Evolution, Not Revolution:

Where Do We Go From Here?
Evolving toward Library Excellence

WALT CRAWFORD
ALASKA LIBRARY ASSOCIATION, MARCH 2003

Introduction: Primary Themes

ã   Where do we go from here? Thinking about real library futures.

ã   Some of today's themes: considering evolution, not revolution; finding the ways that work; distinguishing problems from situations—and relating problems to solutions; some of the muddied waters of today; and real futures for real libraries.

ã   A few notes about Alaska and my limited experience: Skagway (the lone cataloger on July 4, the sidewalk on Sunday), Juneau, Ketchikan. [We'll be in Skagway on Sunday again—we seem doomed never to actually *visit* the Skagway public library]. Understanding that Alaska libraries *must* rely on telecommunications for effective service, and that most Alaska libraries serve relatively small populations by California standards.

Credo and Criteria

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

ã   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.

ã   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.

ã   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.

ã   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.

ã   All libraries and librarians need to deal with increasing complexity, not as "transitional" issues but as the reality of today and tomorrow.

ã   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.

ã   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.

ã   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 won't address some of the points directly, and if experience is any guide I won't get through all the themes I've jotted down—but I hope you'll see the connections between what I discuss and these nine assertions.

I've been using that credo for a year now. It's time to add a set of four criteria—non-original sayings that are not library-specific but that I find critically important for dealing with issues that *do* relate to libraries. I hope to give examples of most of these during the talk:

- The enemy of your enemy is not necessarily your friend.

- The law of unintended consequences: Almost without exception, every solution causes new problems—and those problems are rarely predictable.

- Life tends toward complexity; monolithic approaches tend not to work.

- While revolutionary predictions carry the comfort of inevitability, most progress comes from evolution, not revolution.

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 very good book points out in some detail and with extensive background why predictions don't work. It's by William A. Sherden, published in 1998 by Wiley, entitled *The Fortune Sellers: The Big Business of Buying and Selling Predictions*. Sherden 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."

Evolution, Not Revolution:
"30 Years Ago Today"

Thirty years. That's a period I've used in some speeches, in pointing out the impossibility of projecting

what library services in, say, 2033 would be like. Last fall, I spoke at the 30th Anniversary Celebration of the University of Tennessee's School of Information Science; in preparing for that speech, I looked at some elements of library life in 1972—and 1973 was roughly the same. How many people remember what library services were like in 1973?

I was at UC Berkeley's Doe Library in 1973, having designed and implemented the punched-card circulation system that was Doe's first library automation and used until the mid-1980s. So was the FBI. We had a visit very early in the 1970s and learned to destroy circulation records as soon as items were returned. (Privacy is a constitutional right in California, but that wasn't true in 1973.)

A few notes on the situation in 1972 and 1973:

- Yes, MARC II existed. No, almost nobody had online cataloging. OCLC went online in 1971, but served only 49 institutions in mid-1972. At the time, the OCLC record design included a 128-bit field to record holdings, with one bit assigned to each member library—and with only 49 in use, there was *plenty* of room for growth. (Work on OCLC and on BALLOTS, the underlying software for RLG's RLIN, both began in 1967; BALLOTS didn't go online until November 1972. WLN—if you remember them—began offering services in late 1972, but didn't go online until 1975 or later.)

- Library automation began considerably earlier—ISAD, the earlier name of LITA, began in 1966, and COLA, ALA's Committee on Library Automation, began years before that—but most of it was homebrew and batch-oriented. You certainly didn't have online catalogs, although you might have had automated circulation systems, probably from a four-letter company we grew to know and hate—one that's long since disappeared.

- The word for online was "time-sharing." 300bpi modems were state of the art, and stayed that way for years to come, accessing indexing services such as SDC and BRS.

- There was no ISBN. The SBN, its predecessor, was adopted in 1973.

- 1973 was roughly the end of the easy money for academic libraries. Yes, the STM pricing problem was alive and well 30 years ago. UC Berkeley, for example, carried out a 10% serials cut in the early 1970s.

- No VHS (U-Matic had just begun). If you circulated movies at all, they were 8mm or 16mm film, and you didn't circulate many of them!

- No audio CDs or CD-ROM (9 years away), and nobody who cared about high fidelity would borrow your scratchy LPs.

- No personal computers (the original Altair didn't appear until 1975, the IBM PC, 1981).

- Already, there were the crisis-mongers and hypesters. If libraries didn't transform themselves using computer-based tools and replacements for the book—microfilm being the replacement of choice—they would disappear. Some things never change.

Just a few highlights of a mere 30 years ago. We were talking about library networks, but we certainly didn't envision the Internet. We were learning about MARC II, a painful process that took another decade. Libraries learned earlier than most that the computer wasn't magic. No revolution occurred between 1973 and 2003—but for most libraries and librarians, the overall changes could be considered revolutionary.

And somehow, despite using boring old books and failing to make every librarian a programmer (another necessary transformation touted a few years later), libraries have survived. You face new problems—and some that aren't really so new.

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 appliances fell into a middle category. Fundamentally, I believe that all dedicated ebook appliances *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 appliances. 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.

ã 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

I've been using DVDs as one innovation that would *predictably* survive and probably dominate its field—but that's another program at this conference, so I'll set it aside for now. I'll also set aside in-library DVD recording as a technology that's likely to be useful for libraries in the near future—again, because I'm doing a separate program on DVDs.

It's rare that you can project both usefulness and survivability as clearly as you could for DVD. 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.

ã Innovations should do something better than existing devices and media, or do something that existing systems just don't do.

ã Innovations should resonate with popular need and desire, or at least with needs and desires within the targeted audience.

ã 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.

ã 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.

ã Library-specific innovations work better if they piggyback on broader innovations, since libraries are a relatively small marketplace—but shoehorning an inappropriate technology in a library application where it doesn't fit is, ultimately, a recipe for failure.

Joe Janes wrote "How to think about technology" in the February 1, 2002 *Library Journal*. He offers

his own set of "questions to consider" when evaluating a new technology. For now, before I integrate some of these into my own set as what Lobachevsky would call "research," at least according to Tom Lehrer, here are the questions as Janes states them:

- ã Is there a benefit to the user?

- ã Is it accessible, affordable, and worth the cost?

- ã Does it help uphold the values of the profession?

- ã Does it play to our strengths?

- ã Is it likely to endure?

- ã Does it feel right?

An interesting set of questions, more intimately related to libraries and librarianship than my own points; take a look at Janes' article for his thoughtful expansions on these questions.

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."]

Here's one example of how OpenURL leverages library expenditures. Whenever a Eureka subscriber begins testing or using OpenURL, I normally run a series of real-world searches in all Eureka databases using that library's link resolver, to get some sense of the results the library might expect and see what notes I could provide about how the resolver works. That process involves two typical searches in most databases, checking the first 25 results for each search.

While checking the two sets of results for FRANCIS, one of Eureka's important social sciences and humanities databases, I found 18 of the 50 articles available in full text at one medium-sized university—and those 18 articles came from *ten different sources*, including Project Muse, Expanded Academic ASAP, ProQuest Research Library, JSTOR, Elsevier ScienceDirect, PsycArticles, Springer-Verlag, IEEE, Wiley, and Catchword. That's a relatively narrow spread compared to some other campuses. In a couple of cases, I've found full-text articles on a single topic from as many as 15 different sources.

So what? Well, most Eureka databases are prepared by expert indexers, while many full-text databases have minimal indexing or rely on full-text access. Additionally, what undergrad or even faculty member would possibly repeat a search 10 or 15 times in 10 or 15 different full-text databases?

With OpenURL, a library or consortium can and should look for the best abstracting and indexing databases and best arrangements for those databases—and, separately, look for the best arrangements for full-text resources. OpenURL makes the connection. That's an immediate small solution, and one that turned out to be remarkably straightforward to add to Eureka. We'd never provided full-text articles for the more than 116 million records in our databases. Now we do—not by negotiating our own inferior deals for the journals libraries are already paying for, but by providing the links to those resources.

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:

- ã 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.

- ã 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.

- ã 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.

- ã 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.

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. As it turns out, though, that's not the worst of it—and not the basis on which CIPA's key elements were unanimously struck down by an appeals court. That basis is the flip side of the problem: All filters block constitutionally-protected speech, typically quite a bit of it.

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.

Stepping back from that troubled situation, where librarians are being confused with libertines because you understand the implications of the 1st amendment, a few general notes about situations and solutions may be in order. To summarize, since I could spend a few hours talking about this.

ã   Every change has consequences, typically both intended and unintended. Some unintended consequences may be predictable, if you're thinking about an innovation—always a change—in a broader perspective. Let's take an obvious one: Putting huge amounts of money into online full-text journal article access. Let's not talk about the known unfortunate consequences for the moment, but consider one consequence that *was*

predictable but seems to have taken academic librarians by surprise. To wit, circulation of print materials is down somewhat in some academic libraries—and that seems to be reported as a trend that could lead to the end of physical libraries (at least when deans and CFOs are hearing the trend). I don't see reports that combine modest drops in print circulation with huge increases in the online equivalent, even though it's reasonable to suggest that each access of a full-text article is equivalent to a print circulation. You've spent millions to license these articles and make them available. You know students are both lazy and pressed for time. Why are you surprised when they take advantage of what you're pushing and make less use of what you seem not to care about? Is overall use of the library's resources growing? Probably, but that's not what we hear.

ã   When you overstate a situation *and* try to treat it as a problem, you lose credibility, which hurts your attempts to alleviate the situation. Remember: You can't solve situations, you can only alleviate them. As an example of the overstated situation, I'll offer functional illiteracy, which may have been overstated by an order of magnitude thanks to peculiar statistics, bad reporting, and general crisis-mongering. I won't go through the details; you can head to *Cites & Insights*, and there's a quick introduction in my June/July "Crawford Files."

ã   Some issues aren't clearly problems or situations. Take the serials crisis—please. I believe it's a situation: that a variety of steps will alleviate the situation but not solve it. Others believe it's a problem, and propose various solutions, typically what I call "Grand Solutions."

ã   One of the tougher issues is relating solutions to problems and situations. I don't have much more to say here, but I've seen cases where steps are proposed in response to a problem or situation—and I can't for the life of me see that there's any relationship between the step and the problem. I'll make up an example, for want of a convenient real one. Library print circulation may be down at some colleges and universities. Therefore, libraries should add coffeeshops and abandon their rules against drinking and eating within the stacks. Now, if you're measuring gate count as a sign of a library's success, this may be a winner—but I wonder what it has to do with use of the library's print resources.

Muddied Waters

Consider just a few of the areas that affect libraries, present real difficulties, and are probably situations, not simply problems. These muddied waters pretty much rule out the easy fix or even an entirely clear view of what the situation is. I've been following three of these four in *Cites & Insights* and elsewhere—to my surprise, in at least one case.

Imbalance of Copyright Power

First, there's a growing set of imbalances related to copyright, and that set of imbalances has the potential to affect libraries even more in the future than it does now. To oversimplify greatly, what's happened is that intermediaries—publishers, record companies, media conglomerates and other "corporate individuals"—are becoming more powerful than either creators (writers, musicians, and so on) or consumers (readers, listeners, viewers). Three major threads are also threats to fair use, long-term preservation, and the creation of new works partially based on old ones—as almost all new creative works are:

ã   Perpetual copyright—or, technically, ever-lengthening copyright now grown past all reasonable lengths—not only prevents growth of the public domain but threatens to remove much of what's there already. Currently, U.S. copyright lasts the life of the creator plus an absurd 70 years—or, for works "created" by a corporate entity, a mere 95 years.

ã   Increased control by copyright holders over derivative works makes it difficult or impossible for creators to build on previous creations, even though such building has been key to much of creativity throughout

history. Where would Bach be if strict copyright enforcement had existed in his day?

- ã Aggressive law covering technology as it relates to copyright threatens fair use, free speech, and the whole basis for library operations. The Digital Millennium Copyright Act has already been used to prevent research papers from appearing; legislation has been introduced that would cripple personal computers and other digital devices in order to assure that corporations could track and control every single use of any creation to which they claim copyright.

I'm going to quote something here, which is out of copyright both because it's more than two hundred years old and because it's government work, thus not covered by copyright: "The Congress shall have power… To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries."

Maybe you can relate that clause to what's happening now; damned if I can.

It isn't simple. At times, I think there are more villains than heroes in this drama, but it's really more of a three-ring circus with clowns transforming into hyenas transforming into jugglers…

On one side:

- ã When people say copyright is dead because digital technology makes copying so easy, I say they're not only wrong, they're playing into the hands of the Big Media warlords. If technology excuses unethical behavior, then why shouldn't technology be used to constrain such behavior—as in CBDTPA and other fun stuff?

- ã When I'm told that copyright should last for two years, or five years, or ten years, I question the logic. In fact, some creations take a while to reward their creators; a classic example is Asimov's Foundation trilogy. I don't believe the 14-year renewable copyright term was unreasonably long.

- ã Other extremes on one axis also don't work for me. Property is not theft. It's absurd to argue that artists owe it to society to create for free or that everything worthwhile will be created even without copyright. Yes, some musicians make their living through live concerts and ancillary enterprises; if they choose to make their recordings freely available, they should be honored for that individual choice. Purely socialist states haven't worked in the past, and my own sense of human nature says they won't in the future either.

On the other side, powerful intermediaries have succeeded in undoing the *limited* nature of copyright—and in compromising the first-sale and fair-use rights that protect user interests. That's the heart of the problem, and I believe the problems primarily come from intermediaries.

I wish Lawrence Lessig and his team luck with the *Eldred v Ashcroft* case. Congress has established immortal copyright on the installment plan, and that's bad for everybody—including, in the end, Big Media itself. I see no plausible way that established copyright will ever return to a realistic 28-year limit, but it may be possible to stop everlasting copyright.

That's only one aspect of the copyright theme. Much more threatening to library interests, I believe, are the current and proposed laws relating to technology and copyright. DMCA is bad law. The payment of royalties with every blank music CD-R should *preclude* legal sale of copy-protected audio CDs, but so far Big Media gets to have it both ways. The next step, whether through CBDTPA or an equally atrocious "voluntary" agreement between Big Tech and Big Media, could be much worse: Absolute control by intermediaries of all your use of copyright material.

That isn't alarmist; it's the clear goal of the MPAA and RIAA—and the AAP does an interesting job of being buddies with libraries where First Amendment rights are involved, but undercutting libraries where user rights are involved.

Access to Scholarly Information:
The "Serials Crisis"

The continually-increasing cost and out-of-control proliferation of journals in science, technology, and medicine—popularly but inaccurately known as the serials crisis—carries fairly obvious threats for academic libraries. (It's pretty much a non-issue for all but the largest public libraries, because it's *not* a serials crisis. Magazines and most journals in the humanities are neither proliferating beyond all control nor showing difficult price increases.) Since three is a magic number, I'll mention three major threats:

- ã By consuming not only almost all of the acquisitions budget but almost all of librarians' attention, the STM problem threatens the long-term health of library humanities, monographic, and other collections.

- ã Since even the wealthiest libraries can't keep up with the situation, access to scholarly information becomes more difficult.

- ã As libraries substitute online full-text access for print collections both for good reasons (to improve casual access) and for bad (to get access to more journals for the same money, even though those may not be the journals you need), they become more dependent on the publishers, threatening both long-term access and the ability of new scholars to browse backsets and acquaint themselves with the literature.

I seem to be in the thick of this one, for no good reason—except my silly insistence that this is a situation, not a problem, and that no Grand Solution will make it go away.

CreateChange.org's two overviews (one for faculty, one for librarians) set out the problem as well as any brief discussion I've seen. The faculty version begins:

> **Your system of scholarly communication is under siege.** As a scholar, you are losing control of a system that has served you well but is now on the verge of collapse. The free flow of scholarly information, the lifeblood of scholarly inquiry and creativity, is being interrupted.

The discussion starts to get sticky right after that: "Fewer scholarly publications are available to scholars worldwide." That's not quite right without loads of clarification, much of which appears later in the document. Paraphrasing:

- ã More new scholarly journals keep appearing (which seems to negate the quoted sentence).

- ã Most scholarly journals are now published by commercial publishers with astonishingly high profit margins, and those publishers usually raise prices faster than inflation.

- ã That combination means most academic libraries are increasingly unable to acquire the journals their faculty and students need, and many libraries have slashed book acquisitions in a hopeless effort to keep paying for serials.

- ã Electronic access can make the situation worse, better, or both—but electronic access raises unresolved issues for long-term access.

- ã The result is that most institutions provide access to a smaller percentage of the scholarly literature than they should, or than they used to—and that percentage will keep shrinking. In that complex sense, the quoted sentence is right: Most scholars have less access to the literature of their field than they did in the past.

Most of you know this already—at least if you're an academic librarian you should. ARL's supplementary statistics for 2000/2001, announced in late July, point up one financial issue: The 119 ARL libraries spent an average of 16.25% of their FY2001 budgets on electronic materials—five times as high a percentage as in FY93. That amounts to roughly $132 million, including more than $117 million for electronic serials—up from $11 million in 1994/95. Such a rate of growth can't continue for another decade, although even raising that as a possibility is silly (growth curves don't work that way).

Getting Beyond Convenience

Here's one that I've never mentioned before, and I don't think many librarians have thought about it much. The heading in my speaking notes is "getting beyond convenience," and I think it's a serious

issue for the long-term health of both libraries and scholarship. If you don't pay attention, you may think I'm using a classic Kids These Days argument—"they're no good, they don't have attention spans, we're all going to hell in a handbasket." That's not true. I think we have a situation that requires attention; I don't believe it's either a disaster or an inevitable problem.

I can describe the problem best by offering two statements that I've heard and read a few times too often, perhaps not in these exact words:

ã "If users can't get it online, full-text, right now, they can't be bothered. So nothing except full-text online really matters."

ã "All Web users understand about searching is that you key in some words and you get back some results. If library portals don't work that way, nobody will use them."

If these arguments are both true, we're in serious trouble. I believe both are oversimplified, even for freshmen, sophomores, and public library users. A confession may be in order: As a student, I was almost certainly as lazy as any student is today. Of course I would have relied primarily on full-text articles for most undergraduate papers, at least until I found a topic that fascinated me and wasn't simply fulfilling an assignment. I didn't have that option, but I sure don't begrudge those that do. I was delighted to see how well OpenURL worked in Eureka, suddenly adding substantial full-text coverage for databases that have never had such coverage. I don't believe I once thought, "Well, if students are serious about their work, they should go get the print versions." On the other hand, I'm also somewhat unsympathetic to librarians who tell me—as one has—that we have to have a setting so that the students don't even *see* search results unless all the articles are available in full text. Apparently their tender little psyches will be damaged if they find articles that require more than clicking a mouse, and they'll be so offended that they won't use the database. I don't believe that.

I do believe that honors students, upper division students, grads, and—certainly—researchers and faculty must and will go beyond full text resources to use the print collection and interlibrary lending. I know public library users don't expect everything to be online, full-text. I suspect that a sophomore who's found a really interesting topic will go to the stacks for more information, maybe even open a book. And I believe that will continue to be true.

The idea that library users won't do anything but keyword searching is both offensive and patently ridiculous. I won't go into this one further. I will say that when I see the implicit suggestion that cataloging doesn't count, because only keywords matter, I believe there are people who really don't belong in the library field.

We need to provide convenient tools and solutions—but we need to go beyond convenience as well, and find ways to encourage users to do so. I don't believe that's particularly difficult. I do believe that the need to retain and encourage sophistication is likely to be an issue over the next decade or two, as we cope with the fallout of failed dumbed-down systems.

Four of many muddy areas, and probably too many to mention in one talk.

A Few Closing Thoughts

On to a bit of philosophy.

Keeping Up with Change

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

- ã Apportion the job. Find people with interests in certain areas and have them join the appropriate lists, track the appropriate literature, whatever.

- ã 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.

- ã 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.

- ã 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.

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:

- ã 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.

- ã 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.

Complex Libraries, Complex Resources

Life tends toward complexity. I'm sure that's not true for everybody or for every aspect of life, but it seems like a fair overall assertion. People like choices, and like to have *more* choices. To some extent, traditional institutions like to reduce choices, possibly because it's easier to deal with fewer choices. But people tend to come through, at least in everyday matters.

That tendency toward complexity may be the single most important reason that the all-digital future makes no sense. The all-digital future is a vastly simplified future. There's one big wire to every household; everything—all media, all interaction, all business—takes place over that one big wire. For all the libertarian tendencies of high-tech workers, this is a shockingly totalitarian concept: one wire, one provider, albeit with many supposedly individualized options.

In fact, that oversimplification is a tenet of many digital-replacement scenarios. Those who claim video rental stores will die because on-demand pay-per-view makes more sense do so using special numbers. On-demand pay-per-view would offer a few dozen movies, or at most a few hundred movies. Even the smallest video rental store offers thousands of selections. "But most people only want the 20 or 40 latest hits," the on-demand crowd responds—completely ignoring the "minority," those who want to watch something else. Fortunately for choice, it turns out that most of us want to be able to *choose* from thousands of selections, even if we mostly wind up with one of a few dozen recent hits. That choice makes all-digital on-demand video uneconomical; it works beautifully with traditional distribution. *Update:* In fact, most independent video rental stores have disappeared, not because people want video on demand but because monster chains and movie studios worked together to undermine the independents. In turn, Netflix—which, be it noted, mails actual physical DVDs around the country—has the potential to undermine or at least offset Blockbuster.

People like choices. Your choices won't be the same as mine, and there's no reason they should be. Some of you were horrified to hear me praise *Buffy* or even admit to watching such trash. I doubt that even ten percent of you would agree with me that Randy Newman is the greatest living songwriter, or that more than twenty percent even know who Randy Newman is or what he's written. That's fine; different people make different choices—and that need will assure that there are many choices to make. Choices include means of delivery as well as what gets delivered; that, too, dooms the all-digital future.

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.

- ã 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

- ã 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.

- ã 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.

- ã 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.

- ã 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.

- ã 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.

- ã 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.

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.