Resource Sharing in a Changing Ohio Environment

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ABSTRACT
Starting from the assumption that significantly expanded resource sharing will be a dominant feature of all twenty-first century libraries, this article identifies five milestones or landmarks which can be used to identify key tasks and chart progress. Joining a consortium, integrating intellectual access, providing for both physical and electronic delivery of materials, and integrating the collection development process are steps illustrated with primary reference to the OhioLINK (OL) experience. This article focuses on clearly identifying major issues in resource sharing and illustrating possible solutions with actual examples. The intent, however, is to educate and facilitate ongoing discussion rather than propose final answers.

INTRODUCTION
The saga of the Oregon Trail, also known as the European settlement of the Far West, has been evoked by writers and filmmakers alike through the use of landmarks. For the settlers themselves as well as later storytellers, the landmarks of the Oregon Trail provided both guidance in navigating an unfamiliar territory and benchmarks by which to measure progress. Arriving at Independence Rock to sign your name, sighting Chimney Rock rising above the endless plains, or being welcomed at Fort Laramie gave reassuring evidence to the settlers that they were still on track as well as providing a gauge by which to measure how far they had come—and how far they had yet to go.
As we find ourselves as librarians launched on a similar trek into the new digital information world of the twenty-first century—a strange and at times overwhelmingly demanding territory in which we nevertheless know we must learn to live and make our home—it may prove useful for us also to identify landmarks—landmarks which will serve both to guide us and to calculate progress. In Ohio, as we develop that twenty-first century communal academic library, a mosaic of integrated collections known as OhioLINK, we have begun to identify a series of landmarks along the trail which may prove useful to others. It may be important at this point to emphasize that we are not suggesting particular routes, only the more general guides and reference points which landmarks represent.

**LANDMARK 1: JOINING A CONSORTIUM**

By now it must be clear to all but the most Quixotically inclined that adequately supporting the academic research and teaching mission of a college or university primarily through the resources of a single institution no longer makes sense as an ideal, much less as a practical possibility. Diminished funding resources, increased research and instructional demands, and the accelerating infrastructure demands of mechanically mediated materials, require a resource base and staff support far beyond the means of any one individual institution.

The key here seems to be broad-based cooperation itself rather than any particular type of constellation. In Ohio, the consortium consists (for all practical purposes) of all the libraries in post-secondary educational institutions—i.e., universities, colleges, two-year schools, and associated medical and law libraries. However, the CIC (Committee on Institutional Co-operation) consortium consists only of libraries in the "Big Ten" schools plus the University of Chicago. Georgia’s GALILEO project includes the University of Georgia, Georgia State, and the state’s technical and private academic libraries. ILCSO (Illinois Library Computer Systems Organization) includes forty-five academic and public libraries which share a union catalog and participate in a resource-sharing system called ILLINET Online. TexShare in Texas includes fifty-two libraries in public universities and health science centers and provides online access to member catalogs, expedites interlibrary lending, and provides a mechanism for cooperative purchasing. The VIVA (Virtual Library of Virginia) project includes libraries in thirty-nine Virginia public colleges and universities on fifty-one campuses plus some participation from twenty-seven Virginia private colleges and universities and focuses on coordinated statewide acquisition of electronic information resources and ILL enhancements. LOUIS (Louisiana Online University Information System) includes seventeen public academic libraries sharing online catalogs and electronic databases within the larger environment of the LLN (Louisiana Library
Network). This consortium includes an additional sixty-six public libraries and eighteen K-12 libraries. In addition to these established groups, there are a number of consortia in the process of forming or redefining their mission in Washington State, Minnesota, Missouri, Iowa, and elsewhere.

It is probably worth noting that there are other differences among these consortia as well. The technical means of cooperation varies from OhioLINK's common software and hardware to ILCSO's common LCS software to CIC's Z39.50-based interaction. Governance patterns reflect widespread differences, and even the financial "glue" which supports these consortia varies. Ohio's OhioLINK is state funded, CIC is membership funded, LOUIS/LLN began with federal, and is shifting to state, funding, and so on.

LANDMARK 2: INTEGRATING THE \( \text{S} \)YSTEM—CATALOGS AND CIRCULATION

Libraries have long cooperated with one another, but the clear direction of today's cooperative arrangements is a far cry from the traditional ILL agreements or cooperative arrangements allowing patrons reciprocal use and borrowing privileges between libraries. The underlying nature of those earlier arrangements clearly presupposed independent, largely self-contained, institutions cooperating at the fringes on a limited number of issues. The nature of today's cooperation is a much more highly integrated operation where key central functions of the cooperating libraries are linked. The result is a blurring of the independent self-contained nature of the individual libraries, as individual institutions are transformed into distinctive elements of a superlibrary information mosaic.

Sharing catalog information—either through a single union catalog or by providing electronic access via dialup, Gopher, or Web server—with a cluster of individual libraries seems to be the universal and traditional first step after an appropriate consortial group is established or joined. In fact, such arrangements are so common that it almost appears to be the law of nature; the first thing the members of a library consortium do is share catalog information.

By itself, however, shared information about collections does not represent the watershed step between cooperation and integration. An integrated catalog is not just the sum of all the catalogs in the consortium but a new creation. An integrated catalog, for example, would not contain multiple bibliographic records for the same item, rather only the best or most complete bibliographic record for an individual bibliographic item is used, with holdings instead of bibliographic records indicating the item's location in various consortial libraries. OhioLINK libraries, for example, continue to have their local catalogs, but bibliographic and holdings information is passed on to a central integrated catalog as described above. Not only does an integrated catalog facilitate some technical processes
such as system searching for items but—as in the case of OhioLINK—provides a platform for efficiently adding supplementary bibliographic information for individual books such as table of contents, index, and book review information. Additionally and more subtly, it begins to change the audience for the catalogers from a predominantly local one to the broader concerns of a consortial audience. Most importantly, however, the consortium needs to provide a platform or environment which allows central circulation.

One of the best examples of a consortium-wide circulation system is OhioLINK's patron-initiated circulation which illustrates the kind of core integration referred to above. Any OhioLINK patron can search any OhioLINK catalog from the local library, their office, or their home; check out any of the circulating material they have found anywhere in the system; and have it delivered to their local library for pickup at their convenience. It is not called ILL because the transaction is no longer a library-to-library transaction in any significant sense but simply a patron requesting a known item from a known location within a single system. It is, in essence, no different than an undergraduate requesting an item from the closed stacks from a library similar to that of the University of Illinois—except that the number of volumes available is significantly bigger, and the process may be more convenient (e.g., it does not require the library to be open). Such transformation of a key local function (circulation) into a systemwide function illustrates particularly well why integration is a much better word to use than cooperation in describing this new relationship among consortial libraries.

Here too the paths to this landmark can vary. OhioLINK has achieved systemwide circulation by using common software and hardware so that the individual libraries are easily linked to each other. CIC, on the other hand, which has a multitude of hardware and software platforms, is approaching a common circulation function via Z39.50.

**Landmark 3: Delivery System—Physical**

In terms of our journey, this landmark appears almost simultaneously with the systemwide circulation system. Like the idea of one hand clapping, bibliographic and inventory control systems make no sense without a full-text document. In most of our libraries, the vast majority of the information available is housed in books or bound journal volumes. If the virtual library of a consortium is to be a reality, it is necessary that these materials must be capable of being delivered quickly, reliably, and cheaply to wherever they are needed. While libraries have always shipped physical items back and forth for ILL, the difference which the virtual library represents is the scale and importance of moving materials. Moving materials no longer represents a fringe activity involving a fraction of a percent of total local circulations. At the University of Cincinnati, for
example, we now ship or receive over 5,000 OhioLINK volumes a month with the numbers still dramatically increasing. It seems likely that within a year, when all OhioLINK libraries are actively using patron-initiated circulation, these OhioLINK transactions will account for over 10 percent of Cincinnati's total circulation activity. Systemwide for OhioLINK, patron-initiated circulation deliveries are now in excess of 11,000 a week and between 1994 and 1995 (admittedly a growth period) increased at a rate of 319 percent.

Implementation of such a system, however, is far from being a simple process. The faculty and students will only accept the virtual collection of the superlibrary concept if physical materials really can be delivered quickly, conveniently, and reliably. Since these are all relative terms, it is important to know what they mean in practice. OhioLINK experience can be particularly instructive. We have been delivering materials among OhioLINK libraries on a statewide basis for almost two years. Contracting with a private delivery company (Pony Express—also recently selected by CIC to deliver materials among their libraries), deliveries are made to every OhioLINK library on a daily basis, five days a week. Any OhioLINK patron may request any available item from any OhioLINK library and have it delivered to his or her home library for pickup. This patron-initiated circulation only requires the patron, once they have found a desired item in the database, to enter their name, ID, and home institution. A call slip is generated in the circulation department of the holding library, a student retrieves the volume and provisionally checks it out to the requesting patron and then puts it in a Pony Express mail bag, which is sent to the patron's home institution. When the patron picks up the item, the provisional checkout is changed to a regular chargeout.

All OhioLINK libraries have covenanted to process OL requests within twenty-four hours, so with the twenty-four hour commitment from Pony Express, materials theoretically take forty-eight hours to arrive after being requested. In the real world, of course, there are always complications—e.g., staffing problems at circulation desks, physically remote branch libraries, books missing from the shelves but not noted in the record, etc. Nevertheless, repeated studies (unpublished OhioLINK internal studies) have shown that almost half (41-44 percent) of the requested materials are delivered within forty-eight hours while almost three-quarters (71-75 percent) are delivered within three days. Approximately 12 percent of the materials cannot be delivered for various reasons, primary among them: items missing from the shelves which the record lists as available. System enhancements already underway allowing local libraries to easily pass on such requests to other holding libraries are expected to reduce the no-fill rate to less than 5 percent. After some early system and organizational problems, the system has become reliable enough so that it is no longer necessary to notify patrons that their
materials have arrived; they are simply told to expect the materials to be there three to four days after they place their request. If they wish, skeptical patrons may also monitor the progress of their request by calling up the "View your record" function of the system, which allows them to confirm that their request has indeed shown up at the holding library and that the library has shipped it.

This system of consortial circulation has been a resounding success; faculty and students are universally excited and pleased. It would be hard for them to be otherwise since forty-four academic libraries in Ohio are now able to offer their patrons a library of 20 million volumes. The key, however, is not just the vastly larger collection potentially available to them but the three delivery factors mentioned above—speed, reliability, and convenience—making it a practical reality as well. A request delay of no more than three to four days, a probability of 95 percent or greater that the item will indeed show up, and the ability to enter a request for delivery immediately from the search screen that displays the desired item, seem to be the principal requirements for gaining widespread faculty and student acceptance of a virtual—i.e., physically dispersed—collection.

For the libraries themselves, there are two additional considerations—delivery cost and staffing. One of the advantages of a truly mass delivery system (in contrast, for example, to traditional ILL) is extremely low unit costs. The most recent internal study of OhioLINK delivery costs (excluding library staff costs) shows a per item round-trip expense of under 50 cents. Library staffing is a more complex issue. Clearly OL circulation continues to have an advantage over traditional ILL because the automated nature of the system allows most of the work to be done by the patrons themselves supplemented only by student workers—generally the cheapest staff available to academic libraries. But while the unit costs are extraordinarily low, the sheer volume of requests does add up. Almost all OL libraries have had to add staff to their circulation units or, in the case of the University of Cincinnati, create a separate circulation unit to deal with OL lending/borrowing. It is primarily a matter of perspective. In an absolute sense it does add significant costs to the library; in terms of unit costs, OL borrowing is clearly extraordinarily cheap and is the only way each of the OL libraries could afford to effectively add from 16.5 to 19.8 million volumes to each of their collections.

The OhioLINK wagon train has not completely passed this landmark, however. There appears to be one incomplete but important feature for this area—electronic browsing. One of the problems which faculty have with a virtual library is the inability to browse the collection. Discussions with faculty, however, suggest that it is not prowling about in dimly lit stacks to find dust covered books that is the attraction in browsing. Rather, pulling a book off the shelf to check the table of contents, flip through the index, and generally size up the book tends to be the attraction. In
other words, it is the inadequacy of the bibliographic information in the catalog that often makes browsing necessary. The solution to this situation is to enrich the catalog record by adding the book's table of contents and index information. In addition, the electronic catalog also allows librarians to add links to book reviews, Web sites, and other related information. Ultimately, enriching the record to allow significant electronic browsing will not only solve the problem of browsing the dispersed collections of the electronic library but may well ultimately make physical browsing the less desirable alternative.

**LANDMARK 4: DELIVERY SYSTEM—ELECTRONIC**

The best way for consortia to deliver full-text journal articles is electronically. Legal uncertainty and an aggressive stance by publishers makes it presently difficult for consortia to deliver electronic copies of articles within the traditional ILL fair use context. While technologies which result in direct print copies being produced at the requesting library—i.e., fax—are tolerated by publishers as long as CONTU guidelines are observed, delivery of electronic information which remains in electronic form at the delivery site is unacceptable. The publishers fear that electronic information per se is too easily retransmitted or even generally broadcast to the whole library community. This state of affairs will probably continue until either legislative, CONFU (Conference on Fair Use), or perhaps judicial resolution is achieved. In the meantime, there appear to be two different principal strategies which allow libraries to bypass the legal risk of fair use in the dissemination of electronic data.

The first is the use of aggregators. Analogous to the use of journal vendors such as Faxon, EBSCO, and others, aggregators make deals with individual journal publishers to provide electronic versions of their journals to customers. The library then only has to make a package deal rather than negotiate with each individual publisher. While a number of companies, including OCLC, are seeking to become aggregators, unusual historical circumstances have made UMI the first company to function in this regard. Contracts established with publishers years ago to allow microfilm distribution were quickly used by UMI to deliver electronic full-text articles for selected journals in their Periodicals Abstracts and ABI/Inform databases through a series of products culminating in ProQuest Direct. OhioLINK was an early beta tester of this program in its libraries. Originally UMI delivered the full text through a series of local CD jukeboxes with 800 or more CD-ROMs per jukebox. OhioLINK was then able to provide networked access to the jukeboxes from a central site and is now working with UMI to provide enhanced—non-CD—access from their corporate home in Ann Arbor, Michigan. This last step is important since, for high volume mass delivery, the jukebox technology does not work well; it is too slow and is mechanically complicated.
The volume of requests to OhioLINK is indeed great. Delivering full-text articles to every publicly supported academic library in the state of Ohio for over 600 journal titles is not only a very popular service but a very big business. In Fall 1995, with only thirteen of the OhioLINK libraries hooked into the service, up to 20,000 articles a week were being delivered. At the University of Cincinnati, where the UMI program was well established, up to 1,000 articles a day were being delivered. In 1995-96, articles were delivered only to libraries, but pilot projects are already underway to deliver the articles directly to office and home fax machines with the ultimate goal being the requesting and delivery of full-text articles at any time to any place. The cost is also modest with the page costs for content in the ten to twelve cents range, the equipment costs in the three to four cents range, and the paper and toner costs in the two to three cents range. Initially the electronic format has been image, but experiments have begun with ASCII formats which have advantages in terms of file size, display on low end terminals, and manipulability. In any case, as was true of patron-initiated circulation, full-text delivery also is an extraordinarily popular service. Even when print copies of the journals are available in the stacks, they are now seldom used if patrons can find them online.

The second solution to the problem of electronic delivery is negotiating a licensing agreement directly with a publisher for full-text delivery of all titles produced by that publisher. If aggregators represent a broad horizontal approach stretching across publishers, then single publisher agreements represent an in-depth vertical approach to titles and articles. In the past year, the most active publisher talking to a number of consortia has been Academic Press, but others, such as Elsevier and Springer, have recently joined the conversation in an increasingly serious way. The first large-scale single publisher contract signed took place in July 1996 between Academic Press (AP) and OhioLINK. There are a number of issues to consider in negotiating such contracts, and OhioLINK may once again be instructive.

Although publishing a journal in electronic format is theoretically cheaper than publishing it in print, publishers universally expect a premium for providing electronic access. Since for the present they must publish in both print and electronic format, there are little savings in providing electronic versions of their journals and many startup costs. It is also probably fair to say that electronic versions will get wider and heavier use than print versions. It is, therefore, difficult to argue that a small surcharge for electronic versions of established print journals is completely unjustified. How much that surcharge will be depends on negotiating skills. In the case of the OhioLINK-AP agreement, it was 10 percent over the combined cost of the present AP subscriptions for all OL institutions.
While the complete terms and conditions of the agreement are too extensive to detail here, the basic outline can be given. In return for an annual OhioLINK subscription of over $1 million a year, OL libraries may each maintain their current print subscriptions plus have access to all 175 AP titles in electronic form. Should libraries wish to increase the number of their print titles from Academic Press, they may do so at heavily discounted subscription prices. Although it was not explicitly dealt with as such, it was important to many of the libraries that this agreement needed to have some kind of “fair use” quid pro quo built in. Whether seen in this light or merely as the result of bargaining and compromise, the OhioLINK-Academic Press agreement allows unlimited use of the electronic articles in OL library coursepacks, local online reserves, and classroom use. A very difficult area involved the use of electronic articles in interlibrary loan agreements between OL and non-OL libraries. Clearly the publisher did not want OL libraries to supply the world with easily duplicated electronic copies of Academic Press titles; the libraries on the other hand needed to maintain their networks of interlibrary loan agreements which often extended beyond the OhioLINK libraries. After the negotiation almost came to grief on this issue, a formula was finally worked out. Libraries could continue to share AP articles under CONTU guidelines as long as: (1) the library subscribed to a print copy of the journal, and (2) the library provided the requested copy in print and not electronic format. Not perfect for either party perhaps, but a solution which both sides could live with. The agreement covers multiple years, allows libraries to change their mix of print Academic Press subscriptions, and includes a cap on inflationary increases balanced by a guarantee that libraries would not reduce the overall revenue stream (plus electronic supplement) from OL libraries.

An important element included in the agreement is a provision for ongoing access to articles published during the time of the agreement in the case that the agreement ceases. If the agreement is terminated for whatever reason, those electronic articles which were made available during the time of the contract will continue to be made available to OL libraries by the company. For the present, long-term preservation will continue to be handled by archiving print copies.

During the contract period, the method of accessing the electronic journal articles will change. The first means of access will be through the Web. Patrons in OhioLINK libraries will connect to the AP Web site and look up the journal and then the desired article. Since the full-text files will be in PDF format, allowing both text and graphics, it will be necessary to use Adobe Acrobat reader to view the articles. The development path beyond this initial point remains undecided. If the bandwidth is sufficient, it may make most sense to continue to send OL patrons to the AP Web site. Otherwise, it may turn out to be desirable to have OhioLINK
load the files and provide them from the OL central server via Webpac. The key issue, however, will not be straightforward access but integration. The desirable endpoint is to allow the patron to conduct an OL search on a topic, title, or author and receive hits on AP full-text articles as well as on books and other materials in the collection. That will require linking present bibliographic indexes directly to the full-text articles—i.e., two different databases from two different publishers—and this is not a trivial task. Use of SICI (Serial Item and Contribution Identifiers) identifiers seems to be a promising avenue, but considerable work and experimentation will be required on all sides.

While the OhioLINK-AP agreement includes pros and cons for both parties, the overall agreement represents strongly positive solutions to critical problems for both sides. It allows a publisher to stem the tide of journal cancellations (and revenue decline) while allowing libraries to not only control inflationary increases and provide the advantages of electronic full-text access for library patrons, but also to significantly increase the number of journals available to their patrons as well. For example, only four OL libraries currently subscribe to more than half of the AP journal list. Hence the agreement represents the equivalent of hundreds of new subscriptions for OhioLINK libraries. Libraries are also advantaged by their ability to move ahead with providing AP articles in academic programs (coursepacks, reserves, etc.) as well as the elimination of any need to provide ILL copies between OL libraries for AP articles and the consequent reduction in demands on staff to handle such traffic and the considerable record keeping which attends such demands.

**LANDMARK 5: INTEGRATED COLLECTION DEVELOPMENT**

The final landmark for the present journey is integrated collection development—the most advanced form of coordinated collection development. Historically, coordinated collection development has had two key problems. In a pre-electronic world, there was always the underlying problem of who got physical possession of the jointly purchased item. Since a physical item could only be one place, there was always an awkwardness about the reality that whoever actually had the item had better access than others who might have jointly contributed to its purchase. Even where the focus was on not duplicating collections rather than joint purchase—e.g., California—the holding institution always had a major advantage in terms of access. This simple physical fact did much to undermine such agreements.

The second problem was the sharing mechanism itself. Although shared catalogs, especially electronic ones, have solved the problem of bibliographic identification and location, actually exchanging materials via interlibrary loan offices was both time consuming and expensive. The combined costs for an ILL transaction—i.e., costs to both the requesting
and lending library—have been determined to be over $30.00 per transaction. Turnaround time to request and receive an item even in the best ILL systems has been typically measured in weeks or longer. And finally, patrons are typically required to go through a cumbersome process of filling out ILL forms which then had to be turned in to the library. While all this is not a major problem for dealing with a relatively few items peripheral to the collection, it is an inadequate basis for the high volume and regularly needed materials of a highly dispersed virtual collection.

In such an environment, it is difficult to convince faculty, graduate students, and often even librarians that any form of coordinated collection development which may locate needed collections in other institutions is actually a feasible solution. Even the huge financial pressures generated by inflationary serials price increases has done remarkably little to move institutions in this direction. What the OhioLINK experience seems to clearly demonstrate is that coordinated collection development must be the last, not the initial, step in the formation of a superlibrary consortium. Until librarians can demonstrate to patrons that an actual working system is in place that allows them to conveniently, speedily, and reliably get the materials they need from other locations and institutions, it is difficult to make any kind of truly serious case for not just coordinated, but integrated collection development.

While it is still in the development stage for OhioLINK libraries, there is a cautious but growing optimism that the widespread and enthusiastic embrace of the patron-initiated circulation system will provide exactly the foundation needed to gain general acceptance of integrated collection development. As OhioLINK libraries have begun work in the past year to actually implement such a program, a number of points seem to be emerging.

The first point is the limited value of the conspectus approach—at least as it has traditionally been used. In terms of determining present collection strength and depth, the conspectus is a wonderful tool. It is, however, very time consuming and labor intensive to undertake. And for a future commitment to developing a subject area at a given level and depth, it is helpful mainly for the descriptive framework—i.e., a common language identifying subject categories and collection levels—which it provides. Past subject areas and collection levels of coverage are not necessarily indicative of future intentions. Thus, although OhioLINK libraries started down the road toward integrated collections by beginning conspectus studies, it soon became clear that such thoroughness would take years and impose almost intolerable workloads on library staff. Since, as a practical matter, future intentions and commitment were more important than past practice, the development of a universal conspectus covering all subject areas in all libraries was put on a back burner. Instead attention has been focused on identifying subject specialists, pulling
together appropriate subject groups, providing them listservs, and in general getting on with the main purpose—i.e., identifying who will be responsible for what subject areas and at what collection level.

Although it has not yet been formalized, there seems to be a growing OhioLINK consensus about the nature of the integrated collection. Core materials—i.e., basic undergraduate collection type of materials and locally heavily used materials needed more than once a semester/quarter—probably need to continue to be purchased for the local collection. The integration comes exclusively at the “research” or “comprehensive” level or for local specialties such as Wright State’s collection on the Wright brothers. This additional narrowing of the focus further helps reduce the overwhelming nature of the task at hand.

The second point, and basically a tactical one, is adoption of the “lumpy oatmeal” approach. In the real world, progress seldom proceeds in a smooth and uniform manner. People, being individuals, move at different speeds, have different energy levels, and get fired up about new ideas at different times. There are early adoptors and footdraggers. As a consequence, some of the subject groups have practically formed themselves—e.g., music librarians—while others need prodding and encouragement. Rather than try to force everyone to march at the same pace, however, the idea is just to get everyone in motion and then let the faster moving groups educate and bring along the slower groups.

A third and critical point is the need to fundamentally change local collection development policies. The required change is not just a matter of readjusting subject areas and collection levels but a change in the nature of the collection-development policy. Traditionally, collection development policies have been predicated on the idea of ownership. In crassest terms, a traditional bibliographer collects as much in a given area of responsibility as he or she can until the money runs out. To the degree the traditional policies reflect any reality, they are tied to funding and predicated on ownership. Another model of collecting—corresponding to the consortium-wide concept of an intellectually integrated but physically dispersed collection—is possible, however.

Beginning from the concept of access rather than ownership, the first question this model asks is not how large the budget is, but what are the information needs of students and faculty? Once these needs have been determined, the bibliographer articulates a strategy for meeting these needs. Just as a reference librarian does not need to know all the answers but only where to find the answers, so the new bibliographic role does not require the bibliographer to provide everything on-site but only to establish from where and how the materials may be provided. Of course, part of that strategy continues to be the purchase of locally held materials. But other parts of that strategy identify materials which will be provided from other institutions; identifies which journal articles will be pro-
vided through subscription and which by individual purchase; identifies which materials will be provided from outside or from locally networked electronic sources. In short, the bibliographer's task changes from simply purchasing to providing a complex and comprehensive strategy of access. The deliberate mapping of the "out there" constitutes a key new role for the new bibliographer. Even further, however, the bibliographer's role does not stop with merely identifying the various paths to information but includes creating them as well.

As many of the foregoing comments on OhioLINK activities have indicated, responsibility for creating access can range from working with commercial vendors to create new products and information services for patrons to working with consortial colleagues to define reciprocally beneficial collection areas. Clearly, such a more active and wide-ranging definition of bibliographer responsibilities represents a major shift in the bibliographer assignment as well.

**Conclusion**

Joining a consortium, integrating intellectual access, providing for physical and electronic delivery of materials, and integrating the collection-development process are all distinct and important steps in moving toward the twenty-first century library. While the means for accomplishing these steps may be—indeed certainly will be—different for different institutions and consortia, the experience of the OhioLINK libraries may be helpful—either as a positive model or as a warning example. In any case, clearly identified landmarks represent important goals and milestones for measuring our common progress on a journey through a new and unfamiliar landscape.