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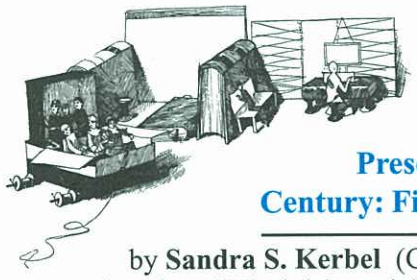

Collection Development for the Digital Age

Presented at Acquisitions and Collection Development in the 21st Century: First Acquisitions Institute at Timberline Lodge.

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Editor's note: *Many academic libraries are trying to "change the system" of scholarly communication, while assisting their faculty in developing course material, digitizing research collections, and other associated projects. These activities can be seen as a natural extension of our roles as partners with the faculty in the educational and research enterprise. Below* ***Sandra Kerbel*** *describes an application of this role to some of the projects at the* ***University of Virginia****. — **JLO***

Shelf-ready approval plans! Just in time selecting and ordering! Bulging print collections but no new space! Consortium-led collection decisions! Double-digit inflationary costs! Yahoo and Alta Vista as the search systems of choice for users! User-driven collection development! What is the individual collection development and acquisitions staff member to do?

Collection development and management staff have typically been involved in the post-production activities of scholarly communication—selecting, ordering, cataloging, and preserving. The physical manifestation of scholarship — the final product of a scholar's research — is at the center of how libraries define their core mission.

However, we now have an opportunity to involve ourselves in the pre-publication activities of the scholarly communication process by guiding, directing, and organizing the intellectual content as a product for the digital environment. **Ross Atkinson** wrote that the "digital mentality — will come to dominate and define information services" and believes "it is on the basis of that mentality that we will view and build future services."[1] Does this mean a new role for libraries? Probably. But if we focus our attention on worrying about and spending time delineating our role and boundaries, we will have missed an opportunity to meet an educational need. Some would say that our time might already be over. We can't wait for others to define our boundaries. The question is, why not us?

Libraries need to engage our users in different ways and help our institutions manage intellectual assets in a digital environment. If we are to be a player in the digital environment, we need to work collaboratively with faculty and students in creating digital content and in managing digital collections.

How can we begin? What roles might we play? Many of the speakers will address the issues in collecting commercially available e-journals and e-books.

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I would like to take a slightly different approach and talk about how we as library staff can work to build and shape digital collections based on institutional priorities, rather than publishers' digital offerings.

Librarians need to partner with faculty in designing, compiling and organizing digital materials. Collection development librarians are well prepared to work with our users in the following roles:

> providing intellectual content for digital materials or objects (locating appropriate resources);
>
> collaborating to structure and organize digital objects (utilizing metadata and standard information techniques), and
>
> providing systems and frameworks (searching and delivery tools) for the delivery of digital content.

It is a unique opportunity for collection development and acquisitions staff members to become involved in enhancing and organizing digital content within a context that users create.

The important concept in this role is not just the creation of digital content but collaboration to engage users and create active use of digital materials. **Daniel Greenstein**, Director, Digital Library Federation, in his presentation to member libraries, cautioned against vanity collections where libraries put up digital collections and say here I am, browse me. Libraries need to identify institutional needs/priorities and then develop the collection. Greenstein encouraged libraries to see users as suppliers of tools and potential sources of collection development. The approach should be demand-driven not supply-driven.

How can libraries, especially if they are not the size of **Michigan** or **Cornell** or **Yale**, do this? I have been involved in two collaboratory collection development projects using different approaches that I'd like to suggest as possible models. The first model is, according to one of our science subject librarians, "What happens when Sandy attends a cocktail party with faculty?" Now I must say that this is not how I remember us becoming involved in the project, but my colleague swears that this is how it began. Before I describe the project, I would like you to consider the following piece from a *USA Today* article that appeared during the Iraqi crisis in 1998.

"We're seriously considering bombing the Iraqis into Jello — But just so you know — just in case it might alter your thought patterns a little bit — the computer industry of today would not exist if it were not for an Iraqi. This would be a guy named **Abu Abd-Allah ibn Musa al'Khwarizmi** — ...His breakthrough was the algebraic equation — 'the point of departure for many succeeding Arabic treatments of algebra' says a paper by **Karen Parshall** of the **University of Virginia**."[2]

Now where do you suppose that this reporter for *USA Today* found this paper? How many of you think he read the article in the journal, *History of Science*? How many of you think he found this quote from the Web?

We believe that the reporter, like many hundreds of others, found the Website that the Science and Engineering Libraries collaborated on with **Karen Parshall**, a UVA mathematics professor in 1995. I want to emphasize this example not because the Website uses state of the art technology (when I told my science colleague, **Fred O'Bryant**, that I was going to talk about the project, he stressed that it was done in 1995 when the tools for the Web were limited — he compares it to the days of bi-planes to today's supersonic transport), I use it because it is an example of recognizing a scholarly communication need on campus and working with faculty to enhance content.

"...we now have an opportunity to involve ourselves in the pre-publication activities of the scholarly communication process..."

As O'Bryant remembers it, I came back from a cocktail reception saying that I have a great idea for him. I remember it as I was talking with a mathematics professor, Karen Parshall, about course reserves and suggested that the material, rather than being placed on static reserve could be put up on the dynamic Web. She was interested and so we began the project back in 1995. We sought permission to convert an existing article on the history of algebra to the Web (luckily the publisher said sure — just give us credit — since this was in the early days of the Web they may not have realized the implications but I like to believe they were farsighted) and then we suggested that she enhance the content by adding biographical information on the mathematicians listed and pictorial representations. Parshall thought this was a great idea. Students in a graduate seminar worked on the supplemental materials. Thus through our work we were able to participate directly in the educational process.

Parshall continues to use this Website (http://www.lib.virginia.edu/science/parshall/algebra.html) in her classes and has revised it several times. She gets at least one e-mail message a week about the site, many of them complimentary, some of them requesting clarifications about the math, and with the occasional complaint about some aspect of text. Literally, scholarly communication in action. She said that her article has probably received more attention on the Web, some of it even from high school students, than it ever did or would in its printed version. What role did the libraries play in this project? We identified a need, organized the material, and assisted in the final publication of this digital project.

In acquiring print material we also identify a need and organize material. The difference is that we take an active role in the creative process not passively waiting to acquire a product at the end of the process. We help to set a context for the information. What is the role of collection development and acquisitions staff in this model? To engage users and view them as potential sources of collection development. The value is in the assembly of the collection and making the collection accessible, which is a role that all librarians can feel comfortable with, even if it happens in a digital environment.

My second model is also a partnership but the library's role is slightly changed. In this model, the library becomes involved in supporting research whose outcome is presented in a digital environment. This model is affectionately called "How to be involved in a NSF grant proposal without really trying." It is one in which the library, in performing its usual service function, can foster and enhance digital content that is initiated and maintained by faculty. This model involves an engineering ethics initiative in the **School of Engineering and Applied Science** at the **University of Virginia**.[3]

A little background information first. A faculty member in the Engineering School developed and posted on the Web a collection of cases that "focus on ethical consideration in the early stages of the invention and design phase." The cases (e.g. Dow Corning Breast Implant, Bhopal, Unilever & sustainable development) are based on actual company experiences and the cases all have significant supporting documentation. The cases are researched by students who work closely with Library staff to identify resources and conduct research

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not only on the companies and products but also on the social environment. The subject specialist in the Library not only teaches research skills to the students and recommends resources, but also purchases unique resources needed for their research on the cases.

In one case a graduate student was working on a case of an "electrification project undertaken by one of the largest utility companies in the world. The company had the goal of electrifying over 1.75 million homes who were previously denied access to electricity under Apartheid, by the year 2000." The Science and Engineering Libraries' subject specialist worked closely with the student. When he needed a unique print resource for which we could not locate a copy in North America or even the British Library, we in the Library were able to track down the needed resource and purchase it. The data in this resource was used to provide supporting material for the case that was then posted on the Web and used in classes. In another case we worked with a student to identify safety systems costs for the plant at Bhopal and videos about Union Carbide's plants in West Virginia and India.[4]

These efforts led to more discussions with the Engineering School faculty member about how to use technology to improve the pedagogy and the dissemination of the cases. The faculty member then asked if we would be interested in working on an NSF grant proposal for funding for additional development of cases and to enhance the development of the Website by including images, video, and other multimedia. Delivering the cases in a digital environment would allow for more interaction by both students and faculty by providing archival material, lesson plans, teaching notes, and more importantly, would allow students to examine product design alternatives that then could be the basis for class discussion. The Library collaborated on the grant proposal and is listed as a resource for the project. A decision on funding is expected soon. This example illustrates how the Library can support the organization of digital content through its traditional roles of liaison and instruction.

Both of these projects were undertaken even before the **UVA Library's Digital Library** research and development project began. Now, tools are being developed that will help foster the creation of digital materials. The trend in digital libraries seems to be moving in the direction of "foreground the scholarly user." Digital projects are focusing on reaching out to scholars so that they can frame questions that would have been impossible to explore in the analog environment. At UVA a team of technologists, faculty and librarians are involved in a grant from the Mellon Foundation to support digital scholarship and to look at supporting context, comparison, or analysis — the building blocks of scholarship.

The key factor in becoming involved in the creation of digital objects is to have a relationship of trust with faculty and students. We also have to initiate contact — we can't wait for them to come to us. Just as collection development and acquisitions librarians select and acquire post-publication content, either print or digital, the first step is to identify a scholarly communication need. Then we need to be willing to set a context for the digital object. Of course the object is nothing without its metadata or description, but more importantly, the content must be enhanced within a digital environment. In addition, Acquisitions staff may be called upon to order and pay for materials that will be used in the creation of digital objects.

As an example, let me briefly talk about the University of Virginia Library's **E-text Center**. The Library's E-text Center works with faculty in the humanities to create digital texts that can be used in an instructional setting and helps faculty to enhance the text by placing the text in its social and environmental context. The UVA Library's Electronic Text Center has been successful and effective because it did not create digital content in a vacuum but went out into the academic community to make connections. They worked with an English professor to create an instructional and research module on *Uncle Tom's Cabin* (complete with text from editions, illustrations, and links to articles from the time, songs, etc.). The E-Text Center attributes its success to factors that all librarians can identify with — catalog the e-texts, use a consistent interface, and educate users.

What is the organizational context for these models? As **Carl Logoze** and **David Fielding** from Cornell wrote in an article in *D-Lib Magazine* about the design of the digital library collection at Cornell, "Motivation for the collection service design lies in the tradition well established in the library community where collection development serves three important roles:"

> selection-defining a set of resources.
>
> specialization/development of resources and information tailored to a specific need — designating a set of resource discovery aids which are tailored to characteristics of the collection, the audience to which the collection is targeted.
>
> management/ administration — establishing a set of management and preservation policies that conform to collection characteristics.[5]

At UVA we are using the term information community as the scaffolding for the development and planning of our digital collections. An information community can be interdisciplinary — it is very similar to the departmental or branch library concept.

The point I want to make in quoting Cornell and talking about UVA is that collection development in the digital age requires the same philosophical approach — it is just that the form and manner are different. We tend to think that because of the revolution from print to digital that we have no decision framework. Interestingly, in an article in Science entitled "Creative Sparks," the point is made that brainstorming without a context or frame of reference does not generate more unique ideas. In fact, "adherence to a cognitive frame of reference involves sensitivity to the rules of the game and by functioning within a frame, one can achieve a better position from which to notice or recognize the unexpected."[6]

In both of the models I presented, librarians work within the "digital mentality" and play roles in the creation, research for, and organization of digital content. The key to success is a willingness to take on a role in an environment where the process and outcome are not yet well defined and to be open to possibilities. In the digital age, libraries have an opportunity to move beyond the passive acquisition of post-publication materials to become involved in creative pre-publication activities of scholarly communication as well as providing post-publication access.

Endnotes

1 Atkinson, Ross. "Managing Traditional Materials in an Online Environment: Some Definitions and Distinctions for a Future Collection Management." ***Library Resources and Technical Services*** 42 (1): 8, 1998.

2 "One debt to Iraq: The Genesis of Computing Mathematician Conjured up Algebra." ***USA Today*** February 5: 4B, 1998.

3 Engineering Ethics Homepage, Division of Technology, Culture, and Communication, School of Engineering and Applied Science, University of Virginia, http://repo-nt.tcc.virginia.edu/ethics/home.htm.

4 Eskom Abstract, Engineering Ethics Homepage, Division of Technology, Culture, and Communication, School of Engineering and Applied Science, University of Virginia, http://repo-nt.tcc.virginia.edu/ethics/Abstracts/eskom_abstract.htm.

5 Logoze, Carl and David Fielding. "Defining Collections in Distributed Digital Libraries." ***D-Lib Magazine*** Nov 1998. http://www.dlib.org/dlib/november98/lagoze/11lagoze.html.

6 Goldenberg, Jacob, Mazursky, David, and Sorin Solomon. "Creative Sparks." ***Science*** 285 (5433) Sept 3: 1495-1496, 1999.