# The New Virtual Library and Serials - A Kaleidoscope of Options: Case Western Reserve University and the Kelvin Smith Library

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## ABSTRACT

In this paper I will focus on the virtual academic library as a place and as a structure or shell for serial information access and services. Specifically, I will relate some of our practical experience of planning, building and organizing library services in the new Kelvin Smith Library, just opened, on the campus of Case Western Reserve University in Cleveland, Ohio. The library was planned and designed from the start to be a "library of the future" or "virtual library" and relies heavily on supply of information through electronic resources as well as through traditional means. We will present what we see as the future from our experience and will present a model which is serial based, our "shared digital library" which is based on the proven success of cooperative bibliographic database efforts such as OCLC and RLIN.

The future of serials, at least the next twenty years, will probably be a meshing of supply sources and access options. These will include traditional print on paper journals, current periodical areas, and bound journal stacks, both on-site and off-site with linked storage facilities. Becoming more important, however, is the supply of serial information through the new technologies, including networked, licensed CD-ROMs, networked e-journals with cataloging and integration in the database and linked through subject gateways, publisher e-journal projects, such as Johns Hopkins Project Muse, Elsevier ESS, etc. Regional consortia document delivery projects, such as OhioLink, are and will also play an important role in efficient and economical serial information supply, as will direct commercial document delivery services, such as Uncover, CISTI, Swets and EBSCO ventures. I will describe some of the OhioLink experience in negotiating and coordinating between publishers and member libraries.

An important component of our 'virtual library' services is our project supported by Mellon, which focuses on organizing information supply in the chemical sciences. It is a collaborative approach to the Chemical Sciences Virtual Library, and models itself after the OCLC and RLIN database systems which were so successful in consolidating and sharing catalog information and records. It is a system which has already worked. The cornerstone of our concept of a 'shared digital library' involves the creation of bodies of digital documents in an area in which libraries can make a real contribution, that is undertaking a digital retrospective conversion full-text, whether images, searchable text, etc. The project

makes use of library staff as a labor pool and works with publishers to build a low-cost retrospective database of digital resources for which the publisher could charge royalties. The shared digital library, or SDL, will consist of several components, including image servers, input devices, an indexing component (or linked to commercial indexes), rights management software and the Internet (or its successor) as the network for distribution.

Of course, the difficult part of doing serials in the new virtual library is in being able to separate the good new options from the bad, choosing those which are appropriate for your library and its constituencies, and in balancing "keeping on top of the new" with supplying serials that students and faculty need now. The options are not only in the areas of format and supply vehicle, ie print, microfilm, electronic CD-ROM, networked, hypertext linked, and online archive sources. They also appear to include acquisitions methods, ie traditional subscription agents and vendors, and "new"software-based, bank-linked subscription services. We will cover options we have explored and our success and otherwise with them.

This is the challenge we are facing in our new library, and one which everyone in North America and Great Britain is facing to one degree or another. It is a major transition period in which some supply sources will ebb and decline in proportion to others, some will and have already turned out to be "dead ends" - we hope to be fortunate enough not to invest heavily in any of these. (We feel the Shared Digital Library approach is one that could have applications elsewhere.) It will take more technical savvy, more serials experience, keeping abreast of what is available, what is working and what is not, just being lucky to make it all work smoothly, and to get to the next stage without sacrificing good service now.

**Introduction**

The focus of my paper is on the virtual library as a place, a structure and an organizing principle for serial information access and services in all formats. Specifically, I will relate our experience of planning, building and organizing library serial services in the new Kelvin Smith Library at Case Western Reserve University in Cleveland, Ohio. The library was planned and designed from the start, a time about seven years ago, to be a "library of the future" or "virtual library" which would rely heavily on the supply of information through networked electronic resources as well as through the traditional hard copy formats. There was an awareness that we were building at a crucial time of transition, and for good or evil, a great deal of trust was placed in the future of serials, and other materials in electronic or virtual formats rather than as physical objects. We have, so to speak, "bet the farm" on an accelerating shift to electronic publishing now, rather than at a yet to be determined time in the future. For us the future is now.

Let me start by setting the scene for this little voyage into the future. Case Western Reserve University is located in Cleveland, Ohio, on the banks of Lake Erie, the deepest of the Great Lakes, at what is at about the dividing line between the Midwest and Northeast regions of the United States. The metropolitan area of Cleveland has a population of around 2,000, 000 people with a central city ringed by many suburban communities, old and new, historic and

otherwise, many of which end in "Heights. " It is a lovely area of wooded hills, rivers small and large, such as the Cuyahoga, which is also the name of the principal county. As this name suggests the area was originally the territory of First Nations People, the Erie, later settled by English-born Moses Cleaveland in 1796. It is known as an industrial city of smoke, and steel and machine production, which went through a well-publicized decline decades ago, but which has since rebounded to become a vibrant and dynamic area, economically, socially and intellectually. In my opinion, however, its greatest achievement is as an area of successful multicultural artistic activity of the highest level. There is quite a lot there besides the Rock and Roll Museum and Hall of Fame.

It is the home of the Cleveland Museum of Art, amongst the finest and most richly endowed art museums in the country, with outstanding collections especially in Chinese and Medieval paintings and objects. The new Kelvin Smith Library is sited adjacent to this, and to Severance Hall, the performance hall of the Cleveland Orchestra, under the current direction of Christoph von Dohnanyi, and consistently rated as one of the world's great orchestras. Case Western Reserve University and the new Kelvin Smith Library are at the very core of this area of the city, called University Circle, where these and many other academic and cultural institutions are located. It is a fine place to live and work.

Case Western Reserve University is one of the leading independent, ie. private, receiving no state funding, research universities in the United States, renowned for its advanced programs in such fields as medicine, psychology, pure and applied sciences, and engineering. It has many excellent programs in the humanities as well, with renowned scholars producing important research in such areas as South Indian archaeology, the history of early Christianity, and Netherlandish art history. The full time enrollment of students hovers at around 10,000, the majority of whom are enrolled in graduate studies.

The university libraries consist of the Cleveland Health Sciences Library, the Gund Law Library, and the library of the Mandel School of Applied Social Sciences, as well as University Library, of which I will be speaking. The University Library is the main library which supports the majority of fields of study of the university. The new Kelvin Smith Library, opened officially in September 1997, is the primary facility of the University Library, with only a Music Library retaining a separate physical location within the School of Music. The University Library is a member of ARL, the Association of Research Libraries, a loose community of the largest and most important research libraries in North America.

The University and its libraries are, more importantly in terms of serials, part of OhioLink, a consortium of academic libraries in the state of Ohio, the most ambitious and forward looking model of research library cooperation and centralized resource sharing in the country. OhioLink now joins something like thirty university and college libraries, major public state-supported schools, such as Ohio State University and the University of Cincinnati, smaller state schools, such as Youngstown State University and Shawnee State University, as well as expensive and prestigious private institutions, such as Case Western Reserve University and Oberlin College.

All members of OhioLink use Innopacq of Innovative Interfaces as their online automated library system. Each library retains autonomy, makes its own purchasing decisions, has its own catalog, collection, and electronic resources of its own. The backbone of the consortium is a

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separate, though linked centralized online catalog consisting of holdings of all the member libraries. The catalog indicates status of all materials, and individual borrowers can initiate direct online borrowing for any of these materials, anywhere. They are dispatched and received anywhere in the state within three working days. Libraries can withhold materials from contribution and display in the centralized catalog; there are, in fact, relatively few materials, primarily those for reference or direct course-use, so designated.

OhioLink Central also consists of statewide networked electronic resources, most of the major indexing and abstracting services, and numerous fee-based full-text journal services, such as Power Pages and CARL Uncover. This year OhioLink has begun contracting with individual major STM publishers, such as Academic Press and Elsevier Science, to provide online access to full-text of their entire lists of journals. There are strings attached to these experimental agreements, they are for finite periods of time only, and are generally based on libraries retaining the same level of subscription expenditures during the time of the duration of the agreement. The end of complete, often fierce, autonomy in terms of collection development and materials purchasing, especially as regards serials, even in private universities such as ours, may be nearing its end.

Our University Library has more than one backbone, as well as more than one head, if the university library catalog Euclid Plus can be likened to one head of the body and OhioLink Central as the second. Following this line of thought, the OhioLink connection is one nervous system, or backbone, and CWRUNET, our fiber-optic campus network system, is indeed the other backbone of the information system of the university. Just what sort of two-headed monster library have we spawned here in Northeastern Ohio?

About ten years ago an enormous amount of money was spent in tunneling beneath the entire campus, busy city streets as well as great expanses, and laying fiber-optic cable to connect every building, office, lecture hall, seminar room, dormitory room, and workstation space The campus-wide information system formed includes all library holdings in one centralized University online catalog, as well as access to over 250, and counting, campus-wide networked CD-ROMs. In addition, there are online sites and locations for academic departments, individual classes, faculty members, research projects, as well as libraries of shared computer software and applications of every description. Of course, an integral aspect is access to the Internet and the World Wide Web.

These resources are available by dial-up remote access by the university community as well. A strategic partnership was recently formed between the Information Services Division of the University and Ameritech, the North American communications company, to cooperate in the goal of extending fiber-optic cable to the entire metropolitan area of Cleveland. This will allow the delivery of all information data via the telephone lines, as well as to provide eventual direct CWRUNET connection for members of the university community, wherever they may be physically.

Such an enormous investment long ago, and which continues today, by the university in the creation of an electronic information infrastructure was founded on a firm belief in the future of electronic publishing and the creation of the virtual library. It is with this background in mind that the planning and organization of the Kelvin Smith Library, and particularly our approach to planning for serials services now and in the future, should be viewed.

Planning and building a physical virtual library is, indeed, exactly the contradiction in terms it seems. It is, however, not a monster library, but a new kind of venture. Schizophrenic is not too extreme a description of the effort and labors involved in its coming into being. Seven years ago preliminary planning and fund-raising began towards the establishment of a new central university library at Case Western Reserve University. It was designed as the key element in a physical master plan in which a stunning new library was to form the heart of a campus that has always lacked a real center. This new library would combine collections of two existing university libraries, Sears, the science and business library, and Freiberger, the social sciences and humanities library which also contained library administration, technical and access services.

Being in University Circle, an area remarkable for gracious turn of the century Neoclassical and Beaux Arts architecture, of which Severance Hall and the Cleveland Museum of Art are the best examples, the library had to incorporate a design that would complement and harmonize with the neighbors yet somehow express a statement that it is a new, futuristic, kind of library. The result was an exterior of stately, classical simplicity and grace, chiseled from Indiana limestone and designed by the Washington, D.C based architecture firm of Hartman-Cox.

The Neoclassical design is situated in a seven acre site and presents a curving promenade at the entrance which faces Euclid Avenue. The details of the interior were designed by a second Cleveland-based firm of architects, Blunden Barclay Robie Associates, and feature clean dramatic lines and open spaces. The expansive, minimalist interior still creates a comfortable and friendly atmosphere for work and study. This comes from the books, the attractive study carrels, comfortable upholstered leather arm chairs, plants, and above all the excellent artificial and natural lighting which was missing in our old buildings. The views of the surrounding buildings, parks, and open areas are stunning.

The library was also to give concrete form to a focused effort to cope effectively with the explosion of published research, especially in the sciences, and with the spiraling effect of serials price inflation with which all librarians are familiar These two combined were making it impossible to maintain the comprehensive research collections of the past. This library of the future would not be simply a larger edifice to house ever-expanding collections of materials, the majority of which are serials. It would be a place where students, faculty and researchers could access information electronically, not just in a few places and fixed locations in the library for a few people at a time, but for the same numbers as use the traditional library. They would be able to use the entire library for electronic access, as well as tap into much of the library's resources from remote locations, the student in his dormitory room, and the professor in her office or laboratory alike. A two-day conference on the library of the future held on campus at about this time included participation by librarians, scholars, architects and information scientists, and helped bring into sharp focus the kind of library we would need to build.

At the same time, it was recognized that the library would have to function as a traditional library as well, that is house book collections and serial stacks, as well as provide reference services, technical services, and be a place for the constituents of the university community to study, reflect, and gather. An assumption was made, however, that over the life of the

building, the transition to electronic resources would gain speed and increase in importance in comparison with print materials. It was recognized that paper would always be important and that the library would always have to cope with a printed core collection that would expand, but not at the same rate physically as in the past. The library would maintain a printed core collection of fixed size, expand off-site storage, and increase document delivery from on-campus, consortial and commercial sources.

The consequence of this decision physically was areas of the library which are stacks and will always be stacks, and areas which are not stacks and are not engineered to carry stacks. Compact shelving was used for shelving of all materials, monographs and serials. Only unbound current journals would be on stationary shelving. The Kelvin Smith library has fourteen miles of moveable, compact shelving. Operated by pressing a button, and guarded by an electric eye which protects unnoticed browsers from being themselves compacted, units move to create aisles and entry points as needed. The advantage of this approach was that it doubled shelf space in the new four-storey building we constructed. The Kelvin Smith Library can hold about 1.2 million volumes.

Because change was expected to be a constant over the years in the virtual library the greatest flexibility possible was sought in designing spaces. The library has a raised floor underneath which the wiring runs. There are 1,126 fiber-optic ports currently and the furniture itself is wired for network access. Users are encouraged to bring in their own laptop computers. One of the harsh realities we will probably always face in the library is that no matter how many in-library terminals, printers and workstations we have it still will not be enough to accommodate users of the increasing number of electronic-only resources.

The finished library cost $29,500,000 and consists of 144, 000 square feet. There are 758 seats for users, for which 371 carrels and tables are wired. There is a traditional reading room, group study rooms, and distance learning classrooms. There is no card catalog, no kardex, and no loading dock. All librarians have an office with a door that locks, and a window on the world. Work space for staff is clean, well-equipped and well-lighted, however it isn't big enough. Book trucks are still at a premium, as they always have been, and the quantity of physical journals we receive is bigger than ever. We still use sticks for newspapers.

It is only honest to state that in the year leading up to the move, and during the move into the new library, much of the actual work of this librarian was concerned with books and serials at their most basic and logistical level. Combining two collections into one on paper, or even on spreadsheet, is a task that involves much measuring. Many staff and student man and woman hours went into measuring and remeasuring the collection in different configurations. This information had to be given to the library movers who did the physical lifting and toting involved in integrating two physical collections from two different buildings into one. The reference collections of two libraries had to be merged into one as well, with difficult decisions on storage and discarding of materials, as well as bibliographic data changes of location for every item in the library.

Complicated plans and formulas were devised to allow for growth of the bound journals, as well as to integrate the two alphabetical runs of journals into one. The movers did a great job. Materials in process were shrink-wrapped on the book trucks and moved to processing areas in that state. I must admit that during the move the movers found entire runs of bound journal

titles which were not in the catalog, and had probably been lost for years. What this entire experience reinforced was that however fast the electronic publishing revolution was moving, so far it was not taking the past with it. But we had to move it, nonetheless.

While we were involved in planning the move to the new physical virtual library, we were trying to also plan the electronic move, so to speak. I must say that so far our experience is that it moves so fast by itself that long-term planning is a contradiction in terms. When we began planning for the virtual library, the World Wide Web did not exist. It was soon apparent to us, as it is was to many, that at least for the near future the Web is the future for a lot of serials. In this spirit, we embraced the Johns Hopkins University Press electronic journal publishing venture, Project Muse, from its beginning. Learning html mark-up and how to design and link Web pages is virtually a requisite for our collection and subject librarians. But we know this, too, will probably change.

The commitment to networked, multiple user CD-ROMs has been a cornerstone of our virtual library, however it is now appearing more and more that the problems of juggling hardware, user interfaces and the nightmarish licensing requirements and agreements, make it necessary to rethink this direction, particularly for serials. As touched on previously, the joint decisions of consortia such as OhioLink, may determine how we obtain much of our serials information electronically, and currently that seems to be Web- based.

Just before the move into the new Kelvin Smith Library, the University Library received a half-million dollar grant from the Mellon Foundation to support experimentation towards the creation of a Chemical Science Virtual Library to support changing patterns of scholarly communication and research in that field. This is a joint project with the neighboring University of Akron, which also has strong chemistry, chemical engineering and macromolecular science, and materials science programs, as we do at Case Western Reserve University. The logic behind the project is the potential catalytic effect of pooling already strong resources in a region-wide virtual subject library. Our library currently spends about $500,000 on serials in this subject area alone.

The purpose of the project is to describe the problems of a hybrid digital/paper library, which we will have for all our lifetimes, while at the same time to devise a good and efficient seamless meshing of resources which incorporates delivery to users "just in time" via the network for display in soft form or production in hard copy. Also part of the project is to provide a retrieval method structured to act in concert with pre-existing indexing and abstracting tools. We do not intend to reinvent *Chemical Abstracts*.

The project has many dimensions, but perhaps the chief focus will be to attack the problem of getting backfiles of journal information into digital form. Using CWRU-developed commercially available rights management software, the Chemical Virtual Library, or CHEMVL, proposes a kind of "full-text retrospective conversion" based on the OCLC model in which many libraries can participate using accepted standards. The materials converted would be made available by publisher license and controlled by rights management software. We hope that publishers would grant rights to scan and store retrospective materials already purchased by libraries in return for the right to license use of the electronic formats to other users. The search for viable publisher partners for this project has, so far, been the biggest challenge.

Since the future is now in our virtual library, the future is bound to be something different. Spotting the trends early is perhaps the key to our continued success in delivering information by virtual or traditional means. One interesting thing we have observed is that space and maintenance cost issues may have more impact on cutting paper subscriptions than cost alone. We recognize publishers will protect the income represented by the subscription base. However, it is not inconceivable that we and other libraries will pay the same amount (we would like to pay less) and not receive paper issues.

Another, more troubling trend concerns the role of the virtual library in the university community itself. The ability of university faculty to sit now in their offices and receive all information they need digitally at their own workstations at push button command, may lead to the diminution of the importance of the library journal collection. Not too long ago, great protestation was heard by us from the scientists as well as humanists when serial titles had to be cut. Core research titles were sacred cows. Now we have had the experience of departments of pure science wishing to cut serials expenditures drastically in their areas. This has led to proposals to halve collections and substitute on-demand, nearly instantaneous document delivery. The money savings would revert to the academic departments, not the library. The question of how such a radical shift would impact on research, especially interdisciplinary research and discovery, is a serious one, and troubling. The evolution of a class system of information "haves" and "have nots" would be a serious change to the idea of the library as an intellectual commons.

Coincidentally, or maybe not, I came to Cleveland and Case Western Reserve University about seven and a half years ago in the continuation of a library and serials career that was characterized by extreme zigzags more than anything else. After receiving my Master of Library Science degree at Indiana University, and then serving stints at public libraries, small and large, doing a number of things, including reference, cataloging, collection development, acquisitions, and eventually serials, albeit in a very small way, I found my way to the Netherlands and into the employ of Swets Subscriptions Service. There I worked on North American customer accounts, including FAST accounts, a harbinger of today's outsourcing movement, had a very small role in the development of the online system SAILS. Returning to the States a few years later, I continued in subscription agency work with EBSCO Subscription Services, and then made my entry into academic libraries. I continued my involvement with serials, which now forms but a part, although a highly significant one, of my duties at the university library.

Despite any modest protestations to the contrary, I believe we all tend to see ourselves as the central unifying entity in the universe, while at the same time we congregate voluntarily to form numerous cooperative communities. Both tendencies are necessary to the survival of the species. Modestly, I believe my own professional background, unusual and random as it has often seemed to many, may have been the perfect preparation for my eventual transformation into a virtual serials librarian, or rather, virtual serialist at the Kelvin Smith Library. It has equipped me as well as anything could have for coping with the no-holds-barred negotiations, creative budget and financial calculations and estimates, legal work on licensing agreements, and evaluation of products bibliographically and for "user-friendliness" that acquiring serials today requires. Just as importantly, my past tendency never to stay in one place too long has toughened me to cope with the continual choices, crossroads, surprises and perpetual change

that more than anything is the *modus operandi* of the academic library administrator working with serials. Patching together vastly different serials activities into a seamless delivery mechanism of serials information today, while still ensuring the continuance of a some sort of permanent collection or permanent access for the future is what I do as a serials librarian in the virtual library.