REDUCED RESOURCES:
COPING STRATEGIES

The new American Library Association (ALA) website on library funding demonstrates the pervasiveness of budget problems in libraries, highlighting cuts in 41 states.

A question at a session of ALA's June 2004 annual conference provided dramatic corroboration of the severe problems libraries currently face in meeting their priorities. When the speaker asked how many in the audience did not know yet what their budgets were going to be for the coming year, almost every hand was raised, surprising both the speaker and the audience. A sales representative from a major vendor said afterward: "Just having my boss see that was worth his time at this conference."

Despite the general drop in funding and budgetary uncertainties, libraries are doing their best to keep up with the rising tide of e-resources. A 2002 Association of Research Libraries survey indicates that spending on electronic resources rose 400% between 1994 and 95 and 200l and 2002.[1] The technology and information consulting company Outsell reported budget allocations for digital content in academic libraries had risen 19% (to 44% of the total) between 2002 and 2003 and in public libraries by 35%, to 31% of the total.

Vendors are encouraged by an awakening economy. They assume that, though libraries face financial problems, reallocations can still be made to accommodate new digital offerings and that their products will nose out competitors.

If prices keep going up and there is more than ever to buy, what are libraries doing to cope with a seemingly impossible situation?

Coping strategies include localized actions with internal impact, as well as measures designed to influence external circumstances in ways librarians believe will make collection-building more affordable in the long term. This second class of tactics aims at encouraging radical changes in the scholarly information distribution system.

Discussion of the finger-in-the-dike policies and library investments in an altered follows.

Internally addressing declining collection dollars

Libraries are resorting to the time-honored means of coping with reduced resources and also trying out new, somewhat more drastic, approaches. Strategies include:

- Serials cancellation

- Eliminating print versions of titles available electronically

- Either buying into Big Deal packages —or rejecting them (The benefits of the Big Deal are in the eye of the beholder.)

- Reducing overall purchases of print materials

- Replacing just-in-case with just-in-time buying

- Increasing collaborative collection development

Cutting serials

Journal subscriptions have always been the first target of opportunity in tight budget times. As in the past, libraries are canceling whatever duplicate or marginal serial subscriptions they have left that are not tied down by package license agreements.

Some package agreements permit cancellations, though outright savings may be small and sometimes cancelled titles must be replaced with new ones of equal value. Some prohibit cancellations altogether.

Several high-profile libraries have announced large-scale cancellation programs. For example, in 2003 UCLA eliminated an unprecedented 1,400 journals and databases worth $450,000. The University of Arizona has announced plans to cut 16% from its acquisition budget.

In most libraries duplicates and low-use titles are long gone. More often core materials are now on the chopping block. Some libraries are intentionally targeting greedy-publisher titles in a strategic way, even when they are important to users.

To save nonsubscription costs on titles retained, many are shelving unbound issues or shrink-wrapping them. Or, if e-resource agreements include print copies, some are simply discarding them to save processing costs.

Surge toward e-only subscriptions

Numerous announcements document a pronounced move to e-only journal collections, especially in science and technology. This strategy generates one-time savings soon eaten up by inflation, but libraries do eliminate processing, circulation, binding, and storage costs and can point with satisfaction to steadily increasing online usage figures.

Many librarians still find abandoning print difficult. To avoid the expense of having to reverse an e-only decision later, they run through a list of questions:

- Is the e-version as current as the print?

- Does it have everything that is in the print? Is it just as legible?

- Does the library have perpetual access rights?

- Is the vendor server reliable? Are mirror sites and a trusted archive provided?

- Are there no obvious barriers to easy access such as cumbersome log-ons?

- What are the provisions for use in interlibrary loan, reserves, and e-learning systems?

- Do size, resolution, viewability, and printability of images from the electronic version make doing without print on paper impossible?

The Big Deal: Believers and apostates

Big Deal is the term used loosely to describe an agreement whereby a library or group of libraries subscribes to a bundled package of a publisher's titles. (The more restrictive definition is that the subscription includes all titles on a publisher's list.)

Introduced by Academic Press in 1995, this practice has the following characteristics:

• It was originally designed to maintain the dollar amount of a library's print expenditures pegged at a point in time before the agreement. The idea was to recover lost revenue from a wave of recent cancellations and build incrementally from this starting point.

• The cost is normally calculated on this base dollar figure for print expenditures or as a content fee, with a percentage added on for electronic access. Currently, many publishers offer an incentive (normally a reduction of no more than 10%) to encourage institutions to subscribe to electronic only.

• Multiyear agreements reduce, lock-in, and cap annual price hikes.

• Libraries give up the ability to select titles on an individual basis and have limited or no ability to cancel titles during the term of the (usually multiyear) contract.

At the moment, many libraries view the Big Deal as a positive way to address current financial strains. Others take the diametrically opposed view that the Big Deal is contributing significantly to the stress on their budgets.

Both sides of the debate were represented in presentations on a program at the ALA annual convention in 2004. Stephen Bosch, collections officer from the University of Arizona, discussed the benefits of bundled subscriptions from a consortium member viewpoint. He presented cost-per-use figures both for titles previously owned or not in two package agreements.

For one set of journals, cost-per-use varies from $1.53, for titles not previously held, to $4.71 for preowned titles, with an average of $3.88 overall. For a second smaller package, data show that titles never owned account for 37% of use. In the first group, however, 24% are never used, and in the second, 19% are ignored. Bosch argues, as do other proponents of the Big Deal, that:

• Previously unmet user needs are satisfied, since journals not subscribed to before the agreement receive significant use.

• Cost per/use is low.

• Smaller institutions in consortia have access to important titles they could never have afforded in the past and at a low overall cost.

Bosch also presented data showing that the expenditures of ARL libraries for serials have increased more slowly than the market index from 1996 to 2003. He says the Big Deal has been an important factor in this decline, probably along with other factors such as cancellation of expensive titles.

At least for the time being, Big Deal proponents argue, bundles are good for the users and for libraries. Though acquisition of new items may be constrained by budget shortages, the Big Deal leverages available resources by providing a lot of content at a much lower than retail price.

On the same program Ken Frazier, the most passionate opponent of the bundled package, talked about experiences at the University of Wisconsin (UW) where he is university librarian. He described UW's approach to subscriptions with a publisher offering Big Deals.

His library pays $250,000 to subscribe to 120 of a possible 370 journals. These 120 satisfy 90% of user demand. The library would pay an additional $100,000 to buy into the Big Deal and meet the remaining 10% of the demand. Holding on to that $100,000 helps UW buy materials other libraries no longer can. Nevertheless surveys reveal a noticeable degree of faculty dissatisfaction.

UW and Purdue rejected the Big Deal right from the start even though doing so meant they had to pay a higher price for a smaller number of journals. More libraries are now following in their independent footsteps.

Well-publicized rebellions against the Elsevier bundling model have occurred over the last year at Harvard University, Cornell University, University of Maryland, Stanford University, MIT, Triangle Research Libraries Network (Duke, University of North Carolina and North Carolina State), and four highly regarded liberal arts colleges in Minnesota (Carleton, Gustavus Adolphus, Macalester, and St. Olaf).

Academic librarians all over the country held their collective breath and kept their ears to the ground during California Digital Library's (CDL) negotiation with Elsevier in 2004. CDL has signed a five-year agreement reducing the overall number of individual title subscriptions.

The centerpiece of the arrangement is that CDL need maintain only a single paper copy of all titles for use by all members of the University of California system. (As will be discussed below, this variation on the Big Deal is part of the overall cooperative collection development strategy CDL is designing to cope with their worse-than-average state budget situation.)

In a letter to UC faculty on the successful completion of intense negotiations, the CDL reported that access to 200 titles not selected by any campus had been lost, but "we have arrested for now the price inflation that has been common in this market."

For a library acting alone, declaring independence comes at a price even when a certain number of the titles cancelled are duplicate print subscriptions. Deviating from a bundled arrangement to be able to cancel titles results in having to pay Elsevier more for the titles retained. As explained on the Cornell website, "the only way to achieve any real savings is to cancel a great many journals."

Cornell has cancelled several hundred. Each library rejecting Elsevier's standard package is handling it in a slightly different way. For example, Harvard has used the opportunity to reduce duplicate print subscriptions but retained a few titles in mathematics, business, and life science in print only.

Though most libraries in this group have kept both print and electronic versions, the University of Maryland has made the decision to offer Elsevier titles online only. This strategy produced a one-time discount of 10% that, balanced against an inflation rate of 10%, kept its expenditure constant.

All the libraries mentioned above report a disproportionate percentage of their serials budgets has been devoted to Elsevier titles. The largest have been paying fees to the publisher amounting to over $1 million annually. Continuing with bundling would steadily raise the percent of the serials acquisition budget going to Elsevier, reducing each library's ability to purchase other materials.

Cornell has set a goal of having no more that 15% of its serials expenditures accounted for by Elsevier titles, reducing the percentage from the previous high of 20%. Choosing to pay more for subscriptions retained, though painful, allows these libraries to regain control of decision making about their collections.

CDL's letter to faculty on loss of Elsevier titles, http://libraries.universityof california.edu./news/ facmemoscholcomm_ 010704.pdf

These necessary steps on the part of research libraries result in the somewhat paradoxical situation that students and faculty at the University of Akron may have access to the more specialized journals published by Elsevier, while faculty at Cornell may not.

More libraries will likely reject Elsevier's standard model. On the other hand, several libraries and groups have signed multiyear licenses in 2004, including national-level agreements in the United Kingdom and Portugal.

Killing off the bundled package and lessening the percentage of library budgets going to the big STM publishers may take a while. Noteworthy, too, is that when libraries talk about how much of their serials budget goes into Elsevier's pockets, they are referring to the cost of *ScienceDirect.*

Reed-Elsevier dominance of library budgets is further increased by subscriptions to such widely held tools as the Congressional Information Service (CIS) indexes, Lexis-Nexis *Academic Universe*, Lexis-Nexis for law libraries, *MDConsult*, and the suite of science and social science reference tools they have developed or acquired through purchase of publishers such as Academic Press. New proposals from Elsevier include e-book subscription packages and the mega-buck *Scopus* looms on the horizon.

Reduction in print acquisition

Decentralized systems hardly ever have duplicate print monographs anymore. Libraries are also eliminating or cutting back approval plans and doing away with purchase of print reference tools as a matter of policy.

Despite the recognition that printed publications are still essential in various disciplines, a mindset is evolving that views print as obsolescent and rapidly giving way to electronic as the standard format. Libraries with offsite space available are moving almost all back runs of journals to what is sometimes referred to as analog storage and thought of as dead storage.

The rush to jettison print is reflected in one librarian's report that her library "has let go of paper at every possible opportunity." As for titles not available online: "Print-only titles may find themselves on the chopping block,"—even those that may be central to humanities and other research.[2]

The forget-about-paper viewpoint also appears in the recommendations of a group recently convened at the University of Arizona to discuss how libraries should be responding to digital developments in an environment of deteriorating finances. One step on the way to the transformed library they envision is to "spend as little money as possible on adding to print collections."[3]

Just-in-time purchasing

Just-in-time is the shorthand term popularized in the 1980s to describe the practice of acquiring materials when users need them rather than building collections just-in-case based on librarians' anticipation of future needs. Just-in-time buying is back in style in the digital era, as libraries substitute pay-per-view arrangements, for example, for periodicals they might once have subscribed to.

Another technique gaining in popularity is the books-on-demand plan. At least a few libraries have experimented with point-of-need acquisitions, a model that essentially allows the user to decide what the library will purchase by ordering a book on interlibrary loan. Experiments with this strategy are described in the interlibrary loan section in Chapter 5.

Collaborative collection development

Cooperating to build joint collections to serve the needs users of more than one library is another tried and true means of stretching collection dollars. Historically, this expedient has worked best for areas at the margins, but currently libraries are creating structures for developing collaborative collections of core materials.

The most obvious way this collaboration is occurring is through group purchases of electronic sources, but cooperative purchasing is gaining strength in the print arena as well.

The University of California Libraries plan for a prospective print journal collection offers a good illustration. The first step has been the negotiation of a single, required print copy for all campuses as part of the license agreements with Elsevier and the Association of Computing Machinery journals.

University system libraries can cancel print on their own campuses and rely on a backup stored at one of the two regional library storage facilities. Future plans call for negotiation of similar contracts with other publishers as well as expansions of the concept to include other types of material.[4]

Changing the scholarly information distribution system

Supporting the Scholarly Publishing and Academic Resources Coalition (SPARC)

In 1998 the research library community created SPARC, an initiative aimed at developing alternatives to high-priced commercial publication of scholarly research. One of its early goals was to create alternative journals to compete with specific expensive titles produced by the major STM publishers.

These journals have had a varied track record. Some journals have proved to be viable competitors to their pricier counterparts, and many libraries now feel they must subscribe to both the commercial title and the SPARC replacement.

Recognizing that weakening major vendors by introducing competition into the marketplace at this level would be a slow process, SPARC is now advocating more far-reaching means to effect change.

The coalition is backing the creation of institutional repositories and, more generally, the Open Access (OA) model of scholarly communication. The Open Access movement is discussed in more detail immediately below and the institutional repository concept is described later as an alternative means of collection building.

SPARC is a membership organization. Libraries support its goals as a long-term way of addressing mounting costs by paying institutional membership fees, partnering with SPARC on information projects, purchasing SPARC journals, and establishing educational programs on their campuses based on coalition principles and materials.

Open-access (OA) movement

Support is growing for the idea that more needs to be done to solve the serials crisis than promoting actions that may encourage STM publishers to lower their prices and decrease the size of annual increases. Participants in the open-access (OA) movement want to make scientific research free of

charge to everyone via the Web and to remove all barriers associated with rights and licensing restrictions

The OA business model calls for recovering the cost of publishing free-to-all journals by charging authors fees to publish articles rather than through subscriptions to individuals or institutions. Reduction of costs to libraries is a side benefit of the even greater good of providing equal access worldwide to information on scientific research.

Appropriate standards of quality will be maintained since all articles will be subject to peer review as in traditional toll-access journals.

Though Peter Suber, an active campaigner for free online scholarship (FOS), finds precursors for the movement as far back as the middle 1960s,[5] interest in direct action to reduce the cost of STM journals crystallized in the late 1990s as university provosts and library directors became increasingly concerned about costs.[6] Their uneasiness, coupled with the growing stress on library budgets, led to establishment of SPARC by the Association of Research Libraries (ARL) in June 1998.

The 1999 proposal by the head of the National Institutes of Health, Harold Varmus, to create E-BioMed, a free online archive of biomedical literature, was a key event in the development of the open-access movement. In time Varmus' idea was realized in PubMed Central, which subsumed *Medline* into a free database of biomedical citations and abstracts, and added full text in 2000.

The announcement by the commercial publisher BioMed Central of free online access to its journals in 1999 was another major boost to the movement, since it showed that a business concern believed in the viability of the model.

In March 2001 Varmus and two colleagues tried a new strategy for spreading the open-access gospel with a letter to the editor of *Science Magazine*. In it they called on biomedical journals to put their contents online, free of charge, in public archives within six months of print publication and urged scientists to sign a pledge not to "publish in, edit or review for, or personally subscribe to" journals that did not respond by Sept. 1, 2001.

Close to 40,000 people, many from developing nations, signed on. Although this campaign drew a lot of attention to the issue, its deadlines were unrealistic. Established publishers could not possibly change direction within the time frame for compliance. In addition, not enough high-quality open-access journals existed to receive submissions from scientists who pledged to boycott noncompliant journals.

The dearth of top-notch open-access journals was recognized in another formal declaration—the Budapest Open Access Initiative (BOAI), which came out soon after the Public Library of Science proposal. Philanthropist and investor George Soros threw his weight behind the movement with $3 million in grants and a conference hosted by his Open Society Institute at which a document was produced that was "at once a statement of principle, a statement of strategy, and a statement of commitment."

The two strategies recommended by BOAI are self-archiving (the deposit by scholars of their refereed journal articles in open electronic archives), and the creation of a new generation of journals committed to open access.

2002 saw progress in the development of tools to support self-archiving. MIT released D-Space, its Open Archive Initiative-compliant open-source software to support the development of institutional repositories of digital content. CDL launched E-Scholarship, another open-access repository.

A $9 million grant to the Public Library of Science (PLoS) was probably the most important event of 2002. The movement could now move aggressively from idealistic statements to concrete action. The grant enabled PLoS to launch its first journal, *PLoS Biology*, in October 2003. *PLoS Medicine* is due out in fall 2004.

Does OA spell the end of the serials crisis?

The open-access movement continues to gain momentum. A full listing of the more than 700 OA journals now published is maintained by Sweden's Lund University.

The decision by a commercial directory publisher (Bowker) to showcase OA journals and ISI's agreement to track their impact are evidence of their growing legitimacy and visibility. The PLoS wants to demonstrate that freely available journals can compete with top-of-the line titles such as *Nature* and *Science*. BioMed Central offers more than 100 freely available journals on both general and specialized topics.

Other presses (particularly society publishers) are experimenting with fully open access and with hybrid business models. One hybrid model gives the author the option of paying an open access fee. The American Physiological Society reports that 15% to 20% of authors publishing in *Physiological Genomics* pay the open-access fee.

Oxford University Press has developed a hybrid model for its flagship journal *Nucleic Acids Research* to begin in 2005. Institutions are offered memberships at the same cost as a 2004 subscription to the journal on the assumption that library funds will be diverted to this purpose.

Authors at these institutions will pay $500 to have articles published and nonmember authors will pay $1,500. Authors from middle-income countries will pay $500 and those from developing countries will publish free.

Oxford University Press also has agreed to allow articles by Oxford University authors published in its journals to be deposited as part of the U.K. national-level experimental network of institutional research repositories, called SHERPA.

Financial support is flowing into the system from outside grants and sponsorships. BioMed Central has more than 100 institutional sponsors, including several high-profile institutions (such as Harvard, Yale, Cornell, Wisconsin, and Columbia) and many medical schools.

Twenty-three of the 75 members of the Oberlin Group of leading liberal arts colleges also have agreed to pay for publication of articles in BioMed Central journals. The Oberlin Group also became institutional members of PLoS in March 2004. Eminent scientists have joined the editorial boards and submitted papers to PLOS journals.

Despite these indications of support from various sectors, the viability of open-access journals is still hotly debated on publisher and librarian list-serves and in the editorial pages of subscription-based journals. At library and scholarly publishing conferences a program discussing the pros and cons of OA has become almost mandatory.

Many reports have been issued and more studies are planned by various agencies representing affected groups to add to the factual basis for evaluation. For example, the Wellcome Trust, a prominent U.K. biomedical research funder and a supporter of OA, has issued two reports on the economics of science research publishing.[7]

The U.K. Joint Information Systems Committee and the Open Society Institute commissioned a *Journal Authors Survey* to measure awareness among scientists of the OA movement.

OA advocates had high hopes for a recommendation of mandatory adoption of the author-pays model for U.K. publishers from a Parliamentary inquiry this year. Although it praises the open-access model, the committee report fails to recommend obligatory implementation.

An article in the British newspaper the *Independent* observes that Parliament has chosen the right course, in this case, since the United Kingdom is in the enviable position of dominating the STM journal market: "the changes demanded almost certainly would cost the taxpayer a great deal more than the present system while undermining a hugely successful British industry in the process."

The testimony provided to the inquiry by Elsevier gives the high-end commercial publisher point of view.

What arguments can there possibly be against a plan that offers something of value for free? Why would libraries not want to do everything in their power to help the OA movement?

Both commercial and scientific society publishers argue that OA advocates greatly underestimate the cost of publishing. OA publishers propose to succeed by charging authors fees typically in the range of from $500 to $2,000 for articles accepted for publication. Established publishers contend that articles in high quality journals cost at least $3,000 to $4,000 to publish.

Premier titles such as *Science* and *Nature* put per/article costs as high as $10,000 or more. Much of the cost, publishers say, stems from managing the peer review process.

OA advocates tacitly acknowledge that authors' fees will not cover all costs. Since maintaining high quality normally means rejecting many times more articles than are accepted, they increasingly acknowledge that submission as well as publication fees may be necessary. They also expect they may need to rely on other revenues from advertising, sales of related services, and membership payments from individuals, institutions, and corporations.

Because of the cost savings, publishing electronically is the cornerstone of OA, but proponents acknowledge that print may be necessary to satisfy user prefer-ences or for other reasons. Charges for print versions are mentioned as another potential revenue source.

The lively and surprisingly emotional discussion of the feasibility of OA has many additional nuances that can be explored in depth in the growing body of reports and public statements.

Following is a necessarily simplified list of some of the most commonly expressed concerns with representative responses from the OA community:

Objection: Not all authors can pay.

Reponse: Waivers are routinely provided for authors from developing countries and for others on a case basis.

Objection: Current allocations of primary funding agencies cannot support author fees.

Reponse: Various public and private agencies currently allow payment of author fees; others should be able to arrange to do so.

Objection:	Professional societies depend on subscription income to support other important services to membership and will find it difficult to transition. Some may go under if open access becomes the preferred model.
Reponse:	OA advocates want societies as allies and are generally sympathetic to their special situation, but they argue that organizations should develop other sources of revenue to fund member services.
Objection:	Article quality will suffer, since OA journals will be driven to accept more, less stringently evaluated contributions to stay afloat.
Reponse:	This scenario is unlikely to occur since it would destroy the credibility of OA journals.
Objection:	Overall quality of journals will suffer since cash-poor publishers will be unable to invest in innovation or keep up with technological change.
Reponse:	OA journals cost less to produce than toll-access journals and are economically viable.

Academic librarians as a group are generally enthusiastic about OA. The concept of free access to information for all is one which matches librarians' professional values.

OA also is a logical extension of SPARC's efforts to create low-priced titles to compete with excessively costly commercial offerings. Both PLoS and BioMed Central are now asking for institutional memberships and have gained needed support from a seemingly growing number of institutions.

The likely source for these membership fees is the institution's library funds. In fact, Harold Varmus is on record as saying OA can be accomplished by reallocation of library budgets.

Library membership payments (like author payments in the form of page charges) are, after all, not a new idea. Libraries pay to be members of the Center for Research Libraries, for example, and also contribute as members of various organizations to obtain their publications.

Will new entrants into the OA publishing market suggest library contributions through memberships and will libraries be prepared to make them? Those now paying these fees are endorsing OA by providing tangible support to at most a few hundred such journals. Could they do this for hundreds more?

The library directors from the Committe on Institutional Cooperation (CIC) schools, for example, were not willing to use library funds to support PLoS. Libraries have not been in the business of funding research in the past. Moving the locus of responsibility from the academic departments to the library would create an unfunded mandate libraries would be unable to bear without an infusions of new resources.

The OA idea has spread to the humanities as well, with a call for international support for the *Stanford Encyclopedia of Philosophy (SEP)*. Grant-funded since its inception in 1995, *SEP* is aiming with the help of SPARC and the International Consortium of Library Consortia to generate a $3 million endowment plus an additional $1.5 million in donated funds to keep itself going.

Each individual OA contribution might be relatively small but the overall toll on library budgets will grow—with no guarantee that demands on remaining funds will diminish dramatically.

In the case of support to BioMed Central, no direct benefit to the institution may exist, since libraries cannot know how many faculty will publish in BMC journals. Many librarians are waiting to see whether they survive and gain status.

Librarians have adopted free or low-cost alternatives in the past only to find unanticipated new costs at the end of initial periods of experiment. Some worry that this pattern will be repeated with open-access journals.

Those who think seriously about the ultimate effects of OA, forecast a transition period during which a critical mass of freely available journals (and institutional repositories) builds to the point where toll-access journals will be driven out or forced to move to the open-access model.

PLoS plans to establish 50-plus journals by 2008. BioMed Central is continuously adding titles. BioMed says it expects to be profitable at some undefined time in the not too distant future. It has, however, recently begun a consultation process with libraries and funding bodies concerning future payment models and mechanisms, membership/article processing charges, subscriptions, and stakeholder roles in sustaining the OA idea.

Other publishers also are abandoning the subscription model or testing hybrid models. Not even the most ardent proponents imagine the death of subscription-based journals. For example, even though PLoS aims specifically at offering an alternative, Harold Varmus says: "We'll always have our *Nature* and our *Science*." [8]

Suber, encouraging OA proponents not to waste valuable energies on pitting OA journals against toll-access journals, points out: "OA and TA can coexist, as we know from present experience. We can discuss the long-term prospects for their coexistence, but it seems very likely that they will coexist for the indefinite future while only their proportions will vary. OA progress is entirely compatible with TA survival."

No one is predicting how much time will pass before libraries' budgets are significantly affected by the availability of free STM journals. As with other impacts of electronic publishing, OA offers a new alternative that adds to the complexity of the library information universe and may in the short run cost libraries more money rather than less.

These expenses will include not just memberships but also the previously less visible costs librarians have learned to assign as a matter of course to e-journals acquisition: cataloging new e-journals, adding them to linking systems, and troubleshooting access problems.

In the early days of licensing e-journals, librarians often complained that they were being called on to subsidize commercial publishers' online product development. OA may present a new wave of smaller-sized subsidies that, in the aggregate and given the budget situation, may nevertheless constitute a significant drain on scarce resources.

Notes

[1] Mary M. Case, "A Snapshot in Time: ARL Libraries and Electronic Journal Resources," *ARL Bimonthly Report,* www.arl.org/newsltr/235/snapshot.html.

[2] Minutes of the ALA Acquisitions and Library Collections and Technical Services Division, Serials Section Research Libraries Discussion Group meeting on e-journal costs. Feb. 29, 2004, http://infomotions.com/serials/acqnet/04/0026.shtml.

[3]Joseph Brewer, et al. "Libraries Dealing With the Future Now," *ARL Bimonthly Report*, 234 (June 2004) p. 1-9. www.arl.org/newsltr/234.

[4]Shelton, C. "Planning a Prospective Shared Print Journal Collection at the University of California." *Against the Grain* , v. 16, no. 3 (June 2004) p. 28, 30.

[5]Suber maintains an extensive website on FOS (free online scholarship) (www.earlham.edu/~peters/fos/index.htm) which includes a timeline, a guide to the movement, and the FOS Newsletter and news blog. The guide also serves as a handy glossary of terms and dictionary of acronyms related to digital library development generally. Probably most of what you need to know about open access and its history can be found on or linked to from Suber's site)

[6]This interest on the part of provosts is illustrated by a proposal from David Shulenberger of the University of Kansas to create a free-access National Electronic Article Repository of research articles (NEAR) . Shulenberger's proposal incorporated ideas that have become part of current open-access implementations such as support from universities through payment of page charges. See, David E. Shulenberger, "Moving with Dispatch to Resolve the Scholarly Communication Crisis: From Here to NEAR" *ARL Bimonthly Report,* 202, (February 1999). www.arl.org/newsltr/202/shulenburger.html.

[7]The first, " *An Economic Analysis of Scientific Research Publishing,"* (2003) (www.wellcome.ac.uk/en/1/awtpubrepeas.html) led Wellcome to endorse OA. The second " *Costs and Business Models in Scientific Publishing,"* (2004) reported findings that open-access publishing will reduce costs to consumers of scientific information by 30%. www.wellcome.ac.uk/en/1/awtpubrepcos.html.

[8]"Opening the Books on Open Access," *Science,* 202 (Oct. 24, 2003), p. 554.