NOT CHANGE TO…CHANGE! The Last 40 Years in (Academic) Librarianship and What it Tells Us

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Librarianship. It was once regarded as the most calm, indeed static, of professions - a quiet refuge for bespeckled academic types who explained in hushed tones about use of the card catalog or regretfully informed patrons that food and drink were not allowed in the library. Books and journals were purchased title by title after careful review by subject specialists often in consultation with departmental library committees, keeping shelved books in order was a major preoccupation, filing new cards correctly in the card catalog was necessary drudgery, and circulation desks required special carpentry to accommodate the trays and trays of checkout cards carefully put in order day by day so overdue materials could be easily identified. All that, and much, much more has changed, indeed such reminders feel like viewing a different galaxy, far, far away.

What happened of course was the digital revolution, and indeed more than libraries were changed. The whole culture has changed. People who had grown up with rotary dial telephones used almost exclusively for local calls now routinely talk to colleagues or family in other countries face to face using Skype. A question such as who was the winner of the 1946 World Series in baseball which formerly required a trip to the local library and perhaps consultation with the reference staff, now is answered in seconds in the midst of a night out with friends by asking your smartphone. But while all aspects of our lives have been affected by the digital revolution it has played a special role in the transformation of libraries. This is because libraries, particularly academic libraries, serve as central repositories of cultural information and the digital revolution is above all an information revolution.

The digital transformation of libraries has been not just remarkable, but actually astonishing. And it is clearly by no means over - in fact, the transformation appears to be one of continued acceleration and growing depth. The question facing library professionals today, therefore, is how do we take our bearings in such a dynamic situation, how do we prepare ourselves to productively and creatively shape the future of libraries, and how do we prepare future professionals? While there is no crystal ball allowing us to see the future, paradoxically there is a proven approach which can help us anticipate the future and prepare ourselves for dealing with it. By looking at the past and in particular the path the digital revolution has taken to date in libraries we can gain

a perspective which will help us deal with what is to come. After all, the future arises out of, is created by, the past.

A Tentative First Step

The first serious applications of digital technology in the library world occurred in the early to mid-70's and dealt primarily with circulation. In traditional libraries, i.e. libraries dealing primarily with print or manuscript materials and functionally little changed since the Middle Ages except for size and systems of item organization, circulation units were typically one of the larger organizational units in libraries. Tracking the daily circulation of thousands of items as well as keeping a stack collection of up to several million individual items in precise order was a huge logistical task. In a library of any size it was a complicated and expensive responsibility.

In the early 1970's the automation staff at the University of Chicago saw digitization as a way to simplify, improve accuracy, and reduce the cost of providing bibliographic holdings and checkout records. Analyzing the library files they realized that the multiple paper files used in libraries revolved, not surprisingly, around a basic bibliographic file which identified the item intellectually and which was logically connected to individual copy files which could be further modified by library units for specific purposes. The sub-file "acquisitions" for example, needed to link bibliographic and copy information with order information (purchase date, cost, etc…), the "cataloging" file likewise needed special information (cataloger, call number, etc…), the "circulation" file needed such information as date checked out, patron ID, date due, and so on. The system they developed which organized bibliographic and individual copy files into a related hierarchy was called the Chicago Quadraplanar system. It was soon further refined and put to early practical use in the later 70s in the state of Washington, a leading proponent of implementing digital library technology, primarily as a circulation mechanism.

Replacing the time consuming and error prone filing of checkout cards with a daily computer printout of items checked out, computer generated overdue letters, and computer batch produced recall alerts was almost magical in the ease of use and lack of errors. It was soon possible to do a much improved job in circulation with substantially fewer staff and student employees. Although in retrospect a relatively small and simple change, at the time it was considered wonderful and revolutionary and was widely heralded as the computerization of the library. An opportunity had arisen and the challenge had been met by the library community.

But Wait…There's More?

But the digital transformation of circulation services through Chicago's Quadraplanar's approach and soon thereafter by an explosion of similar digitization efforts in circulation, was not the fulfillment of computers in libraries. Indeed, the transformation had only begun. The next key development in library digitization was to provide better intellectual access to the print collection. As the 1980s

began libraries saw the increasing replacement of print search tools (remember the long shelves of Social Science Index volumes, or those of Psychology Abstracts and, of course, the dominating presence of the card catalog) with online searching. With the exception of the new online catalogs these largely commercial tools were costly and complicated to use – at least for the untrained – and so they were mediated to patrons by specially trained librarians who conducted the online searches and provided patrons with a printout of the resulting list of citations to the library's print collection of books and journals.

Once again the library community was both thrilled and self congratulatory. A whole new use for computers in the library had been found; training manuals and online searching workshops were developed and once again the library community felt a new opportunity had been seen and its new challenge successfully met. Less obvious in retrospect was a realization that although revolutionary for the times, online searching simply represented a more efficient and effective way of delivering traditional library services in a still traditional print information environment.

By the early 1990s the digital tidal wave was gaining substantial momentum, giving rise to a more fundamental transformation in libraries. From expanding internal library processes and reference tools, the library's collection itself began to be transformed as digital content appeared. Joining such digital pioneers as the Inter-University Consortium for Political and Social Research (ICPSR) which maintained and provided to libraries upon request longitudinal databases by means of stacks of computer tapes, were the newer CD formatted databases such as Sir Chadwyck-Healey's English Poetry (700-1900) collection, compact disks for music collections and even, in the United States, the Government Printing Office decision to increasingly distribute its massive information avalanche in a digital CD format. Although these new digital materials were yet again hailed as issuing in a revolutionary new world for libraries they still retained two key characteristics of the traditional library world – the library owned the information they contained and they were provided via a physical medium.

By the late 90s even these surviving vestiges of the traditional library began to erode as the library world was shaken by two radical digital tsunamis. The first was the world wide explosion of access to web based journal literature brought about by the rapid rise of library consortia and the Big Deal purchase model. By libraries banding together into large buying groups known as consortia their resulting massed buying power vis a vis the publishers was vastly increased. Simultaneously, their use of the Big Deal purchase strategy, i.e. buying all of a publisher's web based titles rather than use title by title purchase, allowed libraries to massively increase their journal collections for minimal cost. Typically, at the cost of a 10% increase in their journal budget a library could double the number of titles in its journal collection. Small libraries in a consortium could do even better, expanding their access to the periodical literature from one or two titles to hundreds of titles.

The rapid shift to web based journals was also encouraged and facilitated by the creation of JSTOR, a non-profit company, which supplemented current digital subscriptions by pioneering the mass digitization of retrospective core journal collections. Both the speed of this digital transformation was astonishing as well as the huge increase in journal access which this allowed libraries to provide. In less than a decade web based access to the journal literature became the preferred and most

widely used option by library patrons worldwide while the use of the print journal literature – a library mainstay for over 300 years – plummeted.

The second wave of this more radical library transformation began crashing on library shores just a few years later in the early 21st century when the first major attempts to provide web based access to the book and government document collections got underway. For books the pioneers were Google, Microsoft (briefly), the European Union, and the Open Content Alliance. All these began large scale book and cultural treasures digitization projects. In a complementary manner, access to government documents (particularly in the US) continued to evolve – having already gone from print to CD they now began to move to the web.

Facilitating the move of library collections into the digital world at this time was a solution to the problem of what to do with the increasingly unused, legacy print collections of journals, books and government documents. For a multitude of reasons libraries were legitimately concerned about simply discarding these materials even when digital copies were available. The solution turned out to be high density storage facilities; the dominant model being the Harvard Model. These repositories were huge, internally open buildings containing book stacks 100 feet high. Climate and light controlled, their materials were shelved by size for efficiency. The resulting high density storage of such facilities allowed collections to be housed with archival level preservation for around 10% of the cost of nonarchival traditional stack space. Although the ability to browse such collections by wandering through the stacks was lost, the cost savings and enhanced preservation generally provided an irrefutable argument, especially since the bibliographic records of these collections were viewable electronically and library staff could retrieve and deliver materials requested from such repositories within 24 hours.

As librarians struggled to keep up with these changes it became increasingly clear that a truly fundamental change was taking place. It was not simply a matter of improving the efficiency or scope of this or that library procedure or broadening the scope and depth of information resources which libraries could provide patrons. Something more basic was taking place. The traditional assumption and almost universal subliminal image of the library since Byblos was that of a physical information warehouse. As digitization provided access to, indeed, usually replaced not only print materials, but also music scores and recordings, art collections, microforms, VHS, and all other media, a physical building with a large curatorial staff to manage millions of individual items was no longer necessary. Digital materials also allowed patrons to access information from any location at any time. It was no longer necessary to make a trip to a place. And finally, to a large extent, the library no longer owned most of the digital materials it provided its patrons – access to materials was leased to libraries through contracts with publishers or held on government servers. The library simply confirmed that the logged on patron was a member of their community and forwarded them electronically to the appropriate data source. With Google Scholar, OAPEN, the Humanities Open Book project, and retrospective monograph digitization such as Google Books it becomes increasingly unnecessary to even electronically connect to the library.

So how do we envision the modern library? If it is not a physical information warehouse, or perhaps not even an electronic information switching yard, how do we think of it? How do plan for our future and how do we educate a new generation of librarians? For the human enterprise

still needs institutions and individuals who are concerned about collecting, organizing, preserving and making publically available the ongoing cultural, scientific and literary information on which our societies depend. The answer has to be that we need to think in terms of and prepare for, not a specific new world, but rather a constantly changing world. This distinction is an important one and may require elaboration.

When I was in library school at the University of Chicago, an institution well known for modern and advanced thinking, the library school curriculum nevertheless had little uncertainty to it. We were expected to learn reference interviewing and tools, cataloging and cataloging rules, how books and journals were selected, acquired and processed, the preservation of rare materials, and the like. Everyone knew what a library was and what specific professional skills were required to run it. "Change" in such an environment consisted of revising the cataloging rules to AACR2! In short, change in a basically stable environment allows for something new to emerge and then for the stability to return. Mission accomplished.

But when change is both fundamental and ongoing, possibly even accelerating, and the destination is unclear, a different mindset is required. We clearly are not returning to an established and stable environment in the foreseeable future. Consequently we can no longer start our thinking of the library as a place or institution which requires adjustment. Instead we have to learn to see the library with new eyes, to see it in terms of a dynamic process where instead of attempting to fine tune traditional, or even last year's, organizational solutions and skills to the latest digital development, we need to return to a more basic dialog with the future.

The library mission, for example, has never fundamentally been about cataloging books or collecting journals. The underlying library mission has been collecting, organizing, preserving and making publically accessible the cultural heritage of a society, or even more grandly, the human enterprise. Cuneiform tablets, or books or digital downloads have always been just the temporary environment within which librarians pursue this larger mission. Returning to this basic mission as a starting point will allow us to think anew and hopefully more freely and creatively how to implement that mission as librarians – whether practicing professionals or academic scholars. Particularly when the ongoing dynamic character of the digital revolution is requiring us to constantly reassess and re-invent the library, returning to the guiding light of our fundamental mission is crucial for guidance and insight. It is too easy to think that this or that adjustment of the old model will return us to stability. It is comforting to think that if we can just get it right, then we will be set and stability will return. But as the last forty years has shown, such thinking is an illusion.

In our present world professional education will not be training in known tasks, but how to creatively engage with a regularly changing digital environment. Our workplace will not be a stable institution we have changed to, but a dynamically shifting response to ever new realities. As modern librarians it is our "curse" as well as our gift that we have been presented with such a demanding and yet wonderful task.

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