The Rush to Technology: A View from the Humanists

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ABSTRACT

THIS ARTICLE INVESTIGATES THE PERCEPTION that humanists are less than enamored with technology when compared to their peers in other disciplines. Using focus group interviews with humanities faculty at an east coast university, the article examines and analyzes their access to technology, their technological skill and interest, their concerns about digitized texts and art works, their views on the digital library of the future, and the value of technology to their research and teaching.

INTRODUCTION

The role of technology in the professional lives of librarians is all encompassing. As librarians, we are consumed by required technical support, equipment and staff development, the resources that must be allocated, systems that crash or freeze up, and meeting patron demands and complaints. We must deal continuously with demands for more and better technology and might fail to notice that not all users feel the same way or have the same attitude toward technology as our more vocal users. When we see the reluctance of some users, there is a danger that we will casually dismiss them as Luddites. In this kind of climate, it is important to know and understand all user groups. The fact that they are academics does not mean that they use technology the same way or have the same needs. It is easy to concentrate on the most vocal groups, which tend to be the younger students and scientists. Both groups are the most comfortable with technology. We need to examine closely other groups to understand

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their needs and ensure we are meeting them. This study is an attempt to understand how humanities faculty view and use library technology.

Humanities faculty are often perceived as anti-technology, yet some of them are involved in important groundbreaking technological projects such as the Center for Electronic Texts in the Humanities, the Oxford Text Archive, Perseus, the Text Encoding Initiative, and various instructional technology experiments. Humanities faculty often exhibit a healthy skepticism toward technology, a refreshing difference from what librarians listen to on a daily basis, both from their peers and from technologically hungry users. While scientists have been much studied as to their uses of library technology, humanists have been largely ignored or grouped with social scientists and others. Given their mix of technological involvement in interesting projects and their skepticism, they are a potentially interesting group to study.

Setting

Johns Hopkins University, founded in Baltimore in 1876, is a small privately endowed coeducational university with a world-renowned reputation. The 3,695 undergraduates and the 4,228 graduate students are largely free of university-wide curricular requirements. Even undergraduates are expected to create their own programs with the help of faculty advisors. The gentility of the environment belies the intense pressure to work independently, to be creative, and to produce.

Of the 350 full-time faculty, 80 are in the humanities. Although the largest number of programs and the biggest departments are in the sciences and engineering, the humanities departments are strong, prestigious, and vibrant.

The humanities departments, which are served by the Milton S. Eisenhower Library, are part of the School of Arts and Sciences.

Methodology

The focus group interview method was chosen for this study because of the type of information that was desired—i.e., how humanities faculty view library technology and its value to their research and teaching. Their experiences with existing library technology were sought, along with their views and use of electronic texts, electronic journals, the Internet, and other Web-based information. Also investigated was their access to technology, technological skills, interest in developing such skills, and opinions about the ideal library of the future. The focus group is an ideal method to study use and opinions about technology because people interacting with each other help to produce data and insights that would be less accessible without the interaction found in a group (Morgan, 1988, p. 12). In this setting, particularly because it concerned a nonthreatening

topic like library technology (as opposed to such matters as divorce experiences or having a gay child), people were more than willing to compare and share experiences. They were not shy about saying what they thought. They were bolstered by shared opinions and fascinated by experiences that were different from their own. Data from a focus group are much richer because participants can ask questions about matters they do not understand, and the moderator can get at the real feelings behind the answers, taking into account body language, tone of voice, and so on. A focus group also allows the moderator to explore interesting issues that come up unexpectedly as they always do.

This last advantage of the focus group was the main reason why the author was the moderator. Having a nonlibrarian moderator would have prevented the flexibility to follow up on an interesting comment and also would not have permitted follow up by the moderator after the focus groups were over. Several faculty members asked for orientation to the new catalog and the library's Web site, which they would undoubtedly not have requested from a nonlibrarian moderator.

Focus groups create wonderful public relations for a library. Not only do the participants appreciate the opportunity to be heard, but the library is viewed as being caring enough to solicit their views and to make their research easier. Given the fact that the Eisenhower Library in the last few years has added hundreds of electronic databases, journals, and full-text resources, in addition to a new Web-based catalog, this is politically very important. The humanities faculty feel very pressured by the library and the university to use technology (as we learned from this study) in their teaching. Focusing on what really works well for them can relieve some of that pressure.

Out of eighty humanities faculty, forty were invited to participate. The forty were selected by the various humanities resource services librarians who act as liaisons to the humanities departments. A mix of technologically involved, somewhat involved, and not at all involved faculty was chosen. Of these, approximately twenty participated in the focus groups, one quarter of the humanities faculty. The groups lasted an hour and a half and lunch was served during the interview.

Findings

Access to Technology

While all faculty in the focus groups used e-mail, word processing, and the library's former character-based online catalog in their offices, there was a wide disparity in departments with respect to their access to high-end computers with the capacity to handle the library's new Web-based online catalog and databases, the Internet, and downloading of large files

and images. The departments with the most access usually had technical support staff who helped the department to select and set up computers and to fix problems when something went wrong. One professor noted that computer access, "has not yet become a utility. I don't have to call up and tell them to turn the electricity on in my office. Can you imagine having your phone on demand? Unfortunately, that's the way computer access is still being handled."

Participants had even less access from home. Only a couple of faculty had some kind of home support (a spouse or a child), and one actually hired someone to come to his house. He said: "So, fundamentally you can remain ignorant of the deep magic . . . I take the same position with an automobile. I don't play around with fuel injectors." Others noted the need to upgrade their computers but were reluctant to do so. They viewed it as too expensive an investment in both money and time to learn how to use new equipment and upgraded or new software. As one noted, "it's just I think I can do what I need to in my office." Another said: "Since you switched to Netscape, that basically made library access from home undesirable. Let's put it this way. I could do it, but it's just too hard. [The old catalog] worked better because of telnet connections. That's not a problem with these older machines."

In stark and startling contrast to scientists, many revealed a wish to keep home and work separate. At most, they would write at home but preferred to do research on campus, in some cases to be close to the library. Many even avoid e-mail at home. The majority seemed to view home access as an intrusion into their private lives.

It should be noted that scientists often use grant money to update and upgrade their computers at home. Humanists do not, or rarely, have this source of money available to them.

A Web-Based Catalog

Five months before the focus groups were held, the library introduced a new Web-based online catalog. Surprisingly, a number of people, especially faculty, had a very difficult time adjusting to this new type of interface. Librarians assumed that almost everyone was familiar with the Internet and would be pleased to use a Web-based catalog. Humanities faculty were very put off by all the buttons and graphics and protested that they "didn't need all that stuff" and just wanted to get to the catalog (see Figure 1). Many of the computers in their offices and at home were not high-end enough to handle Web-based resources. This made many faculty very frustrated and annoyed with the change. Several asked if it were possible to consider "having simply a bank of terminals . . . that were always in the [online] card catalog." Several pointed out that 80 to 90 percent of the time they just wanted to gain access to the library catalog.

- . . . my previous university which has simply one online catalog, no Web version . . . it was a pleasure to use . . .
- It seems like there are more stages now . . . to get to the actual item you want than there used to be.
- It's like a thoroughbred when you want a cart horse.
- They put you through more hoops than you want to go through.
- I think in part it's this windows format and this thing of clicking screens over to screens. I've always thought windows is a ridiculous system and very, very juvenile. I think it's a cumbersome operating system . . . it's a graphics model that seems to be more gimmick than anything else . . . so our access is mediated by this gimmick and [the previous catalog] was not . . . at any rate, I'm happy to use it, but I think it's a bit silly.
- . . . for us probably 99 percent of the time that we go into the catalog it's simply to find the call number of a book in the library. Now, for the other 1 percent, there may be a useful linkup and maybe we will learn more of this in the future. I think it's at the point where . . . the disadvantages of integrating everything seem to be outweighed by the advantages of quick access to the call number when you want to get to it.
- . . . we want the application that we use the most to be the most accessible, and the other stuff to be, as it were, behind it, not up front with it.
- I'm not entirely happy with this multi-purpose terminal idea . . . you have to go through a series of gateways to get to the very simple application that you might want. This is a nuisance. I've noticed that as the technology has become more sophisticated there are more steps . . .
- . . . the creators of this new system were a bit idealistic in understanding . . . the knowledge we might bring to this kind of thing. The truth is many of us are not knowledgeable about the technology.

Figure 1. A Web-Based Catalog: Some Representative Comments.

The Internet

Only a small minority of humanities faculty used the Internet. They were unsure of its value to them and, for the most part, thought it was a waste of time. Only one could be viewed as a surfer. She said, "frankly, I surf the Web with Yahoo. About once a week I spend an hour or so finding what the new stuff is because it's just pouring onto the wire." She had a very high level of awareness that there is a lot of valuable scholarly material on the Internet (see Figure 2).

A tiny minority used the Internet for a specific purpose—i.e., to view an electronic journal or a specific Web site. All, however, complained about the time needed to find worthwhile material. They expressed great reluctance to "surf," look around, or explore (see Figure 3).

The faculty were concerned about student use of the Internet. While they learn about valuable information from their graduate students, they

- Even though it's something that's thought of as instant gratification...in reality it takes time to get from one place to where you want to go . . . it takes a long time to download the images, which you don't really want anyway and then the information is not necessarily that useful once you finally get to it.

- . . . my experience has been . . . being forced to go through a gigantic number of file cabinets that you have no interest in, hoping that someplace in there is a single folder that has something you're looking for . . . seems to take forever so basically I don't do it . . . probably missing out on a lot because of that, but it has seemed to me hopeless.

- . . . if it's in a library it's already a book that's been . . . chosen. You know it's going to have something to do with what you're doing. Whereas 99.99 percent of what's out there has nothing to do with academic research . . . and was never intended to . . . you have to sift through all that other schlock to get to the stuff that related to the kind of research we would be doing . . . it's certainly no replacement for the library, by any stretch of the imagination.

- It was literally only the other day that I got both the new computer and . . . hooked up to the new wiring . . .my suspicion is that it's not going to help me out all that much given the kind of things that are not on there . . . the Classics holdings in this library are really pretty good. So I find that that's usually all I need.

- . . . what I have found is that almost always where I end up is useless because the information is so superficial. It's just sort of a chase.

- . . . I ask what's the point? This is the kind of stuff I could just as easily open a book and get somebody's address as have spent ten minutes working my way through a labyrinth . . . . It just strikes me that the technology is so much more daunting and impressive than the content . . . that's why I don't do it very often.

- It isn't out there apparently, the information.

- It seems to me these systems were designed to accommodate those people (who like to surf) and not us.

Figure 2. The Internet: Some Representative Comments.

- . . . I've used the Net for . . .[an] electronic book review journal, [a] couple of visits to museum web sites. I have not done . . . just the surfing to see what was out there, but I am interested in . . . finding sites . . . that would lead efficiently to ones that would be useful, rather than just kind of general . . . typing in some keyword and seeing what comes up. I'm not too inclined to do that.

- . . . I find that the Internet is useful for research. I tend to go to a lot of Dutch library sites . . . major museums and places like that . . . [are] actually rather slow to get their collections online or at least what you do is . . . get a tourist view of their collections. You don't get a scholarly view of their collections, so that tends not to be terribly useful.

- I mostly use the [computer] for writing and haven't really explored very much of this other stuff. You get really terribly busy. There are a lot of things pulling us in many different directions, professionally and otherwise. I don't know about you all, but I don't have very much time to spend on this.

- I don't find it amusing or entertaining to spend time [this way] . . . . You know, let's see what happens, and let's do this or that. It's not something I want to do . . . . I find it an impediment to getting the job done . . .

- . . . I don't use the Web that much at all, actually. For me I find it more of a waste of time . . . thus far, it's not something that I really want to take much time doing.

- . . . the Web is gigantic and it takes forever to wander around in it in terms of its size.

- I don't have an hour to sit down and surf.

- I belong to a generation, which never used this kind of material, and, frankly, I don't give a damn. It's a waste of time for me. The only thing I could use is catalogs. I don't want to play these little games, you know, browsing and such. I just want to do my job. This is a distraction.

Figure 3. Time for the Internet: Some Representative Comments.

fear that undergraduates are perhaps using the Internet instead of doing real research. One explained:

> They could either read this very long book about medieval cathedrals or they can go and find a homepage on Chartres Cathedral that tells us that in 1148 the building had a problem . . . it's very superficial and they think that's research and it isn't. Students need to be educated about the relative value of what is released and currently on the Internet.

Finding Out About New Databases, Web Sites, Electronic Journals, Full-Text Resources

Unfortunately, few were aware of, or used, the expertise of librarians or the library's Web site as a sifter or pre-selection tool for scholarly information. Some, who had never really looked at the library's Web site, viewed it only as an impediment to getting directly to the card catalog. Their lack of awareness and use of available staff and tools was reflected in their lack of knowledge about available and essential electronic sources of information in their field. Others, who had been guided by librarians, had found good scholarly material and were more open to the Internet. Word of mouth via academic colleagues or reading about good sites in their professional literature seems to have hardly made a dent in their awareness of what is available.

They were not enthusiastic about listservs, although some of them subscribed to several. Although one expressed enthusiasm for the Society of Eighteenth Century Studies Listserv as a "very big and powerful one, which inundates us with information," another complained that "Most of the information from [listservs] is useless. It's just a lot of nonsense, but once in awhile there will be some informative listings."

It was interesting to note that the few faculty who did find the library's subject pages used them as a filter of quality information and knew they were frequently updated. Those who had not been aware that we were providing such a service were immediately interested (see Figure 4).

The Changing Role of Librarians

There was a feeling among some focus group participants that they were being pushed to use technology, and that librarians were always trying to promote the use of technology. One said that it was not the librarians, that they were wonderful and were doing a good job for them, but that "you are giving things to us which are too complicated . . . which do not correspond to my needs, which go overboard for me, and . . . I have a reluctance to use them." They noted how much they appreciated the subject specialist librarian who really knew and understood the subject and noted what good mediators the librarians were between the subject and the technological access to the subject. Another noted that we might be following a science model and electronically presenting information as if

- I don't know what that is [Milton's Web, the library's Web site]
- I learn enormous amounts from [graduate students]. I don't want to go where they go . . . but they're very resourceful. I have a student who's a Web Master . . . when I need to know something I go to her.
- I get my information from [his assigned librarian liaison] . . . so I very much rely on a research librarian to . . . give me tips, because otherwise I would spend hours and hours, . . . surfing the Net, . . . gathering information in, I think, a not terribly efficient fashion.
- . . . it's fairly easy to glean some of this from print publications, for example, . . . a newsletter from a professional society that I belong to of archaeologists . . . very often list the most recent web sites or resources. I just tear them out.
- . . . basically word of mouth. People telling you what there is and where to go.
- I sometimes go to the [library] Classics page. There's . . . our big databases, our Greek and Roman text databases, cross links to [electronic] journals . . . . Once I've gotten there, I just save the URL as my bookmark and then I don't have to go all the way through Milton's Web again.
- [students] love the French page. They find it actually saves them some time, because [the librarian] updates it regularly, finds new stuff and puts little announcements out. So the students, much more than the faculty, rather routinely use it I think.
- [The graduate students] tend to come in with materials that I wouldn't otherwise know about. Maybe I should learn [how] to do that, but for one reason or another I haven't.

Figure 4. Learning About New Electronic Resources: Some Representative Comments.

everyone were a scientist. He felt technology was also suited to those who use LEXIS/NEXIS, but technology did not work as well for the humanities. In other words, scientists and social scientists are object oriented in their research while humanists are browsers. Others agreed and noted that there is a book culture that's different from a technology culture.

Although they do not see it happening yet, some were concerned that since librarians had to be competent both in their subject fields and in technology, perhaps one would suffer. One expressed fear that librarians in the future would "know very well how to navigate the net, but perhaps will not be able to distinguish what's important to purchase in a specific field in Hungarian literature or history of art. I think this is going to be crucial . . . how to balance between the two." Others were not so concerned, saying that librarians have always been technologically oriented noting that the call number system was about as technologically oriented as you could get and "breaking that code was almost past me. But, they can be as 'techy' as they want because they are going to mediate it for me,

which means I do not have to get quite as 'techy' as they." Another noted that

> the demand for people who really know the field [is] more acute, not less acute. We need people who really can read French, who know the history of French literature, who can get in there and help us do the books . . . the people that I've had experience with who actually are technophiles in the library . . . really don't get involved with that at all. It's really very rare that one is asked to do the job of the other . . . I was afraid of that and have found it not to be the case.

Technology as a Facilitator and a Barrier

Noting the recent developments with access to the Internet, electronic journals, images, and so on, users complained that, "it doesn't do you any good if you have slow access and an old computer with an old screen." Another said, "all this presupposes that everybody has this state of the art technology."

The threshold of knowledge that some of our library technology requires of its users is too great, according to these humanities faculty. They do not want to spend a lot of time just doing a simple task—i.e., getting to the information they want. One said, "I have a very nice FTP utility." However, the very idea of having to FTP software to their computers to get access to a database is viewed with terror by most. They would not know to even ask for a good FTP utility. They would rather wait, even if it takes years, for the access to become easier. The rest have some kind of on-site computer support that they can rely on to help them over these technological barriers but these are hardly the majority.

Outmoded computers and weak connections make access too slow. It takes so long to download things from the Web that many feel it is not worth the time. They also mentioned getting frustrating messages during downloading telling them they did not have enough memory or needed a new version of Netscape. Plowing through a lot of layers in a Web environment is very annoying to many. For those who have discovered it, the bookmark is a godsend and incredibly easy to use.

As one user said, getting the right combinations of equipment and software are only the first step. You also have to learn how to maneuver, and he asks himself if it is worth the effort. He points out that not only do you have to get over the initial setup and training, but every time the database is updated you have to start over again. Others, while grateful, for example, for having an electronic version of *L'Annee Philologique,* noted that it has a very complicated interface that requires an entire afternoon to learn.

Browsing in the stacks is a key component of research in the humanities. As one faculty member said: "Sometimes [browsing is] how I start my research. I just start shelf reading and that's something that's harder to do electronically." Another noted, "one of the things that's interesting is

to go see all the secondary literature that you didn't even know existed . . . what you didn't know you were looking for." Another agreed, "when you can't browse so easily then you're less likely to come up with things that are unexpected and important connections to your work that you wouldn't think of right off." Because Hopkins, like many large research libraries, has an off-site storage facility, virtual browsing is becoming a necessity. "It's not quite as good as being able to pick the book off the shelf and open it and see what's in it, but at least you can see what should be there." Others expressed more doubt, "I'm not sure that [virtual browsing] is advantageous, but maybe it is because I don't try hard enough. And I still think that going in the library and looking for A and finding B is always the best kind of chance . . . ." Humanities faculty have a great interest in materials in foreign libraries and many have visited and used foreign libraries. They view open-stack research libraries in America with their long hours as a great advantage. One non-native American professor called it an "extraordinary privilege." Faced with off-site storage facilities and compact shelving, they are concerned about the erosion of almost unlimited access to books and feel technology cannot replace that access. As one pointed out, "one cannot replace the other by any stretch of the imagination . . . no matter how many CD-ROMs are available, it serves a different function and one's interaction with material in that form is quite different."

One faculty member expressed a long-held concern with catalogs going online which he feels has never been properly resolved, and that is the handling of diphthongs. He said, "when I go to the computer . . . very often I will not get the reference there that I can get by . . . going to a paper catalog. And, boy, that really worries me."

Another said when he is looking for Greek texts, he does not even bother with the catalog but looks for them on the shelf. He wonders how much longer he will be able to do that. Humanities faculty feel that when they cannot find something in the online catalog, "when it doesn't appear properly in the computer catalog, it's . . . lost. That book becomes a phantom book. It doesn't exist anymore." They feel that it is somehow more lost than when it could not be found in the card catalog.

One of the down sides to technology, according to one professor, is

> the mind process is lost. When I look for something, I have to go to the book and I have to read a few things and sometimes I find things I didn't know existed there and it helps me to grow, to learn. But if I have to push a button . . .without looking for it myself, then my brain doesn't grow. . . I don't want the machine to think for me.

Others agreed saying the technology was very target or object oriented. In some sense it is too focused and does not allow the discovery of new information and new worlds that serendipity reading and browsing in the

stacks does. One responded, "there must be a way . . . technologically that can open fields rather than narrow them."

In addition to eye strain, one of the more intensive users of computers noted a physical down side of technology. She is in physical therapy for a bad back.

On the plus side, humanities faculty all felt that technology has revolutionized the way they do research in a positive and powerful way. One said: "The technology has helped me in simply being able to find things quicker. Like in the search procedures. If you just [put in] Syria . . . then you get all sorts of stuff." Another noted that print index searching was limited. "There isn't often a single word to look up in an index . . . you're interested in maybe a method or broad set of concepts. It could appear under dozens of words . . .". Electronic indexing provides that quickly and efficiently. Texts, concordances, dissertation abstracts, and indexes can be gone through in an afternoon instead of over a six month period. As one user noted: "For all of us who work with texts that can be put on databases . . . these databases . . . [have] completely revolutionized the way we all do research and there is no way any of us could go away from those now knowing how powerful they are. There's nothing like it." There is also more certainty. When you are searching manually, it is possible to miss a word occurrence or get lost and diverted because of fatigue or human error.

Electronic Texts

Technology allows not only access to catalogs but now, more frequently, access to texts. Critical editions with hypertext links to major critical articles are being made available and are turning out to be very useful to humanities scholars. They also had several reservations. Having much of the great literature on CD was viewed as useful for searching the use of words and so on. One praised resources like the *Dutch National Dictionary* on CD-ROM as the most wonderful thing ever to happen because the paper version was very unwieldy and took up a whole wall. So while word use searching and hypertext links were viewed as clearly superior to anything on paper, reading continuously online was not. It is harder on the eyes. One noted: "It's just physically much easier to use a book. Reading something on the screen, one can do it, but it's not easy to do. It's not comfortable and I certainly wouldn't choose to if I didn't have to." They also pointed out that the "material appearance of the book . . . especially in the case of primary texts, was sometimes very important for the interpretations of that work." A digitized version would not be the same thing.

Flicking back and forth between text and many complicated footnotes was also viewed negatively. The technology is just not there for being able to read a whole page and footnotes at the same time.

There was an interest in digitizing early (but not rare) books with acid paper and nineteenth-century journals in order to, as one said, "preserve stock." Not knowing the costs and labor involved in digitizing, they felt digitizing would be a good alternative to current methods of preservation—i.e., photocopying, de-acidifying, and microfilming. They clearly loathe microfilm. One said, unequivocally, "I hate microfilm. It's so hard to read." Another agreed saying: "None of us likes sitting in front of those dumb machines, but we do it and strain our eyes and we print out the pages. . . we have to do it, there's no other way . . . it's better to have it available in electronic format . . .".

The library bought an imaging system that scans microfilm and has the capability to send the digitized image to the user's e-mail account. While conceptually this seemed to be a wonderful solution to reading and copying microfilm, the humanities faculty were not at all satisfied with it. They complained, "[it] actually doesn't work very well and so consequently very few people actually use it."

Electronic Journals

While humanities faculty were very interested in receiving digitized copies of ILL articles or articles sent to their offices from the library or our off-site storage facility, they, on the whole, were concerned about living without print journals. They do not want to read articles on a computer screen and do want to mark up articles. Printing the articles was not satisfactory. One said, "there are days when I don't get away from that screen [writing, doing e-mail and looking at various library catalogs]. The thought of having something else that I have to use on the screen is not attractive . . . I hear [there are newspapers online]. That's the last thing in the world I would want. After awhile it's not a convenience." On the other hand, getting access to materials not otherwise available, like a German newspaper, was very appealing to others.

Only a few read electronic journals, the most commonly read one being the *Bryn Mawr Review,* which contains short articles and few footnotes. They were surprised that the library has over 300 electronic journals and thought at first they must all be science journals.

One faculty member agreed to have his paper published in a conference proceedings and was very annoyed to discover that it was never read or cited. He said: "It's just like throwing the text in the garbage can. I don't know, maybe people are reading it. Maybe they're not reading it. They sure aren't citing it. People don't seem to cite things online yet. I put it on my CV and . . .it sits there like a joke." Some said that they would be disinclined to publish in an electronic journal, especially in image intensive fields like classics, Near Eastern studies, and art history. As one put it: "I'm not convinced that the publishing possibilities including im-

ages are at the point where I would want to put my hard work [into] publishing in that form."

One young professor who does read electronic journals noted the convenience of sitting in his office and being able to grab an article online. He noted that these journals were available several weeks before they arrived in the library and were still available if an issue was missing in the library. However, he also said: "It's a lot prettier in the print version. There are certain things that are annoying about the electronic version. You have to spend a lot of time reformatting . . . probably I have the wrong kind of filter or something."

They were skeptical about the Los Alamos pre-print project as a model for themselves. Given the great mass of available information, they feel a need for a quality filter. Peer review is critical to them. They are very concerned about excellence. They felt that the exchange of pre-published articles on e-mail to interested parties served their needs. A few were concerned about the stability of electronic articles given the changing nature of technology. They felt there was a longevity to their articles which would be placed in jeopardy if the articles could no longer be read.

The idea of articles being available on the Internet without being in the confines of a journal did not appeal. The journal, they argued, "is a small environment in which there are debates or ongoing discussions. You have a community of people who [have] . . . a particular mind set or a particular series of issues that interest them . . . that's one reason one looks through all the back copies of a particular journal rather than for a subject." Electronic journals could do the same. "What they do, that print journals can't do, is they can incorporate immediately responses from people as hypertext links to the original article rather than you having to go look for responses in subsequent issues."

While most said they wanted both print and electronic versions of journals, one speculated that only electronic journals might be viable. He is running out of space in his office and is, therefore, sensitive to the space problems libraries might have. He was also hoping that if electronic journals were cheaper to buy, libraries might buy more books. He noted that we are in a transition period and, with high speed printers and other improvements, humanities people might adapt.

IMAGES

The faculty in the image-intensive fields of art history, classics, and Near Eastern studies have so far been disappointed by digitized images. There are a number of problems. While a good machine may reproduce the image adequately, it takes significant time to download. "That's a bit irritating," said one professor. Also a close-up of something within an image degrades in quality from the original. As one notes, "you're not getting more detail by looking at the detail. All you're getting is an

expansion of the part." In Near Eastern studies, many of the original texts are on tablets. One of the Near Eastern studies faculty said: "It's a problem even for photographs. It's hard to photograph them properly. People have been trying to do them electronically, but . . . it actually fakes what you see . . . when you're looking for scratches on a piece of clay . . . you have to be absolutely accurate. So at the moment, there's no way we can use this. An art history professor expressed skepticism about digitizing a book with engravings from 1580:

> You just won't understand how the engravings participate in the argument of the text . . . nor will you be able to see from even the most digitized image precisely how the engraving was made and what is giving the image its definition and what the texture of the paper has to do . . . there are all sorts of issues you're just not going to get at this stage of the game from digitized...pictorial information.

The Digital Library of the Future

One of the most interesting things about presenting the concept of a digital library to the humanities faculty was that they had never heard of the expression. Their responses varied from appalled to pensive. One said it sounded like science fiction. Another said: "This reminds me of the paper-less office which was supposed to happen and it never did." One said, "I have this feeling that not everything that is projected for this electronic revolution is going to [happen]." Another concerned faculty member felt that things were going too fast. After much argument in the group about the pluses and minuses of digitized information, he said: "The problem is not to know if we are going to be happy or not, it is to know how we are going to use it to the best advantage we can find. There is no way out of it now."

A history professor reported that he had read an article in the *New York Times* about a project at MIT that involved digitizing books from the Bible to Montagne to German Literature. "That's sad," one of his colleagues replied. But another said:

> None of us likes sitting in front of those dumb machines, but we do it and we strain our eyes and we print out the pages and do all that stuff. We have to do it, there's no other way. I presume that if archives and rare books are going to be scanned and they're only going to be available in electronic format, it's better to have it available in electronic format than having to make the trip to Warsaw. It's expensive to go to Warsaw . . . .

Some, who rely heavily on books while teaching, use a seminar room in the library for that purpose. They were not sure how this would work in an electronic environment. One asked if students would be sitting at screens and pulling up the information while he was trying to teach them. A philosophy professor noted that when he does research, "typically I'll

have ten or more books open at the same time flipping back and forth. That's going to be vastly less convenient if it's all on one screen."

When they imagine the library of the future, the humanists hope for a balance between paper and electronic materials. One said, "I'd like to see paper remain the core and the electronics as the tools." They also want to separate the chaos of terminals and printing from quiet areas that are still mostly devoted to books. One concerned classics professor said, "quiet study places . . . are really in jeopardy in a lot of libraries." They would like to see the technology concentrated in certain areas. While they appreciate certain aspects and uses of electronic information, an all-digital library does not appeal to them at all. As one of the more computer savvy professors noted: "We have a long way to go before the amount of materials, the ease of access to the materials, and the different types of access to the material available . . . make [digitized information] a replacement for a substantial portion of . . . [the print collection]."

Discussion

There is a great deal of valuable electronic research material of interest to humanities scholars. However, it is worthless to them if they cannot get to it. As is obvious from this study, if they are not aware of it they will not seek it, especially if it is difficult to find.

While it might be viewed as the responsibility of the campus computer center to handle technology access issues such as this, the library is in a strong position to advocate to the university administration for more powerful computer access for academic departments or buildings since the library is spending hundreds of thousands of dollars to buy electronic research materials. At Johns Hopkins University, the library director has initiated the long-needed renovation of Gilman Hall—the humanities building—not only with an eye to improving library space within the building, but to provide support for humanities research by improving technological access, adding electronic classrooms and instructional technology support.

Another effective approach is to work with the computing center to make team visits to each faculty member to ensure that they have the appropriate access and software and a good FTP facility. The librarian can demonstrate the content of various resources of particular interest to that faculty member, instruction in the use of any of the databases (with plenty of paper handouts and noting where instructional information is on the library's Web site), and the bookmark feature.

Another opportunity is to approach the secretary of the department when new faculty are hired and offer to set up their computer with access to what they need. After this team visit by a librarian and a member of the computing center, the librarian can phone for an orientation session when

the faculty member arrives. Both of these types of visits at Johns Hopkins have been highly appreciated by faculty, and it is clear that those faculty with the best access and instruction are getting the best access to research information that library technology has to offer.

Both libraries and computer centers have assumed that users will learn on their own what they need and how to use it. This study shows that only those humanities faculty who had technological support from their departments were getting the proper access to available research materials and help when things went wrong or were changed and upgraded. Left to fend for themselves, they just do not have the time nor the patience to invest in figuring things out. Since they know little about what is available, they have no motive to even try to seek help. It is our job as librarians to seek them out and offer assistance and support.

A Web-based catalog is turning out not to be the wonderfully easy-to-use catalog many librarians expected. Many humanities faculty have little respect for the Internet and find its Web-based windows environment too busy, cluttered, and game-like to take seriously. Being suddenly forced to use this environment without any simultaneous upgrading of their computers or even warning that they would need upgrading greatly frustrated them. While we faithfully tested various catalog systems on those willing to participate in the test, we overlooked the fact that we were missing a contingent of our population—that is, the humanities faculty—who, we now realize, would have been highly unlikely to have chosen to even participate in a test. This is the danger in using self-selected participants in a test.

A Web-based environment offers, of course, a variety of advantages that librarians are well aware of. However, to reach those who shrink from this environment, it is necessary to somewhat alter the environment. One way is to feature the catalog on the first screen rather than include it with a list of all the major services, databases, and so on. There is just too much to read and look at, causing people to often miss the catalog. While they claim that they do not need "all that stuff," they do need some of it, and we need to discover an effective way to get them the information that will matter to them. We have to try to experiment with screen design and other means and test them on our users, both on those who seem to love computers for their own sake and those who view the computer as a means to an end.

The Internet does not fascinate people in the humanities the way it does others of our users. The very nature of the Internet—democratic access and publishing—has no appeal. As one British professor put it very tersely: "That's not what we're about." They clearly do not want to "surf" and, in fact, view that activity with some disdain. In any event, they do not have the time for it. What they do want is for the good material to be chosen or selected the way we do books and journals in the library. An important feature of library Web sites are the subject pages that librarians

create. However, these never seem to be found unless a librarian points these out. With humanities faculty, this could well be because they are not "surfing" our library Web site and we do not present this information clearly enough on the Web site. Many librarians have proposed as a solution linking the library's Web site to each departmental Web site. However, the focus group study showed that humanities' departmental Web sites are often the last to be created and are viewed as not very helpful by their faculty. This is because they are often used just to attract prospective students. Science Web sites often have important information links on them, making them more likely locations for library Web site links.

Repeatedly, librarians and nonlibrarians alike point to libraries as the ones to play a role in sifting out quality material on the Internet. They argue that librarians have already built and managed collections with coherence and comprehensiveness, reflecting a range and diversity of viewpoints with a commitment to preservation and continuity of access and with a mission of education, training, and information literacy (Lynch, 1998, pp. 8, 14-15). While subject pages are very effective when found, they are not the only access point to consider. If people are not surfing the library's Web site and, in any case, do not expect to find any assistance there, an alternative will have to be found. An obvious one is the online catalog. Public service librarians and catalogers need to collaborate on this. It is not enough to agree that librarians are the logical choice to do quality sifting; it is time to actually start doing something.

Librarians can also help faculty with their concerns about their students' use of the Internet. Librarians have been teaching students in their classes about the evaluation of material on the Internet. There is an excellent guide on Milton's Web (John's Hopkins University's Library Web at http://milton.mse.jhu.edu/research/education/net.html) to which faculty could refer their students or provide a paper copy in their classes.

Humanities faculty definitely feel the pressure to use and deal with technology. They are not completely turned off by it and are, in fact, well aware of the positive aspects of it. However, they are not computer junkies. They want to use computers as a tool that works well or they will not use them. Our purchase of the microfilm scanning system mentioned earlier is a case in point. We need to be careful in introducing new or developing technology with humanities faculty. They have low tolerance for anything complicated or time-consuming. If it is not easy to use and cannot be understood quickly, they will not use it. They do not demand the latest technological innovations. They just want something that works and serves their needs. Libraries could save money by field testing new products with this group and not buying anything they do not like. Waiting for better versions of software, access, and interfaces is well worth it with this group.

The need for browsing online and accessing foreign language material are big issues for humanists. Librarians need to advocate with software developers to better handle these problems. Rather than be passive and wait for something to come along, we need to articulate our humanists' needs and force the developers to come up with solutions rather than develop things our users do not need or do not need as much. An interesting research and development project is now underway at Hopkins under the direction of the Eisenhower Library's electronic research and development arm, The Digital Knowledge Center. The project's goal is to provide real-time intellectual access, independent of time and space, to print materials stored in off-site facilities. The outcome will allow users to browse the desired print item electronically as they would a book by scanning the table of contents, a chapter or two, the bibliography, and so on. It would approach the actual experience of browsing in the stacks.

The issue of electronic journals seems to be mixed at this point. While the humanists state that they do not like to read electronic journals or publish articles in them, they do see advantages—that is, quickly locating and having a copy of a needed article delivered. For publishers, however, easy dissemination of articles over the Internet remains a problem. Fair use is an issue for librarians. All of these unresolved issues make it hard to know the outcome at this point.

Humanists are big readers. Unlike scientists, they read long texts and write long articles. They do not find it comfortable or convenient to read from a computer screen. At this point, it is hard to imagine a technological fix for that. While humanists appreciate the ability to use technology to search texts or the advantage of searching and receiving an article via computer instead of going to the library and photocopying it, they see no point in reading long items on the screen. The fantasy of some that would have us reading *Madame Bovary* and *War and Peace* online is just unrealistic and too fanciful to be taken seriously by the humanists.

Conclusion

As a profession, we have been perhaps over-eager in our zest to use technology as this focus group study indicates. We want to be "forward thinking" and "cutting edge." It is difficult to be rational about it when the rewards are so great: grant money, more staff, advancement in the job, the feeling of being "where it's at," and the new respect accorded to the profession by faculty and university officials. Yet we have to be concerned that humanities faculty feel pushed by librarians to use technology that they do not want or find too frustrating to use. We must keep focused on Ranganathan's (1963) fourth law of library science: "Save the time of the reader" (p. 287). Each new technological idea and proposal should be considered in light of this law. What will the user need on his computer and will it make his work easier and more efficient? What are the

costs to the user for the change? We need to get our users set up ahead of time and consider that part of the financial and service investment.

We need to review our technological failures annually, specifically those things our users are rejecting. In this way we can keep focused on technology as a tool not, as Gorman (1998) warns us, "[as] a brazen god to be worshipped" (p. 160).

We continue to be in a period of great change in libraries; in fact, changes seem to increase speed with each passing year. In writing about technological change in 1989 in *LibraryTrends* in an issue that discussed the same topic as this issue does, De Klerk and Euster (1989) said: "The extent to which the new will supplant and complement the old is far from clear" (p. 468). In 1998, the situation is much clearer because we are paying more attention to our users. Focus group studies, interviews, and surveys are increasing. Our users are telling us that we will not see an all-digital library. We will see digitized collections and print and electronic resources living side-by-side, each doing what it does best. If we keep close to our users, listening to what they need and providing it, we will not become irrelevant as the technocrats often threaten. Instead, we should focus on technology as a means to meet the needs of our users and in so doing "unite reason and imagination and, with their aid, create future libraries that will continue to serve and enrich individuals and the society in which they live" (Crawford & Gorman, 1995, p. 183).

References

Crawford, W., & Gorman, M. (1995). *Future libraries: Dreams, madness & reality.* Chicago, IL: ALA.

De Klerk, A., & Euster, J. (1989). Technology and organizational metamorphoses. *Library Trends, 37*(4), 457-468.

Gorman, M. (1998). *Our singular strengths: Meditations for librarians.* Chicago, IL: ALA.

Lynch, C. (1998). Keynote address–finding common ground. In C. LaGuardia & B. Mitchell (Eds.), *Finding common ground: Creating the library of the future without diminishing the library of the past* (pp. 8, 14-15). New York: Neal-Schuman.

Morgan, D. (1988). *Focus groups as qualitative research.* Newbury Park, CA: Sage.

Ranganathan, S. R. (1963). *Five laws of library science,* 2d ed. Bombay: Asia Publishing.