

A person's hands are shown holding a large, clear crystal ball. Inside the crystal ball, the words "Web 2.0" are visible in a blue, sans-serif font. The crystal ball sits on a golden, tiered base. The background is dark, and the lighting highlights the hands and the crystal ball.

Web 2.0

**Five experts
ponder the future**

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OCLC PICA

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RICK ANDERSON

Director of Resource Acquisition, University of Nevada, Reno Libraries

Away from the “icebergs”

Row your library boat into the Web 2.0 environment

I DON'T THINK THERE'S ANY QUESTION THAT WE LIBRARIANS ARE WORKING

hard, with the best intentions, to serve our users well in a world that has changed dramatically in the last decade. If the profession is a boat, then I think we're all rowing pretty heroically. But I'm not sure we're paying enough attention to the potential disasters that lie in our current path. In particular, there are three “icebergs” that I believe pose significant threats to our future success. All are remnants of a bygone information age, practices and attitudes that no longer make sense but which we have difficulty letting go. Our patrons have no such qualms, of course, as the emergence of Web 2.0 demonstrates.

“Just in case” print collection Building a comprehensive collection of materials that anticipates the user's every need has always been problematic, but it was an approach that made sense when information was available only in print formats. In my library, we've seen a 55 percent drop in circulation rates over the past 12 years, making it harder to justify the continued buildup of a large “just in case” print collection. As a Web 2.0 reality continues to emerge, our users expect access to everything—digital collections of journals, books, blogs, podcasts, etc. You think they can't have everything? Think again. This may be our great opportunity.

Reliance on user education Libraries are poorly equipped and insufficiently staffed for teaching. Ask yourself what your user-to-librarian ratio is (at the University of Nevada it's about 680 to 1) and then ask yourself how you're going to train all those users. We need to focus our efforts on eliminating the barriers that exist between users and the information they need. If our services can't be used without training, then it's the services that need to be fixed—not our users. One-button commands, such as Flickr's “Blog This,” and easy-to-use programs like Google Page Creator, offer promising models for this kind of user-centric service.

The “come to us” model of library service There was a time when libraries exercised something close to monopoly power in the information marketplace. During the print era, if you wanted access to pricey indexes or a collection of scholarly journals, you had no choice but to make a trip to the library. It worked moderately well for those privileged with access to a good library. In the post-print era, we have to be a bit more humble and find new ways to bring our services to users. At a minimum, this means placing library services and content in the user's preferred environment (i.e., the Web); even better, it means integrating our services into their daily patterns of work, study and play.

No profession can survive if it throws its core principles and values overboard in response to every shift in the zeitgeist. However, it can be equally disastrous when a profession fails to acknowledge and adapt to radical, fundamental change. We need to shift direction, and we can't wait for the big ship of our profession to change course first. It's going to have to happen one library—one little boat—at a time.



Web 2.0

Where will the next generation Web take libraries?

BY TOM STOREY

Remember when it was cool to surf the Web? Log on, type a few words, view a few pages, log off. As the latest technology tool, search was exhilarating, informative—and dramatically changed the way people looked for information. Just ask librarians! A record 6 billion searches were conducted on search engines in January 2006.

Hold on to your search box, though, because the Web is on the cusp of another wave of jarring change. Dubbed Web 2.0, the next generation Web promises to make the Web a way of life and turn software development upside down.

In Web 2.0, the Web becomes the center of a new digital lifestyle that changes our culture and touches every aspect of our lives. The Web moves from simply being sites and search engines to a shared network space that drives work, research, education, entertainment and social activities—essentially everything people do. You and your mobile and nonmobile devices—PDA, MP3, laptop, cell phone, camera, PC, TV, etc.—are always online, connected to one another and to the Web.

In technology terms, the Web is the operating platform to which programmers write reusable, constantly updated software components that are embedded or loosely coupled with other Web applications. It's the open, programmable Web, and quite a change from monolithic, proprietary operating systems and programs of the past characterized by long development times and software release cycles.

The first traces of Web 2.0 are already appearing. Consider the roaring success of sites that embody Web 2.0 principles of simplicity, rich interactivity, user participation, collective intelligence, self-service, novel and remixed content—Flickr, MySpace, FaceBook, del.icio.us, YouTube, LibraryThing—to name a few.

The potential network effects of Web 2.0 have not gone unnoticed in the library community. A corresponding Library 2.0 discussion is underway, primarily in the blogosphere, about how libraries will fit into and thrive in the second coming of the Web. NextSpace asked a futurist, three librarians and an OCLC Vice President to comment on the library possibilities of Web 2.0.

The complete essays are available at the OCLC Web site www.oclc.org/nextspace/002/1.htm. Excerpts are printed on the following pages.

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MICHAEL STEPHENS

Librarian, Blogger

Into a new world of librarianship

Sharpen these skills for Librarian 2.0

ONE OF THE PRINCIPLES OF WEB 2.0 AND THE CORRESPONDING LIBRARIAN 2.0 MEME IS THAT “THE LIBRARY is human” because it makes the library a social and emotionally engaging center for learning and experience. Librarian 2.0, then, is the “strategy guide” for helping users find information, gather knowledge and create content. The most important traits of Librarian 2.0:

Planner This librarian involves library users from the get-go and bases all planning and proposals for technology, services, materials and outreach on user needs and wants. User-centered libraries break down barriers and allow users access wherever they are. This librarian controls Technolust and does not buy technology for the sake of technology. This librarian proposes building projects and involves users in designing those places. This librarian does not create policies and procedures that impede users’ access to the library. Decisions and plans are discussed in open forums and comments are answered. This makes the library transparent.

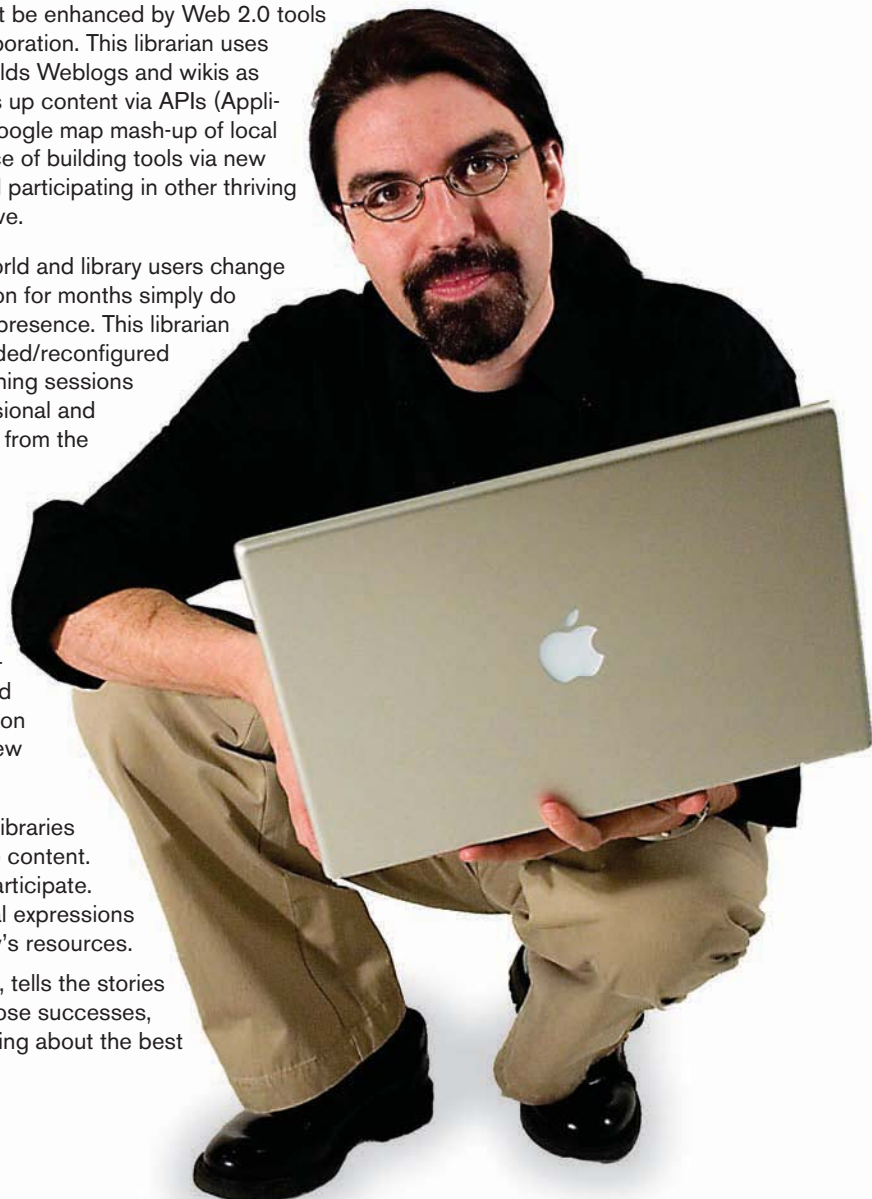
Embracer This librarian recognizes how services might be enhanced by Web 2.0 tools and how new services might be born in a climate of collaboration. This librarian uses Instant Messaging to meet users in their space online, builds Weblogs and wikis as resources to further the mission of the library, and mashes up content via APIs (Application Program Interfaces) to build useful Web sites. A Google map mash-up of local libraries created by Chicago librarians is one such instance of building tools via new resources. Other librarians creating MySpace profiles and participating in other thriving communities build connections online where their users live.

Evaluator This librarian recognizes how quickly the world and library users change with advancing technology. Project timelines that stretch on for months simply do not work. Perpetual beta works well for the library’s Web presence. This librarian redesigns for ease of use, user involvement and easily added/reconfigured pieces. This librarian brings evidence to the table for planning sessions and decision making, such as recent Pew studies, professional and scholarly journal articles and a synthesis of topic postings from the blogosphere.

Trendspotter This librarian seeks out information and news that may impact future services. This librarian has read the OCLC *Pattern Recognition* and user *Perception* reports and uses them in planning. This librarian uses the *Cluetrain Manifesto* and realizes that networked markets are library users as well and that honest, human conversations need to take place within their institution, virtually and in physical space. This librarian reads outside the profession and watches for the impact of technology on users and new thinking on business, because it is, in fact, related.

Gatherer This librarian understands that the future of libraries will be guided by how users access, consume and create content. Content is a conversation as well and librarians should participate. Users will create their own mash-ups, remixes and original expressions and should be able to do so at the library or via the library’s resources.

Librarian 2.0 also listens to staff and users when planning, tells the stories of successes and failures, learns from both, celebrates those successes, allows staff time to play and learn, and never stops dreaming about the best library services.



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CHIP NILGES

OCLC Vice President, New Services

With more powerful ways to cooperate

Build new services with Web 2.0 technologies

WEB 2.0 RESONATES EXTREMELY WELL WITH OCLC'S PUBLIC

purpose, mission and vision. Key principles of Web 2.0 expounded by Tim O'Reilly have been central to the activities of OCLC and its member libraries for decades. O'Reilly's notion of "harnessing collective intelligence," for instance, is at the heart of OCLC's cataloging cooperative, resource sharing network and virtual reference cooperative.

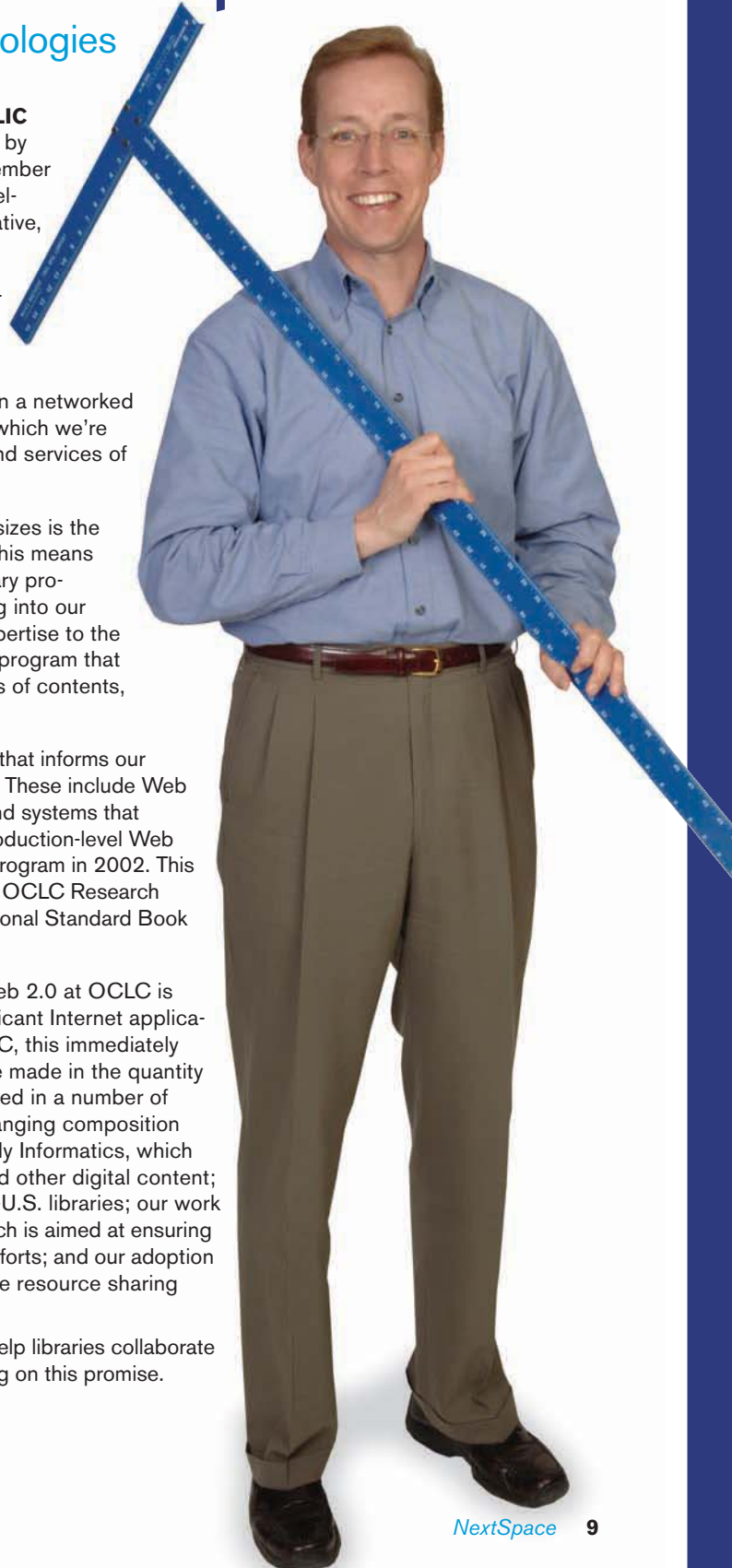
Touch the entire Web At the same time, OCLC and its member libraries can benefit from understanding Web 2.0 and applying its principles to their work. O'Reilly's notion of using the Web as a platform "to reach out to the entire Web, to the edges and not just the center," is critical for the success of the library community in a networked world. This is why OCLC is investing in Open WorldCat, through which we're experimenting with various models for integrating the collections and services of member libraries into the consumer Web space.

Collect user intelligence A key lesson that O'Reilly emphasizes is the notion that "users add value." For OCLC and its member libraries, this means expanding our definition of "collective intelligence" beyond the library professional to faculty, researchers, library users and others by building into our systems services that encourage these users to contribute their expertise to the cooperative. OCLC's work in this area to date has included a pilot program that allows anyone using Open WorldCat to contribute and share tables of contents, notes and reviews. This, of course, is just a beginning.

Release lightweight services Another aspect of Web 2.0 that informs our work is what O'Reilly refers to as "lightweight programming models." These include Web services that make it easy to syndicate data and services outward and systems that are designed to be easily "remixed" by others. OCLC began with production-level Web services to integrate multiple service providers in the WebJunction program in 2002. This was followed by cataloging and ILL services in 2003. Most recently, OCLC Research has released its xISBN service, a Web service that supplies International Standard Book Numbers (ISBNs) associated with individual works in WorldCat.

Build better data Perhaps the most important principle of Web 2.0 at OCLC is that "data is the next Intel inside." O'Reilly argues that "every significant Internet application to date has been backed by a specialized database." For OCLC, this immediately calls to mind the decades of investment that member libraries have made in the quantity and quality of the metadata that comprises WorldCat. We're involved in a number of projects to expand the database so that it keeps pace with the changing composition of library collections. These include the recent acquisition of Openly Informatics, which allows us to expand WorldCat to include coverage of eJournals and other digital content; our ongoing efforts to encourage contribution to WorldCat by non-U.S. libraries; our work with Google, the "G5" libraries, and the Open Content Alliance, which is aimed at ensuring that WorldCat accurately reflects the titles digitized through these efforts; and our adoption of the MARC21 Format for Holdings Data (MFHD), which will make resource sharing more efficient.

As these projects suggest, we think the principles of Web 2.0 can help libraries collaborate in new and powerful ways and have dedicated ourselves to delivering on this promise.



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JOHN J. RIEMER

Head, UCLA Library Cataloging & Metadata Center

And better bibliographic services

Expose, expand, extend metadata using Web 2.0

THE WEB 2.0 PHILOSOPHY POINTS TO A NUMBER OF SIGNIFICANT WAYS LIBRARY services can and should change.

Library bibliographic services grew up at various points in time, each aimed at different purposes, and they do not interoperate effectively. Libraries offer a fragmented set of local catalogs, union catalogs, eResource management systems, abstracting and indexing databases, institutional repositories and local digital library collections. Federated searching needs to pull data from all these separate silos and combine resources in new and valuable ways for users.

Package and push metadata Exposing our metadata in virtual learning environments, course management systems and Web search engines can make resources discoverable in many more settings, well beyond local online catalogs that were the original destination for the metadata. Done thoughtfully, with the advocacy and coordination of a library cooperative, we can avoid the duplication of records in search result displays that would occur if every consortium were acting individually. Through RSS feeds, libraries can package and push their content to users' preferred working places. The data can be customized and offered for a wide variety of parameters, including classification ranges, allowing users to compile and subscribe to the sources they find most useful.

Broaden relevance ranking Relevance ranking techniques should be driven by much more than the mere prevalence of keywords in the bibliographic record and be fed by a wider range of metadata, such as circulation activity, placement of materials on class reserve lists, sales data, and clicks to download, print and capture citations.

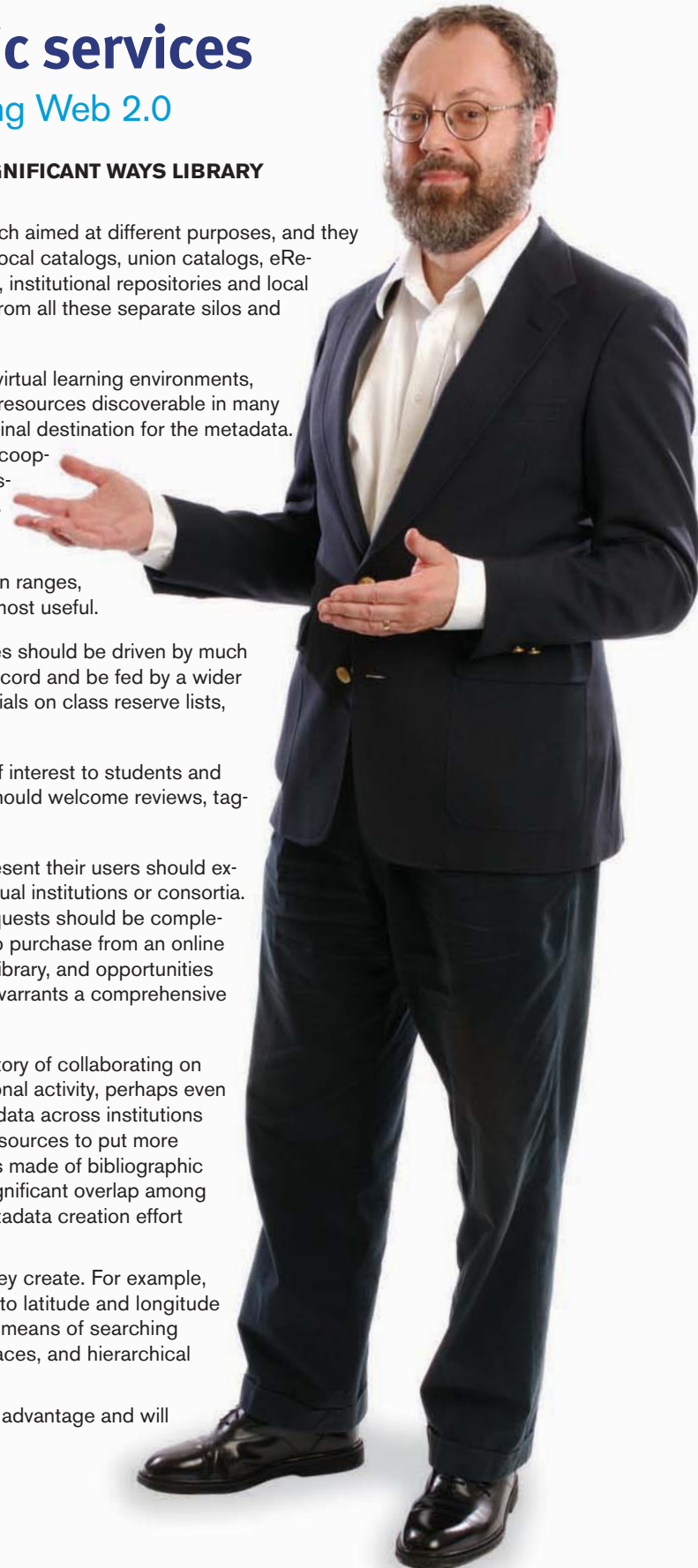
Adopt Web features The features of Amazon and Google of interest to students and scholars ought to be incorporated into library services. Libraries should welcome reviews, tagging, scholarly commentary and other forms of user participation.

Expand delivery The range of fulfillment options libraries present their users should extend beyond the options managed and under the control of individual institutions or consortia. User-initiated services like renewal, recalls and interlibrary loan requests should be complemented by views into the campus bookstore's inventory, options to purchase from an online bookseller, displays of availability in any geographically proximate library, and opportunities to see and select terms for expedited delivery. User convenience warrants a comprehensive menu of choices in a single place.

Streamline metadata creation Libraries have a long history of collaborating on cataloging. This should be extended to coordinated, multi-institutional activity, perhaps even beyond the library sector. The systematic sharing of bibliographic data across institutions can lead to the automatic sharing of enhancements and free up resources to put more material under bibliographic control. If there is similarity in the uses made of bibliographic descriptions by publishers, vendors and libraries, and if there is significant overlap among needed data elements, then it makes sense to pursue a single metadata creation effort whose results we all can use.

Libraries should get much greater mileage out of the metadata they create. For example, if geographic names embedded in subject headings are mapped to latitude and longitude coordinates, it becomes possible to present users with graphical means of searching by place, new ways of easily asking for materials about nearby places, and hierarchical browsing by place.

Expanding and enriching metadata will give libraries a competitive advantage and will support the bibliographic services of the future.



5

DR. WENDY SCHULTZ

Infinite Futures

To a temporary place in time...

On the way to the library experience of the future

THIS TOO SHALL PASS: THE ONGOING DEBATE IN THE LIBRARY COMMUNITY

regarding Web 2.0 frames library renewal within the current trends transforming our information infrastructure. But those trends themselves will evolve, even mutate, under pressure from emerging change. A futures perspective asks us to reconnect this dialogue to the grand sweep of time and to put people and meaning at the center of our concerns.

Let's borrow a page from analysts charting shifts in our economy's "chain of meaning." They see a rising ladder of value progressing from commodity to product to service to experience.

Commodity The library from Alexandria to the industrial era: books are commodities, collected, inventoried, categorized and warehoused within libraries. Libraries represent a resource base, contributing to educating the labor force, to supporting innovation processes fueling growth, and to informing the present and the future—whether in the neighborhood, in academia or in business.

Product The library is everywhere, barrier-free and participatory. Collaborate with Amazon; provide digital downloads of books; create a global, and globally accessible, catalog; invite readers to tag and comment. Yet as more information becomes more accessible, people will need experienced tour guides—Amazon's customer recommendations are notoriously open to manipulation; tag clouds offer diverse connections, not focused expertise. This will drive the transition to the Library 3D service.

Service: Web 3D to Library 3D Digital natives, immersed in a virtual graphic world, are buzzing over collections in 3D, where books have avatars and online personalities. But the avalanche of material available will put a premium on service. While books may get in your 3D face, people will prefer personal introductions—they will want a Virtual Reality (VR) info coach. Who's the best librarian avatar? How many Amazon stars has your avatar collected from satisfied customers? This could create librarian "superstars" based on buzz and customer ratings.

With Library 3D, we have strayed far into VR in the flight from bricks and mortar into software. Yet many businesses are demonstrating that storefronts can still draw customers if they offer a clearly defined environment that is authentic, humane, experiential, impassioned, relevant and participatory. What would the next stage be like?

Experience: the neo-library This will be the library that connects the digital and the sensual, moving from virtual reality to augmented reality. But let's be clear: the library experience will not replace earlier versions of the library, it will absorb them. Both virtual and augmented 3D reality will enable us to manipulate data via immersive, visual, metaphorical, sculptural, holographic information theatres: the research and analytic experience will merge with drawing, dance and drama.

But the library experience will add a new mode, knowledge spa: meditation, relaxation, immersion in a luxury of ideas and thought. The library experience revives the old image of a country house library, and renovates it: from a retreat, a sanctuary, a pampered experience with information—subtle thoughts, fine words, exquisite brandy, smooth coffee, aromatic cigar, smell of leather, rustle of pages—to the dream economy's library, the LIBRARY: a WiFREE space, a retreat from technohustle, with comfortable chairs, quiet, good light, coffee and single malt. You know, the library.

I'll meet you there.

