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Scholarly Publishers and Scholarly Publishing in an Electronic World

Derek Law

King's College London

Contribution to the Debate "This House Believes that the Present Generation of Publishers is Doomed' With Workshops on The Internet and Book and Journal Publishing" held by the British Computer Society: Electronic Publishing Specialist Group, Thursday 8th June 1995

Although the number of scholarly electronic journals has grown rapidly it is still small - growing from 110 in 1991 to some 240 in 1993.[1] This fact may however miss the point, since it assumes that the relationship between scholarship and publication will continue in an electronic world. In fact, as such well trawled "experiments" as the Los Alamos physics pre-print service shows a new paradigm for scholarly discourse is emerging - at least in the physical sciences - which uncouples the permanent recording of a discipline from its academic development. Further evidence of this comes from the growth in the number of multi-author papers. The number of scientific articles with more than 50 named authors has grown to over 400 in 1994, while the number with between 15 and 50 authors was over 1200 in the same year while perhaps twenty papers list more than 500 authors[2]. At the same time the papers display a much greater international spread implying greater international collaboration. Everywhere the number has more than doubled in the last ten years with a steeply increasing growth rate, so that in the UK for example 23% of multi-authored papers have multinational authorship. It seems more than likely that the growth of networks is strengthening this trend and that the so-called "colaboratory" has emerged[3]. These trends are as evident in medicine as in physics and it seems that publication is not now (if it ever was) the major route to sharing discipline based knowledge.

In order to achieve that system which has been slowly refined over two or three centuries the academic community has contributed significantly to the process. The system

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[1]. Okerson, Ann   Portrait of the electronic journals world   *ftp.cc.umanitoba.ca/e-journal*

[2]. *Science Watch* 6 no 4, (1995) p.1

[3]. Information provided by the Science Indicators database of the Institute for Scientific Information

has worked, does work and the Faustian bargain has been an acceptable one. But as costs appear to get out of hand and the publishing industry appears to be the only one where the introduction of automation has defied gravity and led to increased costs, the bargain looks an increasingly bad one.

Consider what the research community contributes to the pot. Firstly there is acceptance of a delay in publication which can be a year or more. This has rarely mattered since publication is not the primary route of communication. Secondly authors are allowed to assign copyright - which may not be theirs to give - irrevocably, irredeemably and permanently. Every librarian can tell stories of fights with authors when libraries refuse to make multiple copies of their works and authors do not understand thaat they have given copyright away. Thirdly, by and large, research is funded from the public purse and this transfer of copyright is into private hands. As the multinational corporations grow in power we also become suspicious of their ability to suppress, distort and manipulate information. Fourthly, that IPR has cost the public purse a lot. Although the calculation can be made in aa number of ways, it is probably of the right order of magnitude to suggest that the cost of the IPR which scholars cheerfully reassign is a million dollars a minute.[4]

So what is required for the future of electronic publishing is a new contract with those who will publish our academic work. This new contract has a number of elements.

Firstly access must be guaranteed in perpetuity. All publishers must agree to upgrade and maintain all data irrespective of hardware costs or changes in media in perpetuity - or must contract others to do this. Under my desk, in common with many researchers, I have twenty year old research results on 80-column punch cards. They are effectively lost because the technology to read them has vanished. We cannot allow this sort of situation to recur. As copyright periods extend we run the real risk that unless such futureproofing is assured the literature of whole disciplines which have only existed within that period will simply disappear into an out-of-print limbo; computing; nuclear physics, biotechnology, aeronautics and other disciplines have their copyright owned almost entirely by commercial interests. This only matters when electronic publication and the leasing of data becomes the norm. Secondly there must be guaranteed access at reasonable cost.

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[4] . Law, D.G.   Making the world anew: are publishers really necessary? Electronic Books Conference, London 1995.

Publishers must be part of systems which ensure that for the next hundred years their products are either electronically in print at the equivalent of interlending costs - say $10 an article - or must ensure that others do this. Thirdly there must be sensible access. The network operators have a monopoly until at least 1998 and are charging customers rates in excess of 100 times installation costs. Telecommunications costs vary to and from different parts of the world and their is a mutual need to ensure that information is spun or cached locally to ensure that money is spent on content and not bandwidth. The management of network topology is a largely unexplored but critical issue. Fourthly we require site licensing of some sort and I am pleased to see so many print on paper publishers beginning to accept that they must provide what the market wants, not dictate to it. Fifthly fair dealing in electronic materials is essential to academic life and is non-negotiable. It will exist and so we must devise ways of making it precisely what it says - fair[5].

It is worth exploring what might be meant by electronic fair dealing and why the academy must have it. There are a variety of reasons. It is necessary to promote the free exchange of ideas between scholars and in the instruction of students. As we know from the United States definition of copyright it is to also to promote the progress for which public funds are being so heavily invested. Then there is a need for all members of the institution freely to read what the institution has purchased access to. Limiting this by time or by class or by user category is alien to the interdisciplinary environment in which teaching and scholarship flourishes. For the same reason there is a need to browse the increasing world of knowledge to discover what requires more in depth investigation and to make unlikely connections. Then there is a requirement to make transitory copies - to take home or to the library to compare or check with other works. Finally, scholars require that electronic copies may increasingly form part of document delivery to other bona fide users in the system. What researchers do not want is rights of multiple or commercial reuse.

The whole area of IPR is becoming more and more difficult. The UK is investing millions in Higher Education in a number of projects which will result in publication and is trying to take a rounded view of IPR as opposed to copyright. Several things are in mind and in hand. It is planned to use existing IPR rules for the products of this research. Broadly

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[5]. Henderson, Carol Fair Use in the Electronic Age: Serving the Public Interest. This working paper was produced by th American Library Association and five other US

this vests copyright in the institution. This conflicts with the wishes of groups such as the Confederation of British Industry (CBI) who wish IPR to rest with the body or company commissioning the research - in neither case would this be a publisher.

Next, a group is being set up by the government funding agency (HEFCE) which will advise on copyright and how it should be used to the advantage of education. The aim is to persuade higher education to recognise the value of what it is giving away and for each institution to develop a total IPR policy. That group has been particularly struck by the quality of thinking in the ARL/AAU report - a study which is well worth considering. One of the most stylish responses has been that of the Association of Computing Machinery (ACM) which has just produced a thorough analysis of the current situation and a strategy or vision for the future[6]. It poses more questions than answers, took three years to complete (a lifetime in the networked age) yet is an interim document, and although it makes concessions to developing practices such as the circulation by authors of electronic pre-prints, remains a very restrictive document and unlikely to produce a defensible position.

In sum then in the United Kingdom (as elsewhere) serious consideration is being given as to whether to reclaim copyright for the universities and devise new ways of achieving their goals. Revivifying the concept of the university press in an electronic world is attractive as is the notion of setting up a copyright licensing agency in which authors (or their institutions) would license publishers for specified rights for specified periods. Because never forget that for the academy, publishing is a means to an end and not an end in itself and if the new electronic model is seen to be disadvantageous the academy will change it. Slowly and painfully no doubt, but it will be changed.

It is then instructive to look at electronic publishing as it appears to be offered by existing print on paper publishers. Compared with their success in paper publishing they do a dreadful job thus far in the electronic world.

Library Associations and was widely distributed electronically

[6]. The ACM Electronic Publishing Plan *Communications of the ACM* 38 (1995), 97-109

- Version control is questionable and rarely considered. Where backfile tapes have been supplied by publishers it is for example often difficult to construct a satisfactory audit trail.

- Editorial control does however remain sound.

- Support is still an issue. Publishers will persist in trying to deal directly with institutions rather than through the electronic equivalent of serials agents. They shouldnt; libraries want middlemen. They want to focus claims and payments in one place not 600. And publishers should not suppose that issues such as claims will disappear with electronic media. The bulletin boards buzz with sad little tells of broken dreams and promises as publishers supply faulty media and faulty software or prove incapable of giving the most basic advice on networking products and compatability issues.

- Archiving control has simply not been addressed, puttting whole areas of knowledge at risk.

- Future proofing has not been guaranteed by anyone.

- Easy access is being denied by publishers who try to pretend that fair dealing does not exist and by those who have given no thought to network topology. Some services are effectively unavailable at certain parts of the day in some countries.   There is a risk that as with medicine, generic and proprietary brands will emerge, with users forced to accept what can be reached rather than what is available.

While this is going on a whole new army of quasi-publishers is beginning to emerge. Microsoft now considers itself a publisher and anyone who has seen the glory of a product like Encarta whose dazzling multimedia show disguises weak content will know how enticing this form of publishing can be. It has been a huge success, given away with computer systems and money coming (presumably) from annual upgrades, while the *Encyclopaedia Britannica* has been put up for sale due to huge losses. The big communications carriers such as AT&T make no secret of the fact that they would like to be publishers in a deregulated environment. They tend to talk however about content provision rather than publishing and appear to be aiming at those areas which challenge the wallet rather than the mind. Multimedia companies are beginning to emerge which understand and are keen to exploit the capacity of the networks and which have fresh

approaches to traditional problems. It is perhaps an extreme case, but *Playboy* is available free on the Internet, with the company making its money from advertising revenue. Academic communities are beginning to emerge again as publishers, particularly now that software such a World Wide Web makes this all to easy. A large and rapidly growing number of individuals, research groups and university departments make their "publications" available through web home pages. Other examples might be the famed preprints of the particle physicists. And of course individuals now publish. There are literally thousands of web home pages catering from the truly obscure to mass markets.

In conclusion then consider the analogy which compares publishing with the various industries related to the horse at the start of the twentieth century when the motor car was being created. Those attached to the horse - farriers and the like - attempted to prevent and then control the new technology through the use of legislation such as having men with red flags walk in front of cars. The attempt failed and while industries associated with the horse remain honourable and valued professions they have become peripheral to society - nor are there many men with red flags in the streets of London or New York. The analogy can be pursued further in order to express the likely change in form of publication. The horseless carriage was the first term for the motor car, but bears as little relation to a Ferrari Testarossa as the notion of the electronic journal will to the future forms of scholarly publication[7] while Reed Elsevier may be seen to have the future and relevance of the village blacksmith.

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[7] . Myers, J.E., Wison, T.C. & Lienhard, J.H.   Surfing the sea of stories - riding the information revolution   *Mechanical Engineering* 114 (1992) pp60-65