most extreme access advocates would place *Hustler* in the children's section or *Bondage Monthly* in the open stacks. Collection development is part of good librarianship, and collection development implies *choices*. Librarians *select* items that suit their current and long-term audiences and their libraries' current and long-term values and approaches.

When you provide open access to the Web, you're “buying everything”—and that's a difficult situation. Filtering advocates would call it a problem, and will tell you that filtering

is the solution. In this case, at least, I'll argue that it's not a problem—because it's not capable of appropriate solution by any technology we know or are likely to know. There is one “solution”—providing access only to select sites, locking out the Web as a whole—but that may be a bit too extreme.

What's wrong with filtering? When it comes to CIPA, the answer's easy: it's an imposed Federal mandate to what should be a local decision. But what about local filtering? Personally, I suspect that I'd probably install relatively nonrestrictive filters on Web computers in children's areas, and I think there's merit to approaches that link Web access to library cards and link unfiltered access to parental consent (or at least allow parents to restrict access).

But that's an odd solution—because no filtering program will keep out all the bad stuff. They can't for a variety of reasons. *Cites & Insights* notes articles that deal with some of the reasons. Benjamin Edelman provided expert testimony for one of the key CIPA cases; a redacted version of his October 2001 testimony is available on the Web. It demonstrates fairly carefully why filters do *and will* always underblock—but also the other part, the reason that I find overall filtering so problematic.

To wit, filters offer the equivalent of a collection that's been damaged in unknown ways. Installing an overall filter is, for Web access, comparable to hiring someone to go through your collection removing books *and pages from books*—without telling you what books are involved. A couple of recent examples—noting that better ones are available in back issues of *Cites & Insights*:

- *Macworld* ran a casual test of three “user-friendly filtering applications” in its July 2001 issue. They installed ContentBarrier, KidSafe (free from Apple), and AOL 5.0's parental controls—choosing the “safest” options in each case. Then they tried to reach some squeaky-clean sites such as CNN, *Macworld*, the Democratic and Republican Party sites, and Britannica.com. All of the filters let them reach Apple and Microsoft; ContentBarrier locked out CNN but was the only one of the three to allow the Republican Party, Britannica, and a cancer information site. KidSafe filtered *Macworld's* Web site(!). All three blocked the Democratic Party and Napster. Their conclusion: “Either the Web is a lot more risqué than we imagined, or Internet-filtering software needs a healthy dose of parental common sense to be truly useful.”
- The National Coalition Against Censorship issued a lengthy literature survey of all studies and tests on 19 filtering programs. Nearly every study revealed massive overblocking. Here's a good summary:” [Overblocking] stems from the very nature of filtering, which must, because of the sheer number of Internet sites, rely to a large extent on mindless mechanical blocking through identification of key words and phrases. Where human judgment does come into play, filtering decisions are based on different companies' broad and varying concepts of offensiveness, “inappropriateness,” or disagreement with the political viewpoint of the manufacturer.” BESS blocked the Traditional Values Coalition; CyberPatrol blocked sites for Vincent Van Gogh and the City of Hiroshima; CYBERSitter blocked news items from Amnesty International; I-Gear blocked a United Nations report on HIV/AIDS; SafeSurf blocked the Wisconsin Civil Liberties Union; SmartFilter blocked the Declaration of Independence (*a dangerous document if there ever was one!*); SurfWatch blocked various human rights sites; WebSENSE blocked Michigan

State's Canine Molecular Genetics Project; X-Stop blocked "The Owl and the Pussy Cat," and *lots* of filters blocked House Majority Leader Dick Arme's Web site—can't let those Dicks get through.

- Filtering software necessarily locks out features of some unfiltered sites, such as Google's cached pages and translation features, and any form of anonymous Web access—because these features allow you to bypass filtering methods. So you not only lose too much of the Web directly, you lose many features of innocent sites.
- My conclusion at this point was stated in my December 2001 roundup (from which these examples came): While filtering decisions should *always* be at the local library level—any conscientious library that uses filters on PCs outside the children's area should *absolutely* clarify that Internet access is being limited in unpredictable ways having little to do with the quality or usefulness of information. That's like having a sign over the *Encyclopedia Britannica*: "Bunches of articles are missing, but we don't know which ones and it won't be obvious." That's what a library does when it filters the Internet on all PCs; at least it should be honest with its users.

Cost-Effectiveness and Virtual Reference

I'd love to go through some other sets of consequences—for example, the long-range consequences of the Big Deals for online article access—but they take too long and tend to be fairly complex. Unfortunately, the Big Deal situation is one where I concluded that, while it's a fundamentally flawed solution, it's one that many conscientious library directors had no choice but to adopt.

I'll give you one example of the need to examine promising new techniques with an eye toward cost effectiveness. Let's talk briefly about real-time online reference, so-called "virtual reference," and the differences between online reference as an expanded library service and 24/7 virtual reference, which necessarily involves paid offsite backup reference centers.

JoAnn Sears analyzed a semester's worth of live chat reference service at Auburn University in the Fall 2001 *Issues in Science and Technology Librarianship*. It's a good article and thorough analysis. Auburn offered online reference during the 77 hours a week when the Reference Desk had at least two staffers; at other times, Web users could request help by e-mail. Some key findings? More than *half* of the questions asked were related to local policies, procedures, collections and resources: thus, a backup center would be inferior in a majority of cases. And, over 112 days with fully open access, the service logged a total of 118 chat sessions involving 153 questions—not exactly overwhelming demand.

Bernie Sloan evaluated six months of a pilot 24/7 reference service involving eight Illinois academic libraries. In this case, in five months on eight campuses there were a total of 613 sessions. The numbers suggest that 20-hour reference service would be more than good enough (2-6 a.m. is pretty quiet).

There are other studies suggesting that, while live online reference is almost certainly a good thing, the whole 24/7 megillah may be neither cost-effective nor particularly good reference service. I'm sure studies will continue.

Fallacies and Technophilia

I have to throw in some comments about fallacies and those phrases that cause my BS filter to come into play. Right now, I find a trio of uses and assumptions that immediately set me on alert. I can summarize all three with this sentence: We all know that our mutant children will inevitably change everything.

I've already talked about "we all"—it's almost always fallacious.

"Inevitable" is an old bugaboo: it's a bad substitute for good reasons, and usually comes into play when the reasons aren't very good.

Then there's our mutant children, which I usually think of as the KTD argument—Kids These Days, the Net Generation, those who *want* to read everything from the screen, have never seen a book, have the attention span of fruit flies, and glom onto every new technology with utter delight.

What amazes me is that KTD arguments almost never include any statistical evidence—but then, KTD arguments have probably been around as long as kids have. Millennia ago we were informed that the youth of today were hellbent for ruination. Why should today be any different?

We're told that the Internet Generation loves all its gadgets—that Kids These Days will prefer ebooks to print books because they're technology, and technology ROOLZ. I'm starting to respond with the hope and suspicion that Kids These Days are beyond treating technology as magic: that they'll gladly ignore technology that doesn't actually serve them well.

Here's a question from an earlier conference and my off-the-cuff answer. That answer takes into account 130 million printed copies of Harry Potter books, the vibrant health of children's sections in libraries and children's publishing (and even juvenile/YA publishing), interviews with young people, and the simple unlikeliness that the ways eyes, hands, and minds work has been transformed within a single generation.

What is your response to those who say that children today who are growing up on the Internet will not be users of print books or traditional libraries?

Bull. That's the short answer, but it's almost good enough. If Harry Potter isn't sufficient refutation of this nonsense, publisher's figures for sales of children's and juvenile books should suffice—as should your own circulation figures!

Children are growing up recognizing that the Internet is a tool, not life. It's possible that a middle generation may suffer through expecting too much from the Internet, but I think there's hope for that generation as well. The kids will be just fine, as long as we don't abandon them to some virtual dystopia—and kids who use public libraries and read books (as most do) will grow up to be adults who support public libraries and read books. Of course, they'll do a lot more at libraries than just check out books, and that's true already.

Dot communism and related fallacies

The last few years of the 20th century saw a strange set of excesses that I'll call dot communism, with no claim for originality. I hope and believe that we're growing away from dot communism and toward a greater sense of community. With luck, we can also move away from one set of excesses without going too far in the other direction.

The problem with dot communism isn't the idea that the Internet and World Wide Web offer new possibilities and affect business as well as other aspects of life. That's not dot communism; that's awareness and good sense. Dot communism goes further, to denigrate anything that's *not* Internet-based and suggest that the virtual always trumps the real. While dot communism seems to favor raw capitalism at its worst, it paradoxically proclaims that ads can pay for everything.

As a business phenomenon, dot communism grew from a time of easy money, with too many venture capitalists and too many foolish investors treating NASDAQ as a can't-lose version of Las Vegas. But it also grew from years of simplified statements about the relative importance of new technology and simplified philosophies of business and life.

Perhaps the most crucial dot commie exaggeration is "The Internet changes everything." Visit the Okefenokee Swamp, the Grand Canyon, California's Wine Country, the library at Ephesus, Glacier Bay, or Bora Bora. Sit down to dinner or spend some time alone with your spouse, girlfriend, boyfriend, or whatever. Now tell me that the Internet changes everything.

Early last year, I saw signs of the natural overcorrection—supposedly thoughtful people saying that the Web doesn't matter, that the Internet is irrelevant. That's just as absurd—and the pendulum swinging too far back is just as predictable.

Let's look at a few aspects of dot communism, why they failed, and what they mean to the future of libraries. For make no mistake: dot communism posed far more of a threat to public and academic libraries than the death-of-book people of the early 1990s ever did.

- Money is everything—but profit doesn't matter
- Private industry always does it better
- "Eyeballs" and customers
- Who needs reference librarians? We've got Yahoo!
- Virtual communities, universal telecommuting, and the end of location

[Notes: The set of predictions that had us all fleeing from one another, hiding in our houses and apartments, bringing everything to us and avoiding the community. Instead we might turn to so-called virtual communities, Web-based groupings of people around the world with similar interests—but meanwhile, our cities and towns would shrivel as we turned away from civic involvement. The kind word was cocooning, and universal telecommuting was part of the prediction. It was a future that seemed to some to be inevitable by now—and it was a future that didn't hold much hope for public libraries as places, particularly public libraries in central cities.]

- Fortunately, that future of universal flight was as false as most simplistic futures. I won't claim that the problems of white flight and suburban anomie have disappeared or that all cities are now urban wonderlands once more. Nothing is ever that simple. But I will claim, based on loads of examples, that people are returning to cities in many cases—and that people are turning suburbs into communities as well.
- Digital hegemony
- The Grand Convergence

The Web, Yes. A Mixed Economy, Yes. Dot.Communism, No.

The term dot.communism strikes a parallel that isn't entirely accidental. Dot.communism represented an extreme, a perspective that could not—I believe—survive for the long haul. Dot.communism ignored too many aspects of the real world. On the other hand, the Web and Internet *do* provide new opportunities for many aspects of society, including business.

Every library stands to gain from the Web, and I can't imagine that very many libraries don't make use of the Web, both as a way to provide information and service and as a way to enrich services. Similarly, almost any business can benefit by using the Web to provide basic information; some new business models are emerging from the Internet, and more will in the future. The end of dot.communism does not spell the end of the Web and Internet as important aspects of commerce and society, but it's likely that mixed business models—"clicks and bricks," as they've been called—will be the dominant commercial forces in the future.

Similarly, communism was an extreme, one that appears not to work well in the long haul. It ignored too many aspects of the real world. I'm not a great believer in communitarianism either, at least as I vaguely understand the concept. But there are socialist and communitarian aspects to the American economy, and the country would be much weaker without them. Some European economies, particularly in Northern Europe, include a much heavier dose of socialism, but always as part of mixed economic models. I suspect that pure socialism, which tends to equate to communism, won't work any better than pure capitalism. The workable models all represent mixtures.

“Essentially Free”

The all-digital prophets tell us that bandwidth is becoming essentially free, that computing power is becoming essentially free, that telecommunications speed is becoming essentially infinite, and that these facts make an all-digital future inevitable. A generation of students seems to believe that the Internet is free. But here's the truth: “Essentially free” is another way of saying “phenomenally expensive, but the incremental cost becomes small.”

Moore's Law and its effect on PC power and prices, and the more potent price/power changes in mass storage, seem to confuse people into believing that the price/power curve is symmetrical. It isn't.

Consider two extreme cases: a \$2,700 personal computer (ignoring inflation) in August 1986 and February 2002 (15.5 years later) and, say, a \$400 hard disk in August 1986 and

February 2002. For PCs, we'll use a Dell in both cases.

- August 1986: An AT-class PC: 6MHz 286, 640K DRAM, one diskette drive, 20MB hard disk, 12" monochrome monitor. No software. \$2,700.
- February 2002: A heavily-upgraded Dell Dimension 8100. Pentium-4, 2GHz; 256MB RDRAM; 80GB 7200RPM hard disk; 18"-viewable Trinitron display; MS Office Small Business Edition and some other software, and Windows XP. Plus nVidia GeForce3 graphics card with 64MB DDRAM, both V.90 modem and Ethernet, SB Live! digital sound card and Harman Kardon speakers with subwoofer, a DVD+RW/CD-RW combo drive (able to create DVD-Rs, DVD+RW, CD-R, and CD-RW), and wireless Logitech mouse and keyboard. Also a surge protector and three years of onsite warranty coverage. You get 8,000 times as much hard disk storage, about 500 times as much RAM, and 330 times the clock speed on the CPU—but the Pentium-4 is, cycle for cycle, probably at least four times as efficient as the 286.
- Hard disk in August 1986: Seagate's 40MB/40ms hard disk cost \$800. Chances are, the 20MB unit was more than \$400, but let's use that as a price point.
- Hard disk in February 2002: List price for a 120GB (10ms) hard disk from either Western Digital, IBM, or Maxtor is around \$400, although the drives are readily available for \$330. For the same price, you get at least a fourfold improvement in access—along with *six thousand times* as much storage space!
- But: you can't buy a 20MB drive for one-six-thousandth of \$400, or two cents. In fact, you can't really buy a hard disk much smaller than 20GB—and that drive costs around \$80. Price and performance aren't symmetrical over time: manufacturers can't afford to sell you dime hard disks. And while the new Dell is at least a thousand times the machine the old one is, you sure can't buy a working PC for \$2.70 or even \$270; realistically, \$599 is the base point.

Technology doesn't work that way; increased performance for a price doesn't mean that prices keep going down for acceptable performance. "Essentially free" is a technological handwave; it's always wrong. If it is possible to build an international network that could actually provide everyone with universal video-speed communications capabilities, from any point to any point, it would probably cost hundreds of billions of dollars—and as projections of the possible revenue become more realistic, the will to spend that money vanishes. "Essentially free" is essentially nonsense.

A Few Closing Thoughts

On to a bit of philosophy.

Working Within Your Limits: Preferred Roles and Essential Roles

You can't do everything for everybody. If you try, you probably won't do anything very

well for anybody. While I'm uncomfortable with Herb White's apparent formulation that librarians should just shut down services that aren't appropriately funded, I'm equally uncomfortable with the idea that you must always make do.

Excellent service means working within your limits even as you try to expand those limits. It means establishing your library's mission and assuring that there's a clear relationship between that mission and your actual policies and expenditures. It also means, crucially, reviewing that mission and those expenditures—not just once, but either quite frequently or continually.

Your library has a set of essential roles. Your librarians have a set of preferred roles. In some paradise, those roles might be identical. In the real world, you need to negotiate among the two overlapping sets, and you need to find ways to expand your preferred and essential roles in sensible manners. Building from strength may be a cliché, but it's also the most effective way to expand your services: growing from the core that you do best.

Expanding your Resources

The collapse of the all-digital future and the state of the partly-digital present yield two crucial lessons for resource allocation:

- Digital access isn't a silver bullet. It won't free up massive amounts of your library's resources so that you can suddenly expand all sort of other service areas. You'll still be buying books and print periodicals, you will *probably* be adding on to shelving space, and you'll still need lots of people to manage all those physical goods.
- Whoever said that digital would be cheaper than print was mistaken, at least where major publishers are concerned. You may find it difficult to locate the culprits, as people are busily rewriting history to assure us that they never said that—or at least never really meant it that way.

Take those two lessons together and you arrive at a simple truth. You probably need to expand your resources. Excellent service requires healthy and growing budgets, and building those budgets is part of first-class library leadership. Doing more with less is great, and librarians are past masters—but in the long run, you need more to do more.

Real Libraries for Real Futures

Real libraries combine resources, services, and places. The places are important, all the more so as some of yesterday's most dismal predictions are turning out false. In this case, I speak of the set of predictions that had us all fleeing from one another, hiding in our houses and apartments, bringing everything to us and avoiding the community. Instead we might turn to so-called virtual communities, Web-based groupings of people around the world with similar interests—but meanwhile, our cities and towns would shrivel as we turned away from civic involvement. The kind word was cocooning, and universal telecommuting was part of the prediction. It was a future that seemed to some to be inevitable by now—and it was a future that didn't hold much hope for public libraries as places, particularly public libraries in central cities.

Fortunately, that future of universal flight was as false as most simplistic futures. I won't

claim that the problems of white flight and suburban anomie have disappeared or that all cities are now urban wonderlands once more. Nothing is ever that simple. But I will claim, based on loads of examples, that people are returning to cities in many cases—and that people are turning suburbs into communities as well.

Real communities—population centers where people get together as part of everyday life—are coming back. I see it where I work (and now live), where a dying main street that emptied out after work has been transformed into the heart of a thriving city center, with performing arts, restaurants that do dinner as well as lunch business, and—oh yes—a new public library. I see it in Oakland, where a hard-hit city is starting to come back to life. There are signs all over the country, not uniformly but frequently: people haven't given up on community life, and most people understand the difference between virtual communities and physical ones.

In many cities and towns, public libraries have been the most resilient of the public spaces. Even as people abandoned the parks, moved their shopping to the malls, and headed for restaurants in the suburbs, public libraries survived. With the resurgence of community spirit, we've seen a resurgence of new and expanded public libraries—the great New Mains of the 1990s and the ambitious plans for branch expansion and modernization that will continue into this decade and beyond.

Libraries work. People use libraries—and in many towns and suburbs, people gathered at their libraries when there were no other places to gather. Not surprisingly, towns and cities are building on that success, grouping other community functions around the libraries. Librarians should welcome that growth—but librarians and their boards should assure that it's not simply a matter of assigning new community functions to libraries without appropriate funding.

For most communities, the local history center can sensibly be part of the library. In many cases, so can local archiving functions—with support. It's not uncommon for a public library to also be the community art gallery or museum; both are sensible extensions if accompanied by support.

Good libraries serve a range of functions, many of them purely physical, all of them important. Don't devalue the free circulation of romance novels and mysteries to lower-income patrons. Don't devalue story telling hours and community programs. Don't devalue leisure reading collections, study spaces, and other “frills” in academic libraries. Those are valuable services, helping to make the community stronger and improve the overall mental and social health of its people.

Libraries need to provide the cultural record, and to provide a range of information, enlightenment, and entertainment to those who wouldn't have ready access to it otherwise. Libraries typically deal more in digested data—information that someone has organized with some thought—than in late-breaking news and raw data. That's always been their primary role. It should continue to be. It's not the most glamorous role—but it's important and realistic.