

# **INSTITUTIONAL PERSPECTIVES ON SCHOLARLY PUBLISHING: THE LIBRARY'S PERSPECTIVE**

Colin Steele

## **Biography**

Colin Steele is Emeritus Fellow of the Australian National University. He was University Librarian 1980 - 2002 and Director Scholarly Information Strategies 2002-2003. He is the author/editor of seven books and over 300 articles and reviews, including *Major Libraries of the World* (1976). He has been an invited keynote speaker at conferences in a number of countries including USA, UK, China and South Africa.

## **Abstract**

Libraries have traditionally been responsible for the collection and storage of scholarly information but the twenty-first century will see changes in that role as a digital transformation in knowledge production occurs. This will require new models of collaborative activity in universities in order to provide appropriate frameworks for access to, and the storage of, scholarly information. Libraries will also be increasingly involved in the production and distribution of campus scholarly information through institutional repository and open access initiatives.

## **Historical backdrop**

Libraries have traditionally been responsible for the collection and storage of publications. The library's principal role was to acquire scholarly material particularly in the form of books, serials and manuscripts. Even as late as the early 1990s it could be argued that this was still the prime focus of a university library, although the diversity of formats had clearly increased. If Thomas James, the first Librarian of the refounded Bodleian Library in 1602, had been transported from the early seventeenth century to a typical university library in the middle of the twentieth century it would not have been an unfamiliar milieu in terms of the library's core activities.

## **Digital transformations?**

The twenty-first century, however, will most likely see a transformation of the library's role, not only in the access and storage of scholarly material but also in the creation and distribution of scholarly publishing.

Libraries will need, as Lougee has commented in a report for the US Council of Library and Information Resources, to move from being passive to active players in the scholarly communication chain – to become “diffuse agents”. (Lougee, 2002). Since Lougee prepared her report in 2002 the framework for such changes has deepened. For instance, the institutional repository movement has taken hold and the potential for libraries to take a more proactive role in the production, storage and dissemination of scholarly knowledge has become apparent. The definition of scholarly material has also widened to encompass significant amounts of non-textual material ranging from scientific data to statistics to email archives/websites.

Hey, Director of the UK’s e-Science Core Program, has termed this a “data deluge”. (Hey and Trefethen, 2003) In documenting the requisite infrastructures required for e-Science, however, Hey believes that librarians “are in danger of missing the boat”, ie that they should be more involved with the curation of universities’ digitised intellectual property. (Hey, 2004) The wider definition of what is termed scholarly publishing is reflected in two publications issued in 2004 by the American National Science Foundation and National Academy of Sciences respectively.

The NSF report Knowledge Lost in Information, outlines the new “ubiquitous knowledge environment”. Broader access to information resources, particularly via eScience and eLearning, will result in significant “accelerators” in the creation of scholarly knowledge. (National Science Foundation, 2004) This comprehensive and forward looking report acknowledges that our current ability to generate and collect data exceeds our ability to organise, manage and effectively use it! This will be a crucial issue for all responsible for the institutional management of information entering and leaving universities in the twenty-first century.

The National Academy of Sciences colloquium on “Mapping Knowledge Domains” indicates that profound changes are taking place in the interdisciplinary areas of science and that the issues of charting, mining, analysing, sorting, navigating and displaying knowledge needs the interaction of several professions and new techniques of analysis retrieval and visualisation. (Shiffrin and Borner, 2004). The role of the library in these new areas of scholarly “publishing” is as yet still embryonic in many universities. It is clear however that here also new synergies will be required in institutional frameworks involving those responsible for eResearch, eLearning and administrative and information structures.

## **Scientific, Technical and Medical (STM) publishing and its impact on university libraries**

The second half of the twentieth century saw an explosion of STM publishing with consequent impact on libraries and the research process. The Reed Elsevier empire stands as the prime symbol of the rise of the aggregated multinational publishing houses. A JP Morgan report has indicated that for Reed Elsevier, scientific and medical publishing can be encapsulated by the phrase, “big is beautiful”. (Morgan, 2003) Elsevier’s gross profit margin for 2003 was 34% (net 17%) with an annual price inflation rate of 6-7.5%.

The experience of Elsevier has been paralleled by such firms as Springer, Kluwer, Thomson and Taylor and Francis and is not restricted to the science publishing field. Munroe has documented the stories of some of these publishing mergers and acquisitions that still continue apace. (Munroe, 2003) The integration of Springer and Kluwer in 2003 was motivated, according to their purchaser, Cinven and Candover, by a desire for future financial profit. Returns to shareholders are seen as far more important than an equitable distribution of scholarly knowledge. CILIP (the UK Chartered Institute of Library and Information Professionals) has estimated that between 1998 and 2003, the average price of an academic journal rose by 58%, while the UK retail price index rose by 11% in the same period.

It was believed at one stage that electronic access would significantly reduce the costs of STM journals. STM publishers have argued that the investment in producing electronic infrastructure platforms and related portals has required significant investment. This is undoubtedly true but it could be argued that the costs are still a relative small percentage of the gross profits recorded by the larger multinationals on an annual basis. The cost of digitising backsets is however understood.

An ALPSP report on Scholarly Publishing Practice provides a comprehensive survey of 275 journal publishers’ policy and practices in relation to on-line publishing. (Cox, 2003) The authors conclude that many publishers are still grappling with the implications of migrating from a print to an online publishing environment but that 75% of journals surveyed are now available online and that while online pricing is still tied to the print price this will be eroded in the future.

In addition to the quite significant double-digit price rises of the 1990s by the major commercial multinational publishers, the appearance of the so-called “Big Deal”, ie aggregated packages of a publishers, or even of combined publishers, outputs has led to the STM access vote in libraries taking larger

and larger proportions of a library's budget. This has usually been at the cost of the social sciences and humanities in general, and the monograph in particular, as will be noted briefly later in this chapter.

For some universities the advantages of the Big Deal are seen as increasing content per unit of currency spent, maximising the delivery of content for all on campus, particularly interdisciplinary studies, and providing a wider spectrum of material. Critics have argued that these deals lock universities into forward commitments over several years, accentuating the monopolisation of acquisition budgets and the consequent squeezing out of the offerings of independent serial publishers, such as learned societies.

Keller in his presentation at the Fiesole 2004 Collection Retreat Conference, has commented on the "distraction" that has resulted from the "preoccupation with the journal literature of STM, 90% of which has a half life of under 12 months". (Keller, 2004) He urges librarians to turn to "an article economy and just-in-time mentality" rather than Big Deals but this, of course, is contingent on the acceptance of this approach by academic user communities and the economics of aggregated serial offerings in the future.

The academic user is the key to significant change in the scholarly publishing arena. Academic authors are largely isolated from the costs of the acquisition of research knowledge which they themselves have created. The UK ALPSP Report, Authors and Electronic Publishing, found that fewer than 1% of academics considered direct financial reward to be their primary publishing objective (ALPSP, 2002.) What attracts authors is the ability to communicate with their peer group (33%) and career advancement (22%) which comes primarily from publication in a highly regarded and, even more importantly, highly cited journals. This latter point is somewhat worrying as the Institute of Scientific Information (ISI) citation rankings are not infallible and need to be taken into account with other factors in terms of research assessment.

Mabe, the Director of Academic Relations for Elsevier, indicated at the Fiesole Collection Development Retreat in Oxford in July 2003 that the prime focus for Elsevier authors was in the following order: reputation; refereeing and quality; impact factor; production speed; role of editor and editorial board; physical quality; and publishing services. (Mabe, 2003) In a number of instances authors did not even know the publisher of the journal they were submitting to, rather it was the title and branding of the journal that counted.

The UK House of Commons Science and Technology Committee Inquiry into Scientific Publications has reflected a diversity of views as to the publishing framework of scholarly publishing. (UK House of Commons, 2004) Cox has stated in his evidence to this Inquiry that “the market is dysfunctional as price signals do not reach the real customer”, ie the academic reader. (Cox, 2004) The user community behaves quite differently depending on their mode of use of material, ie as searcher, reader or author. Depending on which activity they are engaging, they have different perceptions of value and incentive. There is a marked reluctance to pay for material except when immediate access is required, eg for commercial/research purposes. The fact that knowledge costs have increased significantly for their university libraries or research centre is often not a matter of concern to them.

A major research study, undertaken for the Australian Government Department of Education, Science and Training (DEST) revealed that while many researchers operate within Mode 2 science frameworks, eg interdisciplinary, collaborative and team focused, their publication habits are essentially twentieth century Mode 1. (Houghton, Steele and Henty, 2003) In that latter context the publication is essentially a mark of reputation, recognition and branding allied to future citations, rather than a vehicle for the scholarly communication of that research.

Many researchers have often distributed the contents of that research through electronic colleges or personal web pages well before the formal publication process. The formal process of scholarly publication and its relationship with the establishment of indicators for research excellence will not change however, until reward systems change. Authors will not change their practice unless they believe it is in their interest to change. We therefore need to establish a coherent structure of incentives within the new modes of knowledge production.

Within the old and the new frameworks there is a need for continual monitoring of the changing information frameworks of user populations. It is salutary, however, to note that while billions of dollars are spent around the world on acquiring scholarly material that an extremely small proportion of those budgets are spent on analysing the effective use of the material and/or the wider scholarly communication process in the digital era.

One such example of shifts in useage patterns, arises from the statistics derived from the so-called ‘Big Deal’ In these analyses, which range from America to Australia, it is salutary to see that academic useage patterns often

behaved somewhat erratically when viewed from the perspective of the library. At the Australian National University, Elsevier journals in specific subject disciplines, which had been cancelled by the academics themselves, as being of little value, were in fact relatively highly accessed when the Big Deal made all Elsevier journals available electronically. Some of this “substituted use” could be attributed to wider electronic access by wider subject groupings, eg the social sciences and humanities, but other factors still remain unexplained.

While there have clearly been significant changes in electronic access delivery mechanisms, the core element of scientific publishing, remains the article in roughly the same form as it appeared in the print version. Many Commonwealth countries, because of the decline of their currencies, moved to electronic only access and cancelled print in the 1990s. It is interesting that the decline of the US dollar in 2003 has led to a renewed interest in scholarly communication frameworks in America, which perhaps offers hope for more long term structured change since 65% of the STM market operates in that country. Reaction from the user communities to electronic access so far has been surprisingly favourable and has led to the increased use of scholarly material either at the desktop or through information commons.

### **Libraries-museums or malls?**

In this electronic environment there has been a decided bifurcation in access patterns to physical library buildings. Academics/research users, especially in the sciences, are increasingly accessing material at their desktops and are rarely entering the library except for non digitised backsets of periodicals and other paper material. The latter material assumes the almost archival type use associated with manuscript collections. To the desktop users, the physical library buildings take on the ethos of a museum, while to students, it has become more of a shopping mall. Libraries have become electronic commons, social places building upon the pioneering Canadian Commons developments of the 1990s, such as at Calgary and Toronto. The pressures on students from the need to meet increasing student fees has led to the “one-stop shop” syndrome. The library has become an educational and social forum where terminal access is often just as important as reading physical texts.

The ability for Commons facilities to remain open long after main libraries have closed, allied with coffee shops, make them more resemble the big bookstore chains than traditional libraries. In several university libraries bookshops have actually become part of the library, such as at the University of Melbourne. The future will undoubtedly see a convergence of electronic

publishing between libraries and bookstores particularly through virtual learning environments and the requirement to print off electronic material through print on demand facilities (POD's). Evidence from those publishers who put material electronically available on the web for free is that they tend to sell more copies where a commercial print version can be made available. Print on demand facilities will become a boom area, not just for research monographs, but also in the area of individual course pack delivery.

### **Institutional repositories**

In this process of change, there is a need to readdress the question of what is the role of librarians in such environments. Libraries and their part in the creation and development of institutional repositories has been a significant and also hotly debated topic in 2003 and 2004. Digital publishing technologies, linked to global networking and international interoperability protocols and metadata standards, allow for an appropriately branded institutional output to serve as an indication of a university's quality and also as an effective scholarly communication tool.

Crow has stated in his seminal SPARC paper:

*“Institutional repositories - digital libraries capturing and preserving the intellectual output of a university community - provide a compelling response to two strategic issues facing academic institutions. Such repositories: Serve as tangible indicators of a university's quality and demonstrate the societal relevance of its research activities, thus increasing the university's visibility, status, and public value; ... and provide a critical component in the changing structure of scholarly communication—a structure that expands access to research for the academic communities that create it.*

*Institutional repositories, by capturing, preserving, and disseminating a university's collective intellectual capital, serve as meaningful indicators of an institution's academic quality. Under the traditional system of scholarly communication, much of the intellectual output and value of an institution's intellectual property is diffused through thousands of scholarly journals. An institutional repository concentrates the intellectual product created by a university's researcher, making it easier to demonstrate its social and financial value....” (Crow, 2002, 2,4)*

Since Crow's article, many repositories have been established globally. Ware has noted however the population of repositories has been affected by cultural issues affecting scholarly take-up, eg a lack of self archiving and awareness and perceived intellectual property difficulties. (Ware, 2004) Ware

has cited institutional repositories as part of the digital infrastructure of the modern university, offering a set of services for the management and dissemination of digital materials created by that institution.

E-Print Repositories and the spin-off E-Presses have taken as their philosophy the requirement to “publicise” through a safe and trusted repository the intellectual output of a particular institution. Repositories are particularly useful for the distribution of a university’s “grey” and “guild” literature, produced by a university, especially in the social sciences and humanities. The experience of the Australian National University E-Prints Repository, which at the time of writing had one of the more significant global institutional holdings, illustrates that increasing the volume of material in the repository increases the accessibility.

The fact that an ANU staff member has been dedicated to harvesting material, both from individual websites and from subject archives, has helped the population of the E-Print archive. In this process the library becomes an agent for the distribution of scholarly publishing in addition to being a print “receptacle” and electronic facilitator in the acquisition of scholarly material.

The crucial issue is the population of repositories. Most technical problems have been overcome and the “tipping points” relate to cultural and political issues. One strategy is the linking of the library, as in the University of Amsterdam with the Research Office of the university. Harnad believes all university research output should be continuously accessible. (Harnad, 2003) In this model every researcher should have a standardised electronic CV, continuously updated with all the RAE performance indicators listed and every journal paper linked to its full-text in that university’s online eprint archive.

The movement to deposit material in institutional repositories often needs a one-to-one dialogue or dedicated departmental meetings to explain to researchers that depositing in their own repositories will not impact upon their output in traditional journals, apart from the fact that such deposits often increase global access to their publications. The process of populating repositories will no doubt be incremental and modular and will require institutional backing at local and national levels.

Within the institutional settings, Lynch sees the development of repositories *“as a new strategy that allows universities to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication, both moving beyond their historic relatively passive role of supporting established publishers in modernizing scholarly publishing*

*through the licensing of digital content, and also scaling up beyond ad-hoc alliances, partnerships, and support arrangements with a few select faculty pioneers exploring more transformative new uses of the digital medium.”*  
(Lynch, 2003)

### **Holistic frameworks: copyright and peer review**

It is clear that the scholarly communication environment is in a state of flux. We need to look at the whole scholarly communication process in a wider context, from the act of creation of knowledge to distribution in a holistic sense. The future patterns of scholarly communication lie in the hands of researchers in their capacity as creators, reviewers, editors and consumers of scholarly information. Scholars are unlikely to change publishing habits dramatically unless substantive arguments are promoted nationally or locally that will improve the exchange of knowledge with the accompanying accreditation support system.

Copyright ignorance or apathy is one of the main structural issues that impact upon repository deposit and thus scholarly communication change. Many authors, as identified in the UK RoMEO studies, revealed a lack of knowledge as to their rights within publication frameworks, eg to allow for material to be deposited in an institutional repository. There are a number of models that are now available such as the Zwolle Principles and the ALPSP Model Agreement, which clearly provide exemplars for a better understanding of rights in a scholarly publishing environment

Drahos and Braithwaite have argued the major importance of intellectual property rights in the modern knowledge economy. (Drahos and Braithwaite, 2003) Drahos and Braithwaite suggest that governments rarely take a cost benefit approach to intellectual property and standards which today are largely the product of the global strategies of a relatively small number of companies and business organisations that have realised the value of intellectual property sooner than anyone else.

As a counterpoint to this trend, Lessig has argued the creation of a “Creative Commons” (<http://creativecommons.org/>) as a common intellectual space. Lessig has defined four categories for licensing or authorising the use of creative and intellectual work: attribution (author shares work, but requires right of attribution); non-commercial (author shares work but only for non-commercial use); derivative (author allows distribution but disallows derivative work); and Copyleft (share and share alike). This process allows a diversity of permissions in contrast to the present rigid framework of many commercial publishers. The future is likely to be evolutionary rather than

revolutionary but changes in attitudes and scholarly communication models will ensure that intellectual feudalism will eventually be replaced by the global creative commons.

Lessig's Science Commons announced in 2004 extends the boundaries into databases and patents, while the extension of the general program into other countries, within their own copyright frameworks is proving successful, eg "the Australian Creative Commons" launched in March 2004. It is interesting to reflect here that the initiative for the Australian Creative Commons came partly from a former librarian who is now the Deputy Vice Chancellor of Queensland University of Technology. Librarians, or former librarians, have a significant role to play in the scholarly processes of publication as they have a wide vantage point, although many often do not have the necessary political infrastructure to ensure change occurs.

One credo is to think globally and act locally. International collaborations provide resources outside of an individual institution and can be applied either generically or within specific disciplines, the latter particularly important when one comes to the changing requirements of different disciplines. What is now required is a multidisciplinary approach, within overarching incentive frameworks, so that the research knowledge of the twenty-first century, currently trapped in twentieth century models, can be liberated for the citizens of the twenty-first century.

Another issue is the question of peer review. Peer review is an essential element in the context of Research Excellence Assessment (RAE) processes. Peer review is often undertaken by the academic community as a result of what might be called "misguided collegiality", ie "if I review an article in my subject area, someone else will do it for me in return". The system however is coming under pressure as academics, increasingly under pressure themselves, have less time for qualitative refereeing and the reward system for peer review is often minimal or non-existent. Nonetheless, peer review is deemed by many as essential within the increasing open access journals.

### **Open Access initiatives**

A major phenomenon of the last two years is the "Open Access" movement. Basically this focuses around the deposit of material in an open archive repository for example of a subject or institutional variety and the open access journal. It is not the purpose of this chapter to examine the various definitions of each initiative but rather to see them as symptoms of change within the

scholarly publishing arena and to capitalise on the digital frameworks that currently exist or are going to be developed. The jury is still out on OA outcomes at the present time, but for Elsevier OA is probably still only a small cloud in the blue skies of profits!

The debate in the magazine *Nature* in the first half of 2004 provides a variety of views from scientists, librarians, publishers and other stake holders as to the various models, both traditional and emerging, of scholarly publishing. (Nature, 2004) One of the problems of the debates is that they often operate in close circles, just as in the wider environment of the Internet, gardeners talk to gardeners and science fiction fans talk to science fiction fans on email lists or blogs. Many of the discussions reinforce opinions by “closed” gatherings or inflammatory confrontations.

This is particularly unhelpful in the long term when many of the assertions in regard to scholarly publishing are not backed up by significant research data. Open access advocates talk to each other, multinational publishers talk to their authors and report to their shareholders and academics rarely talk to anyone outside of their discipline! This has been termed the “sound of one hand clapping” (Steele, 2004). The ALPSP March 2004 seminar *Scholarship-Friendly Publishing*, provides a balanced view from the different constituent elements of the current scholarly publishing environment. (Paulus, 2004) Open access, undoubtedly, can be seen as both an opportunity or a threat to scholarly and academic publishers. (Lamb, 2004)

One of the key issues in this context will be to translate the governmental and societal statements of recent times into authorial change at the desktop. Libraries should play an active part in this process. “The Berlin Declaration” of October 2003 signed by all of Germany's principal scientific and scholarly institutions is only one example of such debate. It argues that the Internet has fundamentally changed the practical and economic realities of distributing scholarly knowledge and cultural heritage with the guarantee of worldwide access. The Berlin signatories believe that in order to realize the vision of a global and accessible representation of knowledge a number of initiatives must be put in place. These include researchers and grant recipients being encouraged to publish their work according to the principles of open access; means and ways being developed to evaluate open access contributions in electronic journals and digital repositories within the standards of quality assurance including peer review. Suber has provided a cogent summary of the framework for “creating an intellectual commons through open access”. (Suber, 2004)

Further evidence of the dialogue at the highest policy level came from the high level OECD meeting of thirty-four countries held in Paris in late January 2004. The OECD Committee for Scientific and Technological Policy at Ministerial Level agreed that OECD countries will work towards “the establishment of access regimes for digital research data from public funding” based on a set of objectives and principals including openness but also “protection of intellectual property”. While this conference focused on scientific data it is no less pertinent to the universality of access of research results published in journals.

There is clearly a framework at the highest governmental levels for action. The difficulties are going to be how these general sentiments, which might be simplified as “public funding, public knowledge and public access”, are going to be implemented when the vast majority of the academic community is still locked into historical scholarly reward systems which have more to do with history than the twenty-first century. The JISC Open Access survey published in 2004, noted that while almost two thirds of respondents were aware of open access concepts, only 25% were made aware of this by their institutions. Academics indicated that if publishing work in an open access outlet was a condition of a research grant (and presumably also mandatory university policy) they would comply. (Key Perspectives, 2004) If one changes the parameters and incentives, then practices may well change.

At the present time libraries pay to acquire scholarly knowledge on behalf of their institutions. With new open access models the role of the library could conceivably change. In terms of paying for open access journal contributions, the concept of the “library as fiscal aggregator” has emerged. This involves an examination of the exchange of the library purchasing vote, or part thereof, into a model whereby the library pays to make available the intellectual output of the researchers of that institution. Cost models clearly need to be undertaken before major institutional shifts of resources can be contemplated.

The case for the “public good” of institutional repositories and E-Presses is a less difficult case to argue. Promoting the research output of the university through unified and federated repositories for the public good is no different to the input acquisition model?

### **The monograph and electronic scholarly publishing frameworks**

With the development of institutional repositories and the branded output of universities in a digital environment, it is now perhaps appropriate, to stand back and reconceptualise the creation and distribution of scholarly monographs. Here two trends are beginning to intersect, namely the ‘decline’

in university presses and the 'rise' of university libraries/information centres as electronic publishers.

The debate on serials in the sciences, has overshadowed to date the crisis in monographic publishing. Global trends in academic book publishing which indicate inter alia that a number of university publishers are facing a financial crisis, outlets for research monographs are drying up, print runs are being reduced and monograph costs are increasing. (Steele, 2003) As serial costs take ever increasing shares of library budgets, research libraries spend less and less on monograph acquisitions.

The American Research Libraries (ARL) organisation has indicated that while world production of scholarly communication is estimated to have doubled since the mid 1980s, the average research library's monographic acquisitions have declined by 26% (Association of Research Libraries, 2003)). This trend is particularly damaging for scholarship in the humanities and some of the social sciences/area studies. The announcement by ARL in 2004 of a partnership with the American Association of University Presses to collaborate on the visibility of presses on campus provides a foreshadowing of greater integration between libraries and presses in the future.

The dimension of E-Presses and scholarly repositories is another development which has had and will have significant impact on university libraries and scholarly publishing. The future of the monograph in the electronic environment has engaged significant commentary in recent years, both from the perspective of the closure of traditional presses and the development of new E-Presses/ repositories. A pioneer in this process is California eScholarship whose material includes documents from preprints to electronic books. (Tennant, 2003) This entails a model of graduated access to scholarship in which one can search in a federated manner across the repository to diverse material, such as peer reviewed and non-peer reviewed, grey literature, digital theses, free electronic monographs and commercial books.

Another electronic publishing model but one which deliberately attempts to incorporate the traditional scholarly accreditation process is required is the Columbia University Gutenberg-e Project, a joint project with the American Historical Association. (<http://www.gutenberg-e.org>). The Columbia initiative also includes within it the potential to transform the process of publication particularly in the context of collaborative teams and research output. (Wittenberg 2003). In this model, authors and editors share an electronic space in terms of creation. Wittenberg sees editors as becoming part of the front line, seeing their authors "as active collaborators in creating new models rather than as lone toilers in specialized areas".

In recent E-Press developments libraries have played a significant role, for example, the Australian National University Press is located in the ANU library and electronic editors work closely with relevant library staff. In this way E-Presses can build upon existing resources, such as the library and the IT divisions of a university, so that 'top-up' funding to establish repositories/E-Presses for educational and research output is relatively small. This funding is not a simple exchange of funds from one bucket to another but the adoption of different philosophies.

An underlying motivation of the funding of the ANU E-Press was to provide a vehicle for the distribution of ANU research on a global basis, particularly for those areas in the Humanities and Social Sciences who have suffered by the decline in university press production of scholarly monographs. This is particularly relevant in the case of young academics and research fellows who are trying get their first monograph published – still an essential step in gaining tenure. The Monash University E-Press has declared within its mission statement that its prime motivations include promotion of Monash University's research, teaching and intellectual capital and advanced scholarly communication by reducing costs and barriers to access.

It will be important to monitor the mutation of books in the electronic environment, particularly with the replication of electronic serial patterns. The Oxford Scholarship Online electronic monograph packages are available through consortia deals, chapters have individual abstracts and metadata provided by the author and chapters can be downloaded into course packs. If this becomes a popular model, authors may subconsciously move from a continuous narrative stream and instead write in chapter "bits". We also need to be aware of the possible plight of the independent scholar if libraries end up with electronic versions only. Reading monographs through daily walk-in privileges will not be easy. Are we creating electronic ghettos on campuses with toll gates policed by institutional passwords? The deconstruction of the electronic monograph will provide new challenges which are yet to be fully explored or debated.

## **Conclusion**

The immediate future of scholarly publishing is likely to be a hybrid one with a number of models emerging and being tested in the evolving electronic distribution chains. It is unlikely that access to and distribution of top quality scientific information will change in the short term but the potential in the "secondary ranks", and outside of STM, could be quite significant. In that

context, the creation, distribution and access to scholarly publishing is perhaps in a more fluid situation that has existed for many centuries.

We should not take for granted that the knowledge information frameworks will remain the same as in the past. Today's practices in scholarly publishing may only be the answers to yesterday's problems. Henry has noted that a panel debate on the future of academic publishing at the European Conference on Digital Libraries in Trondheim in 2003 was essentially a twentieth century one about electronic publishing rather than a twenty-first century debate. (Henry, 2003)

It may be also that we are unaware of new communication paradigms emerging, irrespective of the electronic habits of the upcoming "google generation". For example, what is going to be the continuing impact of high speed electronic social networks and increasing numbers of "blogs"/emails on scholarly communication patterns? Can accepted norms, such as peer review, be encompassed in such "unwashed open access" communication forms? The immediacy of access and distribution will continue apace – it is just how the reward recognition process of scholarly publishing is incorporated into the new frameworks of scholarly communication.

These are some of the challenges being faced by libraries and universities in the first decade of the twenty-first century. Pre-Gutenberg libraries were scriptoriums in which the monks were responsible for the creation, copying and distribution of human knowledge, albeit in closed environments. It may well be that the digital environment sees a return to a library distribution role of scholarly knowledge and libraries will become the digitoriums of the twenty-first century.

## **Bibliography**

ALPSP. Association of Learned and Professional Society Publishers. (2002) *Authors in electronic publishing*. Worthing, ALPSP.

Cox, J. and L. (2003) Scholarly publishing practice, ALPSP, available at [www.johncoxassociates.com](http://www.johncoxassociates.com)

Cox, J. (2004) Submission to the UK House of Commons Inquiry on Scientific and Technical Publishing, available at [http://www.biomedcentral.com/openaccess/inquiry/john\\_cox\\_associates.pdf](http://www.biomedcentral.com/openaccess/inquiry/john_cox_associates.pdf)

- Crow, R. (2002) The case for institutional repositories: a SPARC position paper, available at <http://www.arl.org/sparc/IR/ir.html>
- Drahos, P. and Braithwaite, J. (2003) *Information feudalism: who owns the knowledge economy?* London, Earthscan.
- Harnad S. (2003) Enhance UK research impact and assessment by making the RAE webmetric, *Times Higher Education Supplement*. 6 June, available at <http://www.ecs.soton.ac.uk/~harnad/Temp/thes.html>
- Henry, G. (2003) On-line publishing in the twenty-first century. *D-Lib Magazine*, October, available at <http://www.dlib.org/dlib/october03/henry/10henry.html>
- Hey, T. and Trefethen, A. (2004) The data deluge: an e-Science perspective, available at <http://www.rcuk.ac.uk/escience/documents/DataDeluge.pdf>
- Hey, T (2004) *Why engage in E-science Update* 3(3), 25-27.
- Houghton, J., Steele, C., and Henty M. (2003) *Changing research practices in the digital information and communication environment*. DEST, available at [http://www.cfses.com/documents/Changing\\_Research\\_Practices.pdf](http://www.cfses.com/documents/Changing_Research_Practices.pdf)
- Keller, M. (2004) Casting forward collection development after mass digitisation, Fiesole Collection Development Retreat, Florence, available at [http://digital.casalini.it/retreat/2004\\_docs/KellerMichael.pdf](http://digital.casalini.it/retreat/2004_docs/KellerMichael.pdf)
- Key Perspectives Limited. (2004) JISC/OSI journal authors survey report, available at [http://www.jisc.ac.uk/uploaded\\_documents/JISCOAreport1.pdf](http://www.jisc.ac.uk/uploaded_documents/JISCOAreport1.pdf)
- Lamb, C. (2004) Open access publishing models: opportunity or threat to scholarly and academic publishers? *Learned Publishing*, 17(2), April, 143-150.
- Lougee, W. P. (2002) Diffuse libraries: emergent roles for the research library in the digital age. CLIR, available at <http://www.clir.org/pubs/abstract/pub108abst.html>
- Lynch, C. (2003) Institutional repositories: essential infrastructure for scholarship in a digital age. *ARL Bimonthly Report*. February, available at <http://www.arl.org/newsltr/226/ir.html>

Mabe, M. (2003) What do authors care about? Fiesole Collection Development Retreat, Oxford, available at [http://digital.casalini.it/retreat/2004\\_docs/Mabe.pdf](http://digital.casalini.it/retreat/2004_docs/Mabe.pdf)

Morgan, J. P. (2003) Scientific and medical publishing, available at <http://mm.jpmorgan.com>

Munroe, M. H. (2004) The academic publishing industry: a story of merger and acquisition, available at <http://www.niulib.niu.edu/publishers/>

National Science Foundation. (2004) Knowledge lost in information. Report of the NSF Workshop on Research Directions for Digital Libraries, June 2003, available at <http://www.sis.pitt.edu/~dlwkshop>

Nature. (2004) Access to the literature: the debate continues, available at <http://www.nature.com/nature/focus/accessdebate/>

Paulus, K. (2004) Scholarship-friendly publishing, London, ALPSP Seminar, available at <http://www.alpso.org/events/previous/s260304.htm>

Shiffrin, R. M. and Borner, K. (2004) Mapping knowledge domains, *Proceedings of the National Academy of Sciences*, 101, April 6, 5183-5185.

Steele, C. (2003) Phoenix rising: new models for the research monograph, *Learned Publishing*. 16(2), 111-122, available at <http://eprints.anu.edu.au/archive/00001032/>

Steele, C. (2004) The sound of one hand clapping: the politics of scholarly communication. The Second Nordic Conference on Scholarly Communication, Lund, April, available at <http://www.lub.lu.se/ncsc2004/>

Suber, P. (2004) Creating an intellectual commons through open access, available at <http://dlc.dlib.indiana.edu/archive/00001246/00/suber03304.pdf>

Tennant, R. (2003) Rebirth of the book. Australian Academy of the Humanities, National Maritime Museum, Sydney. March, available at <http://escholarship.cdlib.org/rtennant/presentations/2003oz/>

United Kingdom Government House of Commons Science and Technology Committee. (2004) Inquiry into scientific publications. Evidence and submissions available at <http://www.biomedcentral.com/openaccess/inquiry/>

Ware, M. (2004) Pathfinder research on web based repositories. Final report. PALS, available at: [www.markwareconsulting.com](http://www.markwareconsulting.com)

Wittenberg, K. (2003) A new model for scholarly publishing. *The Journal of Electronic Publishing*, available at <http://www.press.umich.edu/jep/03-04/ciao.html>