


The Wild-Card Academic Library in 2013

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The transformational agents that have produced dramatic changes in academic libraries in recent years will continue to influence those libraries over the next decade, but it should not be assumed that the academic library of 2013 will represent a natural progression from the library of today. Rather, the academic library of the future will be marked by unanticipated “punctuations” that will be just as surprising and unexpected as have been so many of the influences that have shaped the contemporary library. This paper suggests that “wild cards” will be introduced into the evolutionary growth of the academic library, some perhaps harmful, but more likely enabling libraries to provide even richer information resources and better services than they do today.

 It would be folly to imagine that the academic library will develop over the next decade as a purely natural progression from the library of today. Far more likely is a library model that will be constructed within the type of “punctuated equilibrium” that the late paleontologist Stephen Jay Gould suggested as a modification of long-accepted Darwinian principles.¹ Present trends and transformational forces will continue in the years ahead, but it is likely that wild-card influences will help shape the academic library of 2013. Some of these influences could be harmful; some could be dramatically helpful. There may be directions from which such influences can be anticipated, and speculations about them might help librarians prepare for those “punctuations” ahead.

The core concerns of the coming library will continue to include the responsibilities that libraries always have held as gatherers, keepers-in-trust, and servers of the intellectual records of humankind, of the art and culture, history, science, and natu-

ral records of our earth in whatever form they are captured. The transformational forces that have both burdened and beautifully reinvented our libraries in recent years will continue, as will the growth of print-based publishing and increases in the creation of digital content. The wild cards and so-called punctuations are likely to simply appear unexpectedly on library doorsteps, welcome or unwelcome, as time will tell.

The types of punctuations that might be recollected as wild cards that surprised libraries of the past include the introduction of printing, the industrial and social upheavals that promoted the growth of education and reading, the introduction of pulp paper and the rotary printing press, the economics that fostered paperback publications, the advancement of computers and telecommunications, the development of the new information technologies, and the establishment of the commodity Internet and World Wide Web. A terrible war and the simple sound of an Earth-circling Sputnik played significant roles in

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altering the directions of American science and reshaping research and its published product, remaking the scholarly information flow and the academic library in the process. The unrelenting inflation and volcanic publication of journal literature in recent decades have not been welcome results. These examples serve as reminders that an arrival of the unexpected is more to be expected than the continuation of unpunctuated library evolution.

We can only surmise, then, that the trust we place in an orderly progression of the academic library is uncertain at best. The academic library's succession from its long-held physical format and service model through a transformative process that adds to and extends the contemporary library—a digitally influenced metamorphosis—into a more sophisticated and hybrid progeny in 2013 may somehow be altered. In fact, that modern academic library may well be a wild-card library, grown from what we see transpiring today, but punctuated in some unanticipated manner by events that cannot be foreseen.

While retaining within it the same principles of stewardship and service that libraries have always held, the “skin” of that library—its shape and features—may become almost as malleable and subject to user choice as the music and video players that now abound on the screens of our computers. It can be assumed, as is presently occurring, that the physical constructions—the seating, the wiring (or the rapid development of the “unwired”), the processing and service points, the hours of library opening, the library's staffing, the training places, and the amenities of the physical library—will be altered to better accommodate change and the requirements of future learners. In some measure, libraries and their services will be designed so that users can reshape them into environments that best fit their particular needs.

Academic libraries will assume the same basic roles they have always held—and will continue to hold—as long as there are people who require a shelter in which to house and use the collections they ac-

quire. But compared to the present, the proportion of physical collections to the electronic will decline, and libraries will contain (or make available remotely) improved tools to reach toward the informational heart of the modern library to come—a vast global collection, constantly building and rebuilding in an international knowledge commons. The contents of that globally linked library will be ported to mobile digital information assistants or to the physical library shells that house book and journal collections. Tools for digital harvesting—to discover, deliver, and manipulate the media and content available in both local collections and digital content from the international commons—will represent the most significant technical improvements made during this period.

The key drivers that can be expected to shape the future of academic libraries as they move toward the model of 2013 will be the availability of library resources and the demands on their use, alterations in scholarship and scholarly publishing, and changes within the teaching and learning establishment. Cultural, social, and political changes throughout the commonweal; further advances in computing, telecommunications, and information technology; a steadily increasing globalization; and the dislocational wild cards that are likely to appear in any of these areas of influence will play their part.

Resources to be considered in the library economy include money, work time, computer time, space, facilities, equipment, the skills of workers, training and instructional programs for patrons and staff, facilitation through favorable international standards and local legislation, and the informed support of public and private leaders. Teaching and learning processes, and the educational establishment itself, are under compounding influences from economics, technology, and dramatic social forces. There is generational tension among educators regarding instructional methodologies. The possibilities of distance education wax and wane. The only certainty that higher education has appeared to grasp is the necessity to provide some level of support to K-

12 students and lifelong learners through programs that previously have been isolated from them and directed solely toward the traditional college student.

It is especially important that the information-deprived have access to information, art, and knowledge improved in whatever setting that best serves their needs. It is unconscionable that an information ghetto be allowed to exist wherever there is a hunger for learning or a lack of opportunity to read or listen or observe and improve one's life. Libraries can play a major role in this mission and should develop a better means to do so in the next ten years.

It can be anticipated that the activities of several scholarly communication change agents will have dissipated as institutional energies become depleted with no improved information crops to show for all the fiscal plowing and planting. The notion of "self-archiving" by individual scholars will have been determined to be foolhardy all along, and scholarly works will be aggregated in journals or some as-yet-undesigned container for evaluation, delivery, and preservation. Only institutions with sufficient resources and a guaranteed long life—like that of a university, a scholarly organization, or a tested commercial enterprise—can be trusted to archive and preserve humankind's cultural heritage. In that sense, the concept of institutional self-archiving, and networked access to the digital repositories thus created, could become a practical scholarly alternative to introduce into the present information flow. To be successful, however, this responsibility had best be invested in libraries to ensure the application of necessary metadata and preservation requirements.

Libraries and publishers will continue to rebalance their shared interests, their resources, revenues, information produced and delivered, as print and digital publishing continues to increase, as library budgets continue modest growth, and as new means of resource sharing are established both nationally and internationally. A networking of nations may occur as governments find it imperative to make the prod-

ucts of their financially supported research available to the community that needs it. The sharing of such research could make the world a healthier, better-educated, and happier commons. In truth, however, the results of government-sponsored research are relatively small in the larger universe of scholarly production.

Global partnerships for information cost sharing must surely develop as many national currencies become a more standardized unit and as physical borders become even more boundless. The relational nature of the global information commons will make meaningless the source of its contents. Even the language of origin will be of no consequence because translation devices can present the content in whatever language the reader prefers.

The derivation of the content, and the place and costs of its storage, preservation, and delivery, will be determined by international protocols (including copyright) created through the collaboration of countries, international institutions and organizations, commercial publishers, scholarly communities and publishers, and technological powers. How the commercial interests of the powerful for-profit community will be balanced by the rights of authors and the ability of the learning community to afford the reasonable, legitimate costs of information will represent a battle that even the gods of Greece would have envied.

Only faintly brushing the academic library of 2013 will be the invasion of Third World research, scholarship, and publishing, but that world as market and provider will develop rapidly in the years following. The growing importance of research done in China and Japan is well understood, and a means of exchange for those countries is pretty much in place. But a huge portion of the contributions from and the needs of other countries remain to be established. Wireless communication and the portability of computers and multimedia reading devices will enable Third World learners to leap more quickly into the knowledge commons—as contributors and borrowers—than those pioneers of the

past century who laid the framework for the virtual information sea and created the initial harvesters of its content.

New technological applications affixed to library informational requirements are likely to continue along paths presently established. Advances in telecommunications and information exchange, as noted above, will be of rapidly increasing influence, as will the financial contributions of the corporate world toward the creation of information that demands their tools and services. It now appears that the Open Archives Initiative (OAI) and the most powerful not-for-profit global information organization ever constructed—OCLC—may hold the strongest cards to effect the positive punctuations that could most benefit the users of the academic library of 2013. In addition, the CrossRef enterprise represents a powerful commercial alliance that could either help or hinder affordable access to the literature of science, technology, and medicine. It is from these several quarters that one might anticipate unexpected influences and punctuations on the evolution of the academic library model over the next decade.

These are the tables at which the wild card may well be played before societal, cultural, and educational agents (which deal their hands in much slower motion) have an opportunity to consternate the library world with their own surprises. With the rich, robust collection of information rapidly being assembled in the global information commons, the development of content and its deposit within this boundless Web-based relational library will become almost secondary to the preliminary need for permanent digital repositories, for a means to apply metadata to that information, and for a tool for the cross-database searching of this mammoth body of information and knowledge.

Consider the “Arc,” for example, a federated search service based on the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) under development by the Digital Library Group at Old Dominion University.² Described as a “federated search service,” it can harvest the

contents of OAI-PMH-compliant repositories—in this instance, repositories at the Library of Congress, the universities of Illinois and Michigan, ArXiv at Cornell, and some one hundred other OAI-PMH-compliant repositories across the nation. Although the body of literature that is tagged and available throughout the repositories of this federation is presently small, and although Arc is still very much an experimental search service, it suggests the prospects for successful cross-database harvesters that lie ahead.

Another example, the open-linking capability of Fretwall-Downing’s Zportal, has been selected by a group of Association of Research Libraries (ARL) members as the interface to a portal under development by the group.³ Searchlight is a cross-reference search tool used by the California Digital Library, Flashpoint is a search tool developed at the Los Alamos National Laboratory, and a number of other such tools created by libraries or commercial bodies are in use or near launch.⁴ The point is that the academic library of 2013 will likely have a harvester—whether off someone’s shelf or locally developed—that is many levels of usefulness and sophistication better than the experimental and rather primitive devices presently extant.

While work on a harvester moves toward constructing an efficient tool that will be in general use in the next decade, academic libraries are likely to develop more elaborate content-building programs similar to smaller versions of those presently in place. It can be anticipated that federal funding will eventually support a massive program building from the United States Newspaper Project into a digitization effort to make the contents of the nation’s newspapers available online. This will be a natural correlative to the state-based inventory and microfilming projects that have helped identify them and preserve their contents. As a start in that direction, OCLC has established a Historic Newspaper Digitization service that will enable libraries to use Olive Software to digitize and make online access available to these rich newspaper resources.⁵

Somewhat related projects have been mounted in California and Texas to identify little-known and seldom-used archival resources across their states and to encode paper finding aids through the EAD standard so that these materials can be made known and available over the Web. The next logical step will be to digitize the contents of the most significant of these historically and culturally important archives so that this information also can be made available to the nation's citizens, schoolchildren, and scholars.

These projects simply serve as indicators of future efforts by academic libraries that will add to the massive amount of important resources available in a global knowledge commons. These will join similar products from other countries, as well as the ongoing flood of publications from many directions, that will find the libraries of 2013 overflowing with information opportunities. What a task for librarians to help bring selection, order, and access to this boundless body of information, imagination, and knowledge!

Another unexpected development may provide assistance. It is likely that the commodity Internet and Internet2 (which presently supports selective research programs of educational agencies through extraordinarily high-speed connections) will be joined by an Internet3, a parallel network dedicated to the access and delivery of scholarly information and knowledge with doors through which useful content from other network streams can migrate. This would greatly simplify some of the difficulties presently associated with digital linkages.

Librarians who staff the academic library a decade hence increasingly will have received their degrees from schools

of information. Library schools will have changed their names to reflect the fact that many kinds of information service providers will require much broader and more diverse fields of study than have been located within the traditional tents of library schools. The values that library schools have long instilled in librarians could undergo subtle shifts as information schools reflect interests that are no longer as singularly social or public service oriented as in the past.

The places of work of information school graduates will be, colloquially speaking, within any number of information "joints," some perhaps more commercially oriented than others. It will be the case that the information "joint" that the academic librarian has chosen as a workplace will be a library. Even within the academic library, the requisite skills and training of a librarian must have embraced the traditional library and information model and an understanding of rapidly changing generations of more complex technical and learning attributes of the new library paradigm. But the traditional values of librarianship must hold within libraries.

So, what will the general wild-card academic library of 2013 be like? It will be freshened by many of the ideas recited above. It will be just as *familiar* and just as *surprising* to us as today's library would be to librarians and library users a decade ago. The academic library of 2013 most likely will provide even richer information resources and better services than the academic library does today. But the wild card, the wild card, bright or dark, will provide an extra level of surprise to the academic library of 2013, just as the wild cards of recent years have astonished the librarians and library users of today.

Notes

1. Jerry Adler, "Evolution's Revolutionary: Stephen Jay Gould, Paleontologist: 1941–2002," *Time* (June 3, 2002): 59.
2. Xiaoming Liu et al., "Arc—An OAI Service Provider for Digital Library Federation," *D-Lib Magazine* 7, no. 4 (April 2001).
3. Mary E. Jackson, "ARL Scholars Portal Group Final Report," *ARL* 222 (June 2002): 10–15.
4. Roy Tennant, "Cross-Database Search: One-Stop Shopping," *Library Journal* 126, no. 17 (Oct. 15, 2001): 29–30.
5. *OCLC Newsletter*, no. 257 (July 2002): 19.