

Article published in "Interlending and Document Supply" volume 30 number 4 (2002), pp. 183-189.

IMPROVING ACCESS : IS THERE ANY HOPE?

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Abstract.

World-wide calls for improvements in access to journal literature are being answered by a plethora of projects and services. Consortial purchasing, national licences and "big deals" dominate changes in collection development. Moves to set up affordable easy-to-use electronic document delivery services offer an alternative model based on single-article purchase. More radical barrier-free access models are moving the economic emphasis away from purchasing to input-payments. Are all these projects and services making a difference or will access to journal literature be no better in years to come than it is now? It is arguable that only those initiatives which are developing new models through collaboration between the stakeholders will succeed in making a major break-through in access.

Introduction.

Because you are reading this article, you must have been able to obtain a copy, on paper or electronically - and hopefully legally! Legal issues feature very prominently in any discussion about access to publications nowadays. Librarians have to understand what a licence allows them to do or not to do, and they have to ensure that the legal message is conveyed loud and clear to their readers. Often the message comes across in a negative way - "thou shalt not" - whereas the reader is coming to the publication in a positive frame of mind - "I need this". How often do library users need a publication and find that access is denied! Perhaps the library has not been able to afford a subscription, or an inter-library loan request will take a week to be fulfilled, or the publisher's licence forbids taking a copy home on a floppy disk. Publishers argue that tight controls are necessary to prevent piracy, but whatever the justification, the general climate of restrictiveness comes at a time when demand for access to journal literature is growing world-wide. Access to information is seen to be the key to personal and national economic success. Students need to read in order to gain qualifications and obtain better jobs. Countries need to keep abreast of scientific and medical research if they are to move up the league from poor to wealthy nation. Both individuals and countries find barriers in the road to access: high prices, exchange rate disparities, restrictive licences, and "take-it-or-leave-it" services. World-wide the picture seems to be one of growing demand for journal literature facing barriers to access.

The world does not lack attempts to remedy this situation! Publishers offer big packages of

journals while document delivery projects go to the other extreme of access, micro-access to single articles for those readers who cannot afford the big packages. Libraries band together in consortia to improve access by using their resources more effectively. Authors are encouraged to publish in alternative journals that offer free or affordable access. Funding agencies consider changing their rules to insist upon easy access to publication of research. Institutions use their web-sites to open up access to publications of their staff. Software is developed to make access to electronic publications more user-friendly. The question to be addressed in this article is whether this intense activity is producing any real improvement in access.

Improvements in access : the vision.

In any human activity it is important to have a vision, to be able to look beyond the important but often depressing "nitty-gritty" of life to the potential for good. For access to journal literature the vision has been expressed very eloquently in the words of the Budapest Open Access Initiative (BOAI <http://www.soros.org/openaccess/>) :

"An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge."

To realise this vision, the Budapest Initiative identifies two strategies to be pursued, self-archiving by authors and new alternative journals, but there have already been elements in the BOAI vision which have been present in a variety of initiatives undertaken by the academic, library and publishing communities. The meeting which created the Budapest Initiative arose from a feeling that some progress was being made in improving access to journal literature but only limited progress at a fairly slow pace. The questions to be addressed in this article are whether this perception is valid, and which developments hold out the greatest promise.

Improvements in access through new purchasing models?

The solution proposed by many major publishers to the problem of reduced access is the "Big Deal". This model claims to improve access by increasing the number of journals included under a licence for electronic journals. Value for money is achieved - or so it is claimed - by offering more content for the same or a slightly higher price, and readers have access to more journals. So everybody wins! Or do they? Ken Frazier has made a very

telling critique of this model in an article in "D-Lib Magazine"¹. Frazier's concerns are largely about the long-term effect upon access to journals of concentration in a few commercial hands, and there are also questions to be asked about the immediate situation. The high cost of purchase of very large packages of journals takes money away from the purchase of small packages of journals, titles which may be of greater value to readers than many of the journals in the big package. A journal of considerable academic value may be cancelled to meet the cost of the "Big Deal". This distorts access opportunities to suit size rather than quality. How do librarians explain to their users that they do not have the journal the user *has* heard of because the library has purchased a package including journals the user has *not* heard of?

The "Big Deal" philosophy has spread through library consortia. "Big" is attractive to consortia because consortial leaders need to show results. The more journals a consortium makes available to its members, the more it appears to be successful. Ways of assessing libraries have traditionally put the greatest emphasis upon size of collections, but the availability of the "Big Deal" has led to a re-evaluation of this criterion of success. If several libraries all subscribe to the same package of journals, what distinguishes one from another in respect of quality of service? The cost of negotiation also makes a big package of journals *appear* to be better value when you relate the cost of negotiation to the number of titles accessible. If you only have a limited amount of negotiation time available, you will put your effort into securing a deal with a major publisher. Is access really improved by this approach to purchasing? Looking solely at numbers of journal articles accessed will give that impression, but in reality it is impossible to compare the access per title under a "Big Deal" with the access per title under an individually-selected group of titles. Publisher and library communities are co-operating to produce better statistics of use, but the statistics available at present do not allow us to make meaningful comparisons between purchasing options. So the best judgement that can be given on improvement in access under the "Big Deal" is "not proven".

Improvements in access could be achieved through new purchasing models if publishers were willing to improve their offers to library consortia in ways other than increasing the number of titles in the package. User-friendly licence conditions are important. By and large developments in licensing have been beneficial to users but inter-library loan remains one major benefit to access which is not permitted under most electronic content licences. If access is to improve through better deals, the key factor will be the relationship between content and price. Simply offering more content for the same price does not of itself improve access if the content is not that which is needed by users. Combining an increase in content with greater selectivity may appear a contradiction in terms but it is one of the keys to better access. Some publishers are willing to modify the "Big Deal" type of offer by forming subject collections to match the requirements of some libraries. Even more useful for library users would be for purchasing deals to cover selected titles in a particular subject from a variety of publishers. The way libraries have to purchase journals is by publisher but library users do not think of journal titles in terms of who publishes the title. Users think of the key titles in their subject area, without any regard to the publisher, and librarians need

¹ Kenneth Frazier "The Librarians' Dilemma: Contemplating the Costs of the 'Big Deal'", <http://www.dlib.org/dlib/march01/frazier/03frazier.html>

to be able to bring their purchasing decisions back into line with those user expectations, as they were in the print era. Aggregators may have a role to play in this model if (and at the moment it looks a big "if") aggregators were able to achieve a consistent relationship with publishers on content included in the aggregator's package. The business relationship between publishers and aggregators has led to so much moving of content in and out that librarians - who tend to have a longer-term perspective - are understandably wary.

Improvements in access through library co-operation?

Improving access is - for librarians at least - what library co-operation is all about. For funding authorities the purpose of library co-operation tends to be saving money, although political supporters of libraries do understand the potential role libraries can play in opening up access to many more readers than libraries currently serve. The consortial movement has already opened up access for millions of library users across the globe. The membership of the International Coalition of Library Consortia (ICOLC) listed at <http://www.library.yale.edu/consortia/> illustrates the great leap in library co-operation that has taken place in the last ten years, co-operation that takes place not only within a country but also on an international scale. The sharing of experience of purchasing models has resulted in better licensing terms and lower price rises from which library users benefit in improved access. The huge rise in journal prices has had one positive effect in that it has caused librarians to co-operate more fully in order to meet the challenges the price rises have brought. Library co-operation is no longer seen solely as inter-library loan but as a way of looking at the whole range of library activities from collection management through to reader service.

The success of library consortia has, however, to be kept in perspective. Even though millions of library users across the world have benefited from better access to thousands of journal titles as a result of consortial purchasing, there are many more millions of users who have not been able to share in these benefits and many thousands of journals to which users do not have better access because they are not included in consortial purchasing deals. Even with a favourable consortial deal arranged by eIFL (the Soros Foundation consortium), librarians in countries in social and economic transition say that they cannot afford to purchase perhaps more than one publisher's product, resulting in huge gaps in access for their readers. And even in a comparatively-wealthy country like the UK, the deals negotiated under the National Electronic Site Licence Initiative (NESLI www.nesli.ac.uk) are only taken up by a minority of university libraries under the "opt-in" model adopted in the UK. Wider coverage has been achieved in countries where a true national purchasing model has been adopted, but even the most comprehensive of these national deals only covers a small proportion of the journal titles available in the market-place.

The vision is to improve access for *all* users world-wide to *all* published journal titles, but can this be achieved through even more effective library co-operation? There is a limit to the degree of change that librarians alone can effect in a system of scholarly communication in which they are not the players with the greatest "clout". Authors - or

certainly the institutions to which academic authors belong - have much greater power to improve access than librarians. Library co-operation has, however, had an impact upon the scholarly communication scene in the past few years, through consortia and through international activities, and more can be achieved. One lesson from the past is that co-operative achievements only come through some loss of institutional autonomy but that the benefits to everybody are worth the loss. Thus the national purchase of electronic content funded by top-slicing is proving more effective than purchase funded on an opt-in model, so that the loss to individual institutions to support top-slicing is more than compensated for by the better terms that can be achieved by collaborative purchasing. Good library services depend on innovative managers at the local level, and local initiatives need to be fostered in the context of regional or national collaboration. If there are to be further improvements in access through library co-operation, new local, national and international action by librarians will be required.

Improvements in access through electronic document supply?

Single-article document supply has been perceived to be one of the answers to the problem of increasing access, whether using inter-library loan or publishers' document delivery services. Document delivery from one library to another has a long and distinguished history in the paper environment in providing a valuable service to readers who would find it difficult if not impossible to find the content they require through another route. The public-good element in this service has ensured that the cost has remained relatively-low and - although they will not admit it publicly - publishers have not suffered from this service because the supply has largely been of low-use material which a requesting library would not purchase. Publishers' own document delivery services have been set up to fulfil a very different need, either to meet the needs of commercial users (where the public-good element in ILL would not apply) or for large-scale use of document delivery as an alternative to subscriptions. The same distinction can be made in electronic supply, *provided* - and therein lies the "rub" - publishers can be satisfied that electronic supply from one library to another will not result in loss of revenue.

The risk for publishers in electronic document delivery is very clear and must be recognised by the library community. Piracy does take place and electronic piracy is much easier than piracy from paper copies. At times publishers do not help librarians to support them on this issue by including statistics on legitimate fair-use copying in with statistics on piracy, but the reality of the piracy problem cannot be denied. Whatever electronic document delivery arrangements are set up between libraries must be secure enough to reduce the risk of piracy, even if the risk cannot be eliminated completely. The participants in the LAMDA² service have been right to ensure that the scanned copy from a paper original has been deleted once a single paper copy has been printed by the receiving library. The other risk for publishers is that libraries will switch from subscriptions to single-article supply on a large-scale, undermining the present economic model. This fear is probably one of the reasons for the high price publishers currently charge for document

² LAMDA <http://lamdaweb.mcc.ac.uk/intro.htm> uses the RLG Ariel software to send and receive copies of journal articles held in the participating libraries.

delivery. Price is being used as a deterrent against wholesale switch from subscriptions to document delivery. The EASY (Electronic Article Supply) Project in the UK has attempted to find a middle way between the public-good and commercial interests in supplying from a publisher-authorized secure site at a price no more than inter-library loan. Unfortunately, while this concept received wide acclaim, use of the EASY pilot service by participating libraries was low and - at least in the UK - there is a reluctance to commit to new document delivery services.

This reluctance may derive from the cost and risk in changing systems, but there may also be a deeper feeling that document delivery has only a minor role - and possibly a declining role - in library services. The total number of inter-library loan transactions between UK academic libraries has begun to decline³, probably as a result of more titles being available through "big deals" for the purchase of journals. All the emphasis in libraries is still upon collection-building rather than access. The point at which the number of ILL transactions will level off is difficult to predict, but there is no sign of the massive growth that would be necessary for single-article document delivery either from publishers or from libraries to become the route to a mammoth growth in access. Document delivery is a service at the margins of current access to journal literature, and if it is to grow out of that marginal status, there has to be a willingness by the publishing community to make radical changes to the economic model and a willingness by the library community to abandon collection-building in favour of single-article access. Document delivery has also suffered from a reputation as a slow service, contrasted with the immediate service now possible through electronic holdings, but there is now no technical reason why document supply of single-articles should not be as rapid from a publisher or an intermediary as from the user's own library.

The biggest hope for a mammoth growth in access to single articles must be through linking. Linking makes possible a view of single-article document supply, not as a slow way of providing low-use content but as a fast way of providing core articles the user really needs. One development which could boost single-article supply is CrossRef⁴, if the links CrossRef provides lead users to articles they would not otherwise have known about and if users or their libraries are prepared to pay for access to these articles, but much will depend on the price charged by publishers. Developments like CrossRef provide a challenge and an opportunity for the library community. The challenge is to be willing to divert substantial funds away from subscriptions into document supply, and the opportunity is to achieve a closer match between user needs and library expenditure. The linking technology enables a user to access the articles they really need instead of the articles the publisher or the librarian think they need, but radical changes will be needed in the structure within which librarians and publishers work.

Improvements in access through new payment models?

³ SCONUL statistics

⁴ CrossRef <http://www.crossref.org/> is a reference-linking service set up by publishers to help users to reach the full-text of a cited article, enabling users to pay for single-article supply if the user's library does not hold a subscription to the journal.

The traditional way in which a publisher has recovered publication costs and made a commercial profit has been through subscriptions, that is through some personal subscriptions but increasingly through library subscriptions. The subscription model has a built-in restriction upon access - i.e. no subscription, no access - and as libraries cancel subscriptions, access opportunities for potential users decline. The question being explored in a number of projects is whether a model for funding publication costs which does not rely upon subscription-income can be viable. Useful work is being done to test the viability of an author-payment model which removes the need for a subscription and therefore allows open access for users. This model was adopted by one of the journals published under the auspices of SPARC, the Scholarly Publishing and Academic Resources Coalition. SPARC worked with Institute of Physics Publishing and the German Physical Society to set up the "New Journal of Physics" www.njp.org and there is no sign that authors have been deterred from submitting manuscripts by the request for a payment. BioMed Central www.BioMedCentral.com are using this model on a larger scale, to cover the cost of publishing a suite of journals, and again there is no evidence as yet of author-resistance.

These and other examples of "input-based" funding of publication are in subject areas where research grant funding may be available to avoid personal payment by authors, and BioMed Central have recognised this feature explicitly in setting up an institutional-payment scheme whereby an institution pays the author-payment charges for its authors. The rationale at the level of principle is that publication is an integral part of research, and therefore the costs of publication should be met by agencies funding research rather than by libraries or individuals purchasing subscriptions to journals. This model has yet to be tested in subject-areas where research is poorly-funded, and payment by individual authors has been specifically rejected by the sponsors of ELSSS, "The Electronic Society for Social Scientists" <http://www.elsss.org.uk/>. New publication payment models have the potential to improve access dramatically, if they prove to be economically-viable in the long-term, but as of now the conclusion has to be "not proven".

The key to improvement in access through changes to the publishing economic model is competition. The present subscription model is facing difficulty because there is no competition at the title level. If a user needs access to a particular title, the library has no choice but to buy that title at whatever price the publisher demands. This puts the publishers of key titles in the economic driving-seat and reduces access to other titles that the library cannot afford to purchase. An input-based model could be vulnerable to a parallel danger if high author-payment charges deterred authors from submitting manuscripts and reduced access by reducing the number of journal articles published. Whether the cost of publishing is met at the input-end of the cycle or continues to be met through subscriptions, a healthy competitive environment would allow users access to alternative titles of high quality if the cost of one title rose too high. It is this approach that is the particular contribution of SPARC, the Scholarly Publishing and Academic Resources Coalition (<http://www.arl.org/sparc/>) to the drive for better access to journal literature. SPARC aims to foster competition at the title-level, not in conflict with the publishing industry but in collaboration. There is already evidence that competition does

lower prices and therefore will improve access.

Improvements in access through new routes to content?

An alternative route for readers to access academic content could be through web-sites managed by authors, institutions or subject communities. There is no doubt that access to research in high-energy physics has been transformed by the Los Alamos Archive [www](http://www.lanl.gov) and this success has led other subject communities to consider following the example of the high-energy physics community. The biomedical community is perhaps closest to success in using this model, but they have not been as successful as the physics community in creating a good relationship between the web publication and the traditional journal. PubMed Central <http://www.pubmedcentral.nih.gov/> attempted to make all journal articles submitted to it available without charge but the sponsors were forced to modify this policy for commercially-published articles. E-BioSci <http://www.e-biosci.org/> is an EC-funded project which is concentrating upon helping the user to navigate from metadata to full-text. It may be that this more cautious approach will bear fruit in the long-run in easier access to full-text. Given the strong loyalty of academics to their subject community, it is not impossible that new subject web-sites will develop which allow unrestricted access to users.

Even more promising is the development in the role of institutional web-sites as access-points for academic content. One important route to greater competition in journal literature is through the deposit by authors of the text of articles or research reports on their personal or institutional web-sites. This is an easy step for authors to make, particularly with the support of their employing institution. From the institutional perspective, there is a cost in maintaining a web-site of “home-grown” content, but the web-site forms a good advertisement for the institution’s research and teaching programmes. From the user’s point of view, access to content through an institutional web-site may not give all the benefits such as links to related material that access to a published journal will give, but it will meet the need for basic information that most users have. In this scenario, the challenge for the publisher is to maintain revenue by selling subscriptions on the basis of added value, which should be possible, although not at the high profit-levels that controlling exclusive access has enabled publishers to make. If there is no disadvantage to the author, and still a viable future for publishers, there is a major advantage to the reader from the use of academic content on web-sites, through barrier-free access.

Conclusion.

In all of the developments in scholarly communication described in this article, the needs of the user of academic publications are gradually being recognised. Publishers have long paid more attention to the needs of their authors than the needs of users of their journals. This emphasis is being adjusted through user-friendly developments like CrossRef, but publishers are finding it difficult to move to a user’s ideal of open access. Some publishers recognise the need for open access and are willing to experiment with new economic

models, and they need to be supported. Librarians have long paid lip-service to the needs of users but their actions often come across as suiting administrative convenience. The user's ideal of open access provides as great a challenge to the library community as it does to publishers. There is a good role for librarians in an open-access environment but it will require fundamental changes in the structure of libraries, reducing the collecting role and increasing the navigational role. Authors have long shown more interest in the prestige of the publication than in the ability of users to access that publication, but authors are coming to recognise that their actions - such as the exclusive transfer of copyright - are damaging access. Publication is a long road from author to reader, and if access to journal literature is to improve, authors have to ensure that barriers are not erected at their end of the road which hinder access for users at the other end of the road.

The open-access vision in the Budapest Initiative *is* achievable! It *may* be achieved through new purchasing models *or* through improvements in library co-operation. Because of the scale of user-need world-wide, it will only be achieved through electronic document supply if there is a radical shift in the way publishers and librarians think about document delivery. Given that open-access is a new concept in scholarly communication, it is arguable that only those initiatives which are developing new models will succeed in making a major break-through in access. Barrier-free access can only be achieved through a break with the current economic models or with the current routes to content. Such initiatives are not the responsibility of only one community. Librarians, publishers and authors are all involved in movements like SPARC or the Budapest Open Access Initiative. If there is to be much better access to journal literature in the future, realising the BOAI vision, it will come through collaboration between all the participants in such movements. Librarians, publishers and authors need not lose out as open-access is achieved, but the big winners will be all those users across the world who are hungry for academic information.