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Reference Materials-Where Formats and Budget Lines Collide: Librarians Speak Out!

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Against the Grain

"Linking Publishers, Vendors and Librarians"

Reference Materials — Where Formats and Budget Lines Collide: Librarians Speak Out!

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In the 1997 reference issue of *Against the Grain* (v.9#4, p.1ff) the proliferation of reference materials was discussed by both librarians and publishers. By the 1998 reference issue (v.10#4, p.1ff), the discussions expanded to include the increasing array of format choices, and the Web's effect on reference publishing. Again, librarians and publishers spoke out.

In 1999, the traditional distinctions between reference and subject specific materials are becoming blurred due to the growth of products that combine indexing and fulltext features; this

is complicating selection and budgeting for these new resources. The decisions about multiple formats and the need to provide infrastructure for new electronic resources add new levels of complexity to reference selection. Concern abounds about the continued viability of multiple formats and a series of questions arise. How is the Web affecting reference collection development decisions? How much duplication of formats can libraries really afford? What proportion of the reference budget is spent on different formats if it is separated at all? Who has the responsibility for selecting reference materials? Are librarians still concerned about the archiving of electronic indexes? What place

will there be for different formats in reference collections?

To address these issues, the authors conducted an interview-style joint discussion among librarians responsible for reference collection management from several different institutions including **Kansas State University, Trinity University, the University of New Mexico, the University of Texas at El Paso, and the University of Wisconsin at Madison.**

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If Rumors Were Horses

You know what? With every issue of *ATG*, I wonder, "Will I have any rumors to write about? Hasn't everything happened that can happen? Ha! Was I far off base?!"

Acquisitions Librarian makes good! **Donna Cohen**, who has directed the Olin Library's Department of Acquisitions at **Rollins College** in Winter Park, Florida since 1986, has been named director of the library. She replaces **George Grant** who recently retired. Donna, who has been a frequent attendee and presenter at Charleston Conferences, earned her master's degree in library science from the **University of North Carolina at Chapel Hill** (yea!). She also received her master's degree in English from the University of Maryland.

Guess what? **Celia Wagner**, the fabulous,

has been appointed to the position of New Titles Manager for **Blackwell's Book Services** effective August 1, 1999. Celia will continue also as Vice President of Approvals at **Academic Book Center** with ongoing responsibility for the approval operations there. In her new role at BBS, Celia will be responsible for Book Profiling, Series Services, and the Blackwood New Titles group. Congratulations, Celia!

Janet Flowers <jflowers@email.unc.edu> sends word that she would like for *ATG* to

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Though their opinions overlap in some areas and differ in others, they all provide valuable insights.

Question #1. In general, how is the continued viability of multiple formats: print, CD-ROM and Web impacting your reference collection development decisions? Positively? Negatively?

Answer from Susan C. Awe, Assistant Director of Parish Memorial (Business and Economics) Library, the University of New Mexico, Albuquerque, NM: "The biggest impact, especially in the world of business reference, is the need to constantly evaluate the many reference publication formats. Rarely can one say that the print version of this source is the best format for our clients today and for the future. Often publishers are producing print, CD-ROM, and Web versions of some of their products, and each product is slightly different, i.e. Web-based more current than loose-leaf, or CD-ROM offers faster searching with fewer graphics, print version has better editing and so forth. Cost and staff time factors must also be weighed when making these decisions. The negative impacts would generally be on staff. Working in a reference world of constant, unrelenting change can prove frustrating and discouraging to Reference staffs. An embarrassment of riches is as difficult to deal with as no or very few resources to help clients find information and resources."

Answer from Nelda J. Elder, Chair of Collection Management, Kansas State University Libraries, Manhattan KS: "I don't think of the impact as positive or negative, just much more complex. I think we have become more systematic in our approach to all selection, but especially with respect to electronic and other non-print products. We not only have to consider the content; but we must deal with choosing the best format for our reference situation, and, if we choose a non-print format we have the technical and legal aspects to consider before purchase."

Answer from Rachel Cassel Murphree, Electronic Resources Librarian, University of Texas at El Paso Library, El Paso, TX: "It certainly is making collection development decisions much more interesting, and harder of course! The challenge of collection development in today's environment is exciting and at times exhausting, as we try to keep up with the various formats and their benefits or drawbacks. Regarding electronic access, we currently are only considering Web-based products, unless the CD-ROM product has much to offer and is the only alternative. For some items, we are strongly leaning toward keeping the paper product (for example, Gale's literary criticism series) because we feel the paper format is easy to use and doesn't require the additional learning curve of a database. Because we do not provide access to

printers in our Reference area, we also deal with issues of ease of downloading or emailing the data. There are many factors to consider before purchasing any electronic product."

Answer from Bruce Neville, Collection Development Coordinator for Science and Engineering, the University of New Mexico, Centennial Science and Engineering Library, Albuquerque, NM: "I don't know that I can assign a positive or negative value; it's simply one more thing to consider. We generally favor Web over CD-ROM over print for indexes. For general reference materials, we are moving more slowly to CD or Web-based formats."

Answer from Christopher W. Nolan, Head of the Reference Department, Trinity University, Coates Library, San Antonio, TX: "There is a wealth of options for purchasing and leasing reference sources today, and this offers both good choices for our users and difficult decisions for reference selectors. We now must spend additional time assessing not just the content of the sources but also their formats. We must consider which format fits our patrons' current use patterns best, as well as how adding a new format might change their future use patterns. Since electronic resources have proven so popular with students, we have the opportunity to increase use of some reference tools by making them easily available in electronic format. On the other hand, electronic reference sources often cost more than their printed counterparts. Selectors must frequently decide whether they want to spend funds on these more expensive versions and thereby decrease the number of other titles that can be purchased. Many good reference sources are also not available in electronic format. Thus there is pressure to spend our money on high-visibility, high-use general sources and not spend it on traditional printed products that are often more specialized. Are we decreasing the effectiveness of our reference collections by catering to this trend? Perhaps yes, but we may also be getting more use out of those high visibility sources."

Answer from David Null, Head of the Reference Department, University of Wisconsin at Madison, Memorial Library, Madison, WI: "Like most things, I suppose it has impacted us in both ways. We have always had multiple formats, just not as many things in several formats. It does give us more choices, and in some ways makes us think harder about how best to serve our patrons. However, it also means that because of money we often have to choose just one format when it might be nice to have things in more than one. I think one of the hardest things to deal with are reference books that just come with a CD which we didn't ask for. We then have to do something with those, and every library I know is trying to figure out how to deal with them."

Answer from Sheila Grant Johnson, Assistant University Librarian for Refer-

ence, Instruction and Collections, Edmon Low Library, Oklahoma State University: "It complicates the process but generally, I view it as a positive. We have more choices and can provide greater remote access with greater ease. However, each decision involves an analysis of how the reference tool is used and what format best meets the needs of most users compared to the relative costs of each version. Usually we can't afford multiple formats and tend to choose the most cost-effective electronic format."

Question #2. How much duplication is there of print and electronic sources in your reference collection? Can libraries really afford both the print and electronic versions of a pricey resource like the Dictionary of Art?

Answer from Susan C. Awe: "Duplication of resources is very expensive so most collections strive to keep it to a minimum. Cost is an important factor here as well. Often publishers will give libraries a CD-ROM or Web access if they buy the print or similar arrangements. The single-user difficulty of CD-ROM technology is rapidly disappearing when Web-based resources can provide multiple-users through limiting IP addresses or similar technologies. If reference collections have a 20-volume encyclopedia that only one user can access electronically either on a PC or from just the reference PCs, they will continue to buy print for many access points, especially if costs are similar. Electronic resources that cost more than print must offer other benefits, e.g., currency, more graphics, speed, some such hook. Plus software must be very user-friendly. If it takes twice as long to find the needed information, both librarian and client will return to paper (the known entity). I also think reference librarians may find themselves switching back and forth between formats as changes continue to occur."

Answer from Nelda J. Elder: "We have tried to minimize duplication. We tend to purchase electronic versions for high use materials and print for lower use materials, if we have that option and prices support that decision. If print and electronic prices are bundled, we have both; we don't always load the electronic version for continuous access, however. We may even circulate the electronic version. As for can we afford both print and electronic—it depends on what it is and the pricing structure offered."

Answer from Rachel Cassel Murphree: "We try to always cancel the print product when we purchase its electronic version. Some exceptions have been when the electronic product is only available to the UTEP community (because of our contract with the vendor) and we have kept the paper product for non-UTEP users to access. We may need to revisit that decision at some point. Using the *Dictionary of Art* as an example, because we had already purchased the print set, we've decided not to lease the database. If we had

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been aware of the electronic version at the time of ordering, we may have made a different decision. However, we're satisfied with the ease of use of the print set."

Answer from Bruce Neville: "There is not a lot of duplication in current materials. There is some overlap in older indexes, before we were sure of the stability of the medium (media). We are contemplating sending to storage most of the print overlap, as it is used only by a few hard-core print patrons. We have definitely burned the bridge behind us with print indexes, having canceled most, if not all, print. OUR library cannot afford duplication of pricey resources. If the choice is between purchasing a print resource or the same resource electronically, we must choose one. With the *Grove Dictionary of Art*, however, the print has already been acquired, and the choice is between purchase/subscribe to the electronic version or not. This is a different question."

Answer from Christopher W. Nolan: "We are minimizing duplication, because our budget doesn't go as far as it did ten years ago, and we would prefer to provide as much breadth of coverage in our reference collection as possible. Duplication obviously diminishes the range of materials we can provide. We must acknowledge that there are some users who would prefer print and some a digital version, but in most cases we can't justify providing both. So we have finally agreed to cut the printed versions even of some sacred cows, such as the *Wilson* indexes, in favor of online access alone. Exceptions have been made for titles that are affordable and are heavily used in both formats, such as the *Encyclopaedia Britannica/Britannica Online*. The *Dictionary of Art*, on the other hand, doesn't currently receive the same level of use to justify an additional outlay. This could certainly be justified at some libraries by patron use, however."

Answer from David Null: "We still have quite a lot of duplication of print and electronic, although we are probably doing less. While price is obviously an issue, so are things like if the electronic version is a CD, can it be networked? Does networking cost extra? Is it a Web version? On a campus with many libraries like Wisconsin, where two or more libraries might have bought a paper copy of a major reference set, it's sometimes more cost effective to have one paper copy in the primary library and then have electronic access for the other libraries."

Answer from Sheila Grant Johnson: "We generally do not duplicate items anymore. As sources become available electronically we try to acquire them under terms that allow remote access so that we can support scholars working at their own workstations away from the library and students taking distance education courses. Unfortunately, our budget does not allow duplicating most of

sources in paper format. We have canceled the print versions of *Chemical Abstracts*, the various *Wilson* indexes, *Biological Abstracts*, *Science Citation Index*, *Dissertation Abstracts* and numerous other titles. However, we chose to buy the new edition of the *Dictionary of Art* in paper as well as provide online access to it. We feel that reference sources like the *Dictionary of Art* and encyclopedias are better in paper in many ways even though they are restricted to onsite use. We've all looked fruitlessly for something in the online versions and then walked over to the paper format and found it quickly."

Question #3. What proportion of your reference budget is spent on print? CD-ROMs? Web resources? How much of the overall materials budget does reference represent? Is the concept of a separate reference budget valid given that money is drawn from so many different budget lines to buy reference "materials"?

Answer from Susan C. Awe: "The entire concept of the 'reference' budget is becoming very fuzzy. Before electronic resources, reference bought the indexes, and serials budget bought the periodicals. Now many of the electronic periodical index publishers also provide fulltext of periodicals, and this example is only one of how budgets need to change. Reference departments are dependent on the catalog. Should those costs come out of a reference department? Who buys the PCs needed to access the electronic resources? Reference departments at one time had to find budget to lease machines or buy them, and so on. Even libraries that try to break reference budgets into books and electronics cannot really separate the two. Traditional budget guidelines are changing in the electronic environment. What is capital equipment today? PCs that are out of date in three years cannot really be considered capital equipment. Pots of money will have to be divided differently in the future as well as present library."

Answer from Nelda J. Elder: "We don't have a separate budget for all of the reference items purchased, so I can't tell you. We have eight reference collections in the system—five in the main library and three in branches. The only separate reference lines we have in the budget are for single-item/monographic purchases for two of these collections, and for electronic databases in the continuations section."

Carol Kelley, Assistant University Librarian for Collection Development, University of Texas at El Paso Library, El Paso, TX: (answering for Rachel Cassel Murphree): "Reference money does not have to buy electronic. Our budget is supplemented with a Technology fee and has its own fund. Overall we spend 29% on books, 58% on serials, and 12% on electronic products. Reference is 1.81% of the total budget. It is 6.16% of the total book budget. The 6.16% is the allocation for reference. This does not

include materials purchased from other funds that are cataloged for the reference collection. Also, the standing orders for many of the standard annuals and sets are part of the serial budget. I will continue to have a separate budget line for reference due to the many new titles, replacements, and special sets that are purchased. The subject specific funds do not have enough allocation for these purchases even when they are interested in the titles. I believe reference needs money to use at its discretion."

Answer from Bruce Neville: "In the last fiscal year, our reference budget was approximately 40% print, 10% CD-ROM, and 50% Web-based. The reference budget represented about 11% of total materials allocations. In our case, a separate reference budget is valid. Many reference materials are too interdisciplinary to put on a departmental budget line. Reference materials are often overwhelmingly expensive for already-hard-pressed departmental lines, and subject selectors submit reference requests to the reference selectors; requests deemed too specialized for the general reference budget are returned to the subject selector. Reference materials purchased from other budget lines form a very small percentage of total reference purchases."

Answer from Christopher W. Nolan: "We spend approximately 58% of our reference budget on printed products, 11% on CD-ROMs, and 31% on Internet-based subscriptions. The percentage of Internet subscriptions, largely Web-based products, is growing substantially each year. Approximately 15% of our acquisitions budget is spent on reference materials. However, there is some question about the accuracy of these figures, because as you have noted, many reference materials are purchased out of funds other than reference. Also, some products that may be characterized as reference tools—such as online indexes that include fulltext articles—are hybrid products that serve both as finding tools and repositories of general content. There is usefulness to maintaining a separate reference budget, however, in most libraries. A separate reference line allows a reference selector to choose titles that might have been ignored or missed by a subject selector, or to purchase an interdisciplinary title for which no one subject selector wants to spend a lot of money. In libraries where most of the selection is done by librarians who do not work at the reference desk, a budget line provided to reference librarians allows them to order the resources that they know firsthand to be necessary for their collections."

Answer from David Null: "I can't actually tell you CD vs. Web. Last year for Memorial reference--Memorial is the largest library on campus--about 18% of the budget was spent on electronic sources. However, all or part of the cost of many databases is paid from central funds, some come from the University system, some from the state Department

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ment of Public Instruction, etc. It's also hard to say what percentage of the total budget goes to reference materials, since only 4 or 5 libraries have a separate reporting line for reference materials. Many of the smaller libraries just have one fund and don't track reference materials separately. I think the concept of a separate reference budget is still valid. Many of the things we buy pretty easily fit into a reference category, and they are often multi or interdisciplinary, and it's perhaps easier to buy those from a more centralized reference budget than from subject-oriented funds."

Answer from Sheila Grant Johnson: "We do not have a separate allocation in the materials budget for our reference collections. This is not a new development, but has been the practice for at least twenty years. We are a subject division type of library and each division has a budget for monographs and serials. They build their own reference collections and make decisions on whether a new acquisition will go to the circulating collection or to the respective reference collection. Often this decision is made after an item has been received. It is, therefore, impossible to determine exactly what has been spent for reference as opposed to the regular collection. We do track expenditures for electronic resources and most funding for databases is from a general library fund with selection decisions made at the Collection Development Committee level and not by individual selectors."

Question #4. Who has the primary responsibility for selection of reference materials? Is there a price threshold imposed above which purchase must be considered by a higher authority?

Answer from Susan C. Awe: "More and more reference selection is done by a team or group of reference librarians and staff. The head of the reference department usually has more responsibility and more say in final decisions. Often the library director or similar administrator makes the final decision for exceptionally costly items. Variations within the library budget guidelines, size of library, and other factors impact these decisions, especially when reference selection choices greatly impact other library departments, like cataloging, access services, acquisitions."

Answer from Nelda J. Elder: "No one person has primary responsibility. The two largest reference collections have a designated person to coordinate and pull all of the requests together. Monographic purchases over \$125 are examined, but are rarely, if ever, rejected; sometimes they are asked to hold very expensive purchases. (Here I'm thinking of items exceeding \$1,000.) Serials are examined more closely and all are not ordered. Electronic databases are considered by the entire Collections Team twice a year. In all cases, the subject specialist presents the item

for consideration to the coordinator, department head, or Collections Team."

Answer from Rachel Cassel Murphree: "The Head of Reference has primary responsibility for purchasing reference materials, and there is no price threshold. Our division of responsibility rests with the format: if it is an electronic product, no matter what the price, the decision resides with the Electronic Resources Committee. This committee is chaired by the Electronic Resources Librarian, and includes public and technical services administrators and systems staff. Input is regularly solicited from the Head of Reference and reference librarians."

Answer from Bruce Neville: "Reference selection is done jointly by the Head of Reference and the Coordinator for Collection Management. The only price thresholds are those set by the greater library policies."

Answer from Christopher W. Nolan: "At our library, selection of reference materials is shared between subject selectors (virtually all of whom are also reference librarians) and the head of the reference department. Less expensive and specialized sources are usually purchased by the subject area selectors, while more expensive titles, interdisciplinary titles, and larger electronic resources are coordinated by the department head and often chosen in meetings with input from all selectors. To this point, we have felt that it is important that selectors have contact with students and faculty through public services assignments. It is important to note that consortial purchases of major electronic resources are removing some of the selection power from the local library. When a statewide consortium chooses *Ovid* over *ProQuest*, for example, the often huge cost savings of the consortium's deal make it difficult for individual libraries to consider choosing another provider or competing databases that would be much more expensive."

Answer from David Null: "There are two people in the department who do most of the selection for reference (I do most of the electronic things, another person does paper), although any reference person can suggest materials. Bibliographers also buy things for the reference collection, although one of us in the department that does selection has to agree that we want the item in reference (which we almost always do). Although I have a large budget and it sounds like a lot of work for only two people, reference budgets tend to be much like science budgets. They are heavily weighted toward serials and standing orders, so the amount of money for firm orders isn't really all that much. There is a price threshold of \$250—orders over that have to be approved by the head of collection development or acquisitions. So many reference orders do have to have higher approval, although I can't think of any situation where that approval was not given."

Answer from Sheila Grant Johnson:

"Each reference librarian is also a selector for both the circulating and reference collections. In some cases they know at the time an order is requested that the item will be put on reference. However, many decisions are made after an item is received. It is up to the individual librarian to build and maintain that part of the reference collection for which they have responsibility—that is, the history department liaison/reference librarian chooses what is placed on reference to support history. We don't impose a ceiling on the cost of individual items; however, the selectors generally take costly items to the Collection Development Committee to see if special funding is available."

Question #5. Now that electronic indexing is replacing print, are you concerned about the archiving of these databases? What about the archiving and storage of out of date print references?

Answer from Susan C. Awe: "Archiving of databases and preservation issues for print, microforms, and now electronic sources have never really been a reference concern. Reference items are often discarded or sent to circulating collections where they become the concern of subject specialists. Academic libraries have been and are having to make tough decisions based on space utilization. Business history research may become more and more difficult if electronic databases start being discarded. Who will preserve these items? Will anyone step forward? Questions abound in the area of preservation for most libraries."

Answer from Nelda J. Elder: "We are concerned about archiving, but are optimistically acting on the premise that it will be addressed. We hope/expect that we will find a way to afford whatever solution emerges. Storage of out-of-date print reference items is generally not a problem for us at this time as we have a new building. However, we are going to withdraw a few large runs of items like *Books in Print*, and depend on the *Center for Research Libraries* to store them, as part of their new program."

Answer from Rachel Cassel Murphree: "Archiving is a question we consider whenever we look at a new electronic product. I feel it is a matter of trust, in the database producers, enforced at times by licensing negotiations. It is also a concession to budget demands that we have to give up the secure knowledge that we'll always have access to the indexes for a particular time period; there really is no other economically feasible alternative. We are not removing any archival print sources so we will always have indexes up to the late 1980s, but there are questions about whether access to references from the most recent years will always be economically available to us. We'll have to wait and see."

Answer from Bruce Neville: "As mentioned above, we have already burned our bridges. I am not particularly concerned about archiving, as I expect these indexes to be avail-

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able in some form. We have already moved many of them from CD-ROM to Web or between a variety of vendors. My greater concern is how we will pay for the resources in the future. Yes, we are planning to store or discard print indexes that duplicate electronic versions."

Answer from Christopher W. Nolan:

"Yes, we frequently discuss the potential loss of archival data when we choose electronic products. Since we are not a national research library, we have sometimes uncomfortably chosen to switch to an access method that does not guarantee our future access to a complete archive. In some situations, however, we find this problematic enough to maintain a print subscription for its relative permanence. We are more comfortable giving up this guarantee when a provider is sympathetic to the issue of archiving, such as **OCLC and Research Libraries Group (RLG)**, and less prone to switch when a commercial provider shows little concern for the issue."

Answer from David Null: "Certainly. It's a very big issue and that's one reason we still have maintained print subscriptions to a lot of major indexes. Of course there are those large databases that have no print equivalent (**ProQuest, Ebsco, IAC, Academic Universe**), and where individual publications come and go. It's a major issue that everyone is struggling with. Archiving and storage of out-of-date print resources is also an issue as we get closer to running out of space. The **CIC** (our primary consortium—the **Big Ten** plus the **University of Chicago**) has a project going with **CRL** to house complete runs of important reference sources where the older issues are rarely used. We're still in the middle of that project, so I can't say a lot about how it will really end up working, but I think co-operative storage agreements like that will become more common. The main problem then is how to provide timely access to those older reference materials."

Answer from Sheila Grant Johnson:

"You bet! Although I know it is an issue that has not been adequately considered, I feel as if we are riding a riptide just trying to stay on top of things today with no time to think about tomorrow. We are taking a leap of faith that somehow this data will be available in the future, not just 50 years from now but even just 5 years from now! My guess is that some of it will and some of it will be lost. That is one reason why **Oklahoma State University** signed on immediately with **JSTOR**. We felt like here was an application of technology that supported our traditional role of serving as an archive of information and knowledge. Unlike archival paper, however, even the **JSTOR** data will need to be frequently refreshed and tended so that it is still useable with the then current technology in the 21st century."

Question #6. Currently there is a place for print, CD-ROM and Web based products in most reference collections. Do you see this continuing? How will it change?

Answer from Susan C. Awe: "As stated by other experts, I, too, see CD-ROMs as more or less a 'bridge technology.' CD-ROMs provided PC-based databases for the past 15 or more years, but Web-based electronic databases have so much more flexibility and accessibility as well as more capabilities. I definitely think CD-ROMs will disappear at some point, but I still can't predict the demise of print resources. While PC accessibility and ownership have made great strides in recent years, the have-nots still greatly outnumber the haves in the area of home PC's in the U.S. and definitely in the world. Plus, no one has really come up with the perfection of the book's characteristics in electronic form. Many quick reference handbooks, guides, and dictionaries will remain in print for some time to come."

Answer from Nelda J. Elder: "Yes, of course, I see it continuing. The reference collections will continue to shift toward the electronic, but I can't predict the speed of the shift, or when, if ever, equilibrium will be reached between the various formats."

Answer from Rachel Cassel Murphree: "I feel there will always be a place for at least some items in each of these formats, either based on patron need or capabilities, or the uniqueness of the resource which may be only available in CD-ROM format, for example. We have over 90% of our electronic products available only on the Web, which is of great use to students who need to work from home, or our distance learning students. Of course, we are steadily updating our print collection as well. I think it's safe to say there will always be the need for these items as well as electronic databases."

Answer from Bruce Neville: "I see print continuing. There are certain things that print can do better than the electronic products available today. I also see electronic products continuing, especially for indexing, which computers do far better than print. I foresee CD-ROM decreasing tremendously in importance very soon. I think the Web has a longer useful life, but I feel that it must someday collapse under its own weight. I am convinced, however, that a decentralized electronic source of information will continue to be available."

Answer from Christopher W. Nolan:

"All three of these formats are viable, but CD-ROM is becoming more of a niche product. CD's are frequently difficult to install and cause additional problems to network. Anyone who has had to work with U.S. government agency CD's will acknowledge the problems that documents librarians have faced in making these accessible. This format will be decreasingly useful in reference collections for actively-used databases, with Web access replacing it. CD-ROM sources may still have some usefulness, especially when dependable

local access is needed. Web-based products will continue to increase their share of the market over the next several years. Today's student likes to use the Web for almost everything, so making our important resources available through the library's Web site avoids most of the installation problems of CD's while putting our screened materials up there with the vast unevaluated Web. Yet print continues to work well for reference in many situations. Quick fact books like almanacs and encyclopedias, and illustrated resources such as atlases and art books, still are easy to consult, more easily interpreted, and sometimes quicker to use than online sources (assuming one is already in the library!). After all, the computer monitor does not match the quality of a printed page in conveying dense amounts of information. Also, the large numbers of specialized reference dictionaries, encyclopedias, handbooks, bibliographies, and so on, will not be quickly converted to electronic products. Libraries would have trouble handling large numbers of specialized CD's conveniently, and selectors are unlikely to pay ongoing Web subscriptions for specialized tools on a piece-by-piece basis.

As mentioned earlier, print does provide dependable archiving of data. What I do expect to increase is the number of online compilations of related reference sources, similar to *Wilson's Biographies* or *Gale's Literary Resource Center*. Web sites that provide access to mixed types of reference sources, such as subject-related indexes, bibliographies and encyclopedias, could be useful to libraries, as would collections of subject encyclopedias. For example, I might not subscribe to any single **Macmillan** or **Scribner's** encyclopedia online, but I would consider subscribing to an online collection of all their academic subject encyclopedias as a single searchable set. In this way, publishers may be able to combine various smaller projects, which alone are still profitable to publish, into compilations that could serve as major reference sets and provide additional revenue. And we can aid our users who do not want to look in individual title after title, but would prefer to search supersets of sources that might have what they need."

Answer from David Null: "I think it will certainly continue for the foreseeable future, until other formats come along and we'll just change the types access or format again. I think in this country we're certainly going toward more Web-based products, because they don't require as much local infrastructure and it's easier to make them available to our remote users. But we still see many CD products, both from this country and particularly from abroad. And there are still many things that are just simply easier to use in print, even if they are available electronically. I think there will be a mix of media for a long time to come."

Answer from Sheila Grant Johnson: "I suspect that all three will be available, at least

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A Balmy Time for CD-ROM

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*Not mine own fears, nor the prophetic soul
Of the wide world dreaming on things to come,
Can yet the lease of my true love control,
Supposed as forfeit to a confined doom
The mortal moon hath her eclipse endured,
And the sad augurs mock their own presage;
Incertainties now crown themselves assured,
And peace proclaims olives of endless age.
Now with the drops of this most balmy time
My love looks fresh....*

William Shakespeare, Sonnet 107

Reading Sonnet 107, I have to shake my head in wonder at Shakespeare's overwhelming prescience and perspicacity: how did the man anticipate and appreciate the invention of CD-ROMs by nearly 400 years? Because it's obvious he's talking about this medium, whose demise has been predicted almost since it first became available. I tried out early CD-ROMs in 1985, and it was later that year I first heard industry pundits utter "sad augurs" of its doom, characterizing the format as an interim technology. And yet CD-ROMs are still among us, a mortal moon doggedly enduring its eclipse (Shakespeare even nailed the disc imagery, for heaven's sake!).

Librarians and publishers alike are struggling through this age rampant with fears and "incertainties" about the right format to use. As we work increasingly with the World Wide Web, it seems that

perhaps CD-ROMs' applicability is waning—isn't it always better, faster, easier, and possibly even cheaper to put something on the Web rather than CD-ROM? Well, no, frankly, it isn't.

The Mythic Proportions of the Web

If the Web could deliver all reference materials better, faster, easier, and cheaper than any other mode of publication, both publishers' and librarians' lives would be simplified: we'd simply convert everything into Web formats as soon as possible and be done with it. Although I have been an avowed CD-ROM enthusiast, I, like most other librarians, have only one vested interest concerning reference products: to encourage the development of the best possible research tools in the most appropriate format available. If the Web answers every need well, then it should be the format of choice.

When Web-based products were first introduced, some of them offered numerous advantages over both printed and CD-ROM resources, most notably in terms of timeliness and immediacy. I'll never forget a demonstration by an *Encyclopedia Britannica Online* rep showing **P.L. Travers'** full obituary the day she died. For current news sources it is hard to beat Web-based products.

But current news sources are only one small slice of the juicy pie that constitutes a good reference collection, whether physical or virtual. Dictionaries and encyclopedias, handbooks and guides, bibliographies, indexes and abstracts, government documents and data—all of these, plus other publications, make up effective reference collec-

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JSTOR promise that libraries dropping subscriptions will have access to what they have already purchased. But promises like that are few. Other suggested solutions are to charge maintenance fees for limited access or provide the "paid for information" on CD-ROM. But clearly, this is an issue that has no easy solution.

There is also the issue of content. A revealing article entitled "What does Electronic Full-Text Really Mean? A Comparison of Database Vendors and What They Deliver," was just published in *Reference Services Review*, volume 27, no. 2 1999. In it, the authors note that "none of the four databases in this study gave cover-to-cover full-text for all the journals in the sample test." They found that letters to the editor, short columns, book reviews, etc., were omitted. This is something libraries that hope to cancel paper subscriptions need to be aware of.

The issue of archiving for preservation may be even more difficult. The very integrity of electronic format is in question. Many are skeptical of its staying power. **Sir Charles Chadwyck-Healey** does "not think that electronic storage is a satisfactory archival medium at the present time as it has not been properly tested." (see p. 36) He points to short

term solutions like keeping "multiple copies of all our CD-ROMs, refresh tapes and properly maintain Web sites in more than one location." But long term, with the constant change in technology, no one knows. Will you be able to find a CD-ROM player in 100 years? Will the Web exist in 2050 or will it have been replaced by something else? Regardless of the answers to questions like these, librarians and publishers struggle with this issue. Sir Charles feels that, "at the end of the day the publisher must remain responsible for the maintenance of his own data." (see p. 36) But libraries have a bigger responsibility than that. We have tried in our imperfect way to act as the record keepers for the written word. As uncertain as the future looks, it will be one of our greatest challenges to maintain that commitment.

Wrap up

The world of information is in constant flux. Naturally, publishers are scanning the horizon in search of markets and profits, but they should not be making their decisions unchallenged or in a vacuum. A creative tension exists between publisher and librarian that if used productively, offers both fair profit margins and quality products at affordable prices. For our part, librarians need to question, cajole, and sometimes fight for the best possible product at the best possible price, whether in print or online. Librarians cannot

be content to sit back and merely observe. We also have to adhere to our tradition of public service, providing our patrons with timely information in the most accessible and useful formats. And, of course we will have to continue our tradition of collecting and preserving for future generations. Remember if we don't, who will?

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for the next ten years or so (or at least for paper). In our situation CD-ROMs running on a single station are fairly routine; however, networked CD-ROM databases are problems for us. We rely on the computing center to operate that network and the reliability has been poor. We are moving more and more CD-ROM based databases to Web versions. I think we will continue to be pressured to provide greater remote access to our reference resources, which means more Web-based databases and, concurrently, more reference and instruction services provided online. That riptide we're riding just keeps rolling. I hope that when we get free from it, we'll still be able to say that we are in the business of providing access to information and knowledge and preserving it for future generations."