Venture out into the open

Towards a new environment for academic publishing[1]

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I am honoured to have been invited to talk here today about academic publishing and Open Access initiatives. I will speak in general terms, but what I will be saying applies mostly to *science* publishing, and not equally to all publishers either. The next speaker will go into the role of different publishers.

I have been asked to outline why the present system for academic publishing is unsustainable, or perhaps I should say: why it is changing. For change is already underway, and it has set in for a complex of reasons: the internet has created a new environment that brings with it new requirements and new possibilities for scholarly communication, and the present system of publishing, particularly journal publishing, has become very expensive.

The high price of serials has acted as a catalyst in a movement for fundamental change that is more than just a response to this specific problem. The high cost of information is not a new phenomenon and has always excluded some groups to a greater or lesser extent from of the scientific output, not only those outside the western industrialized world, but also those in smaller institutions with limited resources. For most groups, there is at the moment in fact more access to more information than ever before, while the happy few in universities with ample resources and fast networks enjoy easy access to vast amounts of information. In a recent survey by Ciber among 5,500 thousands academic authors worldwide, 76% said access to the current journals literature is a lot or a little easier than 5 years ago.[2]

Things are not moving simply because high costs deprive researchers of what they used to have, but because there is so much more they could have: universal and immediate access from anywhere in the world 24 hours a day. We no longer need typesetters and printers and envelopes and stamps to produce and distribute information, we have the internet that was invented to facilitate the exchange of information between scientists. Why should we stay with a model for scholarly communication developed to handle practical restrictions that no longer exist, when we could have all research output accessible for everybody on the web? The new models that are proposed aim to liberate the whole system of scholarly communication by making the best use of the new environment.

In my view the problem of pricing should be seen, not as the cause, but rather as the symptom of a dysfunctional system of publishing. Superficially, the main culprits are the big commercial publishers that in a ruthless search for profit have forced up subscription

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[1] Paper presented at the ALLEA General Assembly, March 22-24 2006, Cracow.
[2] Ian Rowlands, Dave Nicholas and Paul Huntingdon, *Scholarly communication in the digital environment:what do authors want?* Findings of an international survey of author opinion: project report. London: Ciber, 2004, p.18. http://ciber.soi.city.ac.uk/virschreports.php

prices so that libraries can no longer buy what they need. But in fact the whole of academic publishing is in a precarious state, in economic terms, because of a combination of more titles being published and less money all around to buy them. These trends: higher prices, more titles, less purchasing power, have together created the infamous serials crisis, a downward spiral in which libraries cancel subscriptions and hence publishers put up prices to secure their turnover, consequently more libraries cancel etc.

A similar mechanism, by the way, is at work in monograph publishing, for we do not only have a serial crisis, we also have a monograph crisis, in fact, we have a publishing crisis. Faced with a shrinking market for individual titles, publishers respond by putting up prices and/or producing more titles. There is constant pressure to publish more from the academic world, with its growing number of researchers and their need to have more articles and more books published, guaranteeing a constant supply of material. At the same time growing specialization limits potential readership of individual titles, and as library budgets have not kept pace with growing costs, not just of serials subscriptions but also of automation and information infrastructure, increasing production leads to overproduction.[3]

Things are further complicated because the market for academic publishing is in many ways an atypical market. Those who benefit from a purchase – the researchers- are not the ones who pay –the libraries. Researchers use the material but can be blissfully ignorant of costs. Neither they nor the libraries can make choices like an average consumer, comparing quality and prices, for there are journals every researcher in this field *must* have. When subscription prices for such journals go up, libraries do not cancel them, but cancel other, less central journals, so that raising the price of a top journal does not affect its position, but only that of others. That makes the dominant journals in a field and the publishers who own them unassailable.

There is no denying the big commercial publishers have been very clever in working this mechanism to their own advantage, but let us not forget they had a lot of help from the academic community, which for decades has not only kept publishers in business by buying their products and providing their manuscripts for free, but also supported them in many other ways. With subsidies for publishing dissertations and monographs, and page charges for articles in journals. By doing enormous amounts of largely unpaid work, in reviewing manuscripts, serving on boards[4] -the survey by CIBER makes the wild guesstimate that academics invested 2,000 person years of effort in maintaining the quality of the journal system in 2003. Researchers have helped to lower production costs by preparing camera-

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[3] According to statistics of the Association of Research Libraries, Washington, from 1986-2004 serial unit costs went up by 188%, the number of serials purchased by 42%, resulting in total increase of serial expenditures of 273%. Monograph unit costs went up by 77%, number of monographs declined by 9%, and total monograph expenditure consequently went up by 63%. Total costs in libraries increased by 139%, compared to consumer price index increase over the same period by 73%. See *ARL statistics 2003-04. A compilation of statistics from the one hundred and twenty-three members of the Association of Research Libraries,*compiled by Martha Kyrillidou and Mark Young, Washington, ARL, 2005, p. 11 and p. 17. http://www.arl.org/stats/pubpdf/arlstat04.pdf/

[4] Ian Rowlands, Dave Nicholas and Paul Huntingdon, *Scholarly communication in the digital environment: what do authors want?* Findings of an international survey of author opinion: project report. London: Ciber, 2004, p. 9. http://ciber.soi.city.ac.uk/virschreports.php See also Deutsche Forschungsgemeinschaft, *Publishing strategies in transformation? Results of a study on publishing habits and information acquisition with regard to open access,* Bonn, 2005, p. 32, http://www.dfg.de

ready copy or electronic files conforming to publishers' requirements and by drawing their own maps and figures.

As systems for evaluation of researchers, for research assessments, and for funding of projects, depend heavily on published output, the academic world has been prepared to support this model of mutual dependency that offers them important benefits. That publishers made sure they profited from this was to be expected from commercial companies whose first goal in life is to make money. It's a bit like the story of the frog and the scorpion: it's in their nature.

So we have a system with monopolistic traits in which all parties are eager to increase production from which all parties profit except for the one who pays: the library. A system extremely resistant to change, as developments over the last decades have shown. Libraries in the 80s and 90s tried to force publishers on their knees, by sharing subscriptions through interlibrary loan and cancelling subscriptions –which of course only put up the price for the remaining subscribers.

With the rise of electronic publishing, many expected costs to go down and subscriptions to become cheaper. But the printed journal did not disappear, as libraries were hesitant to exchange their subscriptions to print material for licenses to electronic only, for one thing because licenses only give them the right to use the material, not to keep it –so when you end a subscription you have nothing left. Libraries again ended up paying more, for print plus electronic. When they united in consortia to be able to negotiate better deals, publishers gave them the Big Deal, i.e. bundled access to the whole journal package of a publisher, instead of a selection of the library's choice, and so libraries ended up paying extra for things they never wanted in the first place.

In 2003 Cornell University, which spends 58 million dollars a year on its library system, decided not to renew their subscription with Elsevier for a bundled package of 930 journals. This package constituted 2% of the total number of serials to which Cornell subscribes but cost 1,7 million, i.e. 20% of the library's total serials expenditure. As the University Librarian said: 'We were going to have to start canceling high-value journals from societies and nonprofit association publishers that we needed, in order to pay for Elsevier journals we didn't need, but couldn't cancel.' [5]They reverted to a system of subscribing to individual journals titles of their own choice, which costs more per title, but at least gives them to option to buy only what they need.

The conclusion of these years of fruitless fighting over prices must be that the libraries cannot change the system. Partly this is because the library represents the interests of the academic community as users of information, but not those of academics as authors, and the views of researchers in the one role often do not coincide with their actions in the other. In the Ciber study, a number of questions were paired to bring out this 'Jekyll and Hyde' effect. One example: 75% of respondents agreed that high prices make it difficult to access the journal literature. Yet only 20% deliberately publish in journals that are

[5] *The Cornell Chronicle*, December 11, 2003. http://www.news.cornell.edu/Chronicle/03/12.11.03/CUL_Elsevier.html

affordable to readers.[6] In this report, price of the journal ranked lowest among considerations for researchers in their choice of where to publish.[7] A similar survey by the Deutsche Forschungsgemeinschaft found that for only 8,8% of the respondents price of the journal is a major consideration when choosing a publication channel.[8] They will go for the prestigeous, specialized journals, however expensive they are. Yet almost half of researchers report problems with gaining access to research resources, with a large majority stating this is because their library does not take the journals they need.[9]

The Open Access initiatives of the past years tackle the issue from the other end, not looking at prices, but at what motivates authors. The main concerns of authors are that the value of their work is established through peer-review and publication in the right journal, and that it is quickly and widely distributed. Authors have no interest in barriers for users, in fact any restriction of access for authors only constitutes a loss of potential impact. The Open Acces movement has coupled these interests of authors as a driving force in the publishing system to the goal of making publicly funded research freely accessible. Open Access is not a business model, but a publishing model that sees access restrictions as detrimental for science, and for society at large. There have been several declarations which define Open Access; this is from the text by the Budapest Open Access Initiative:

> By 'open access' to this literature, we mean **its free availability on the public internet**, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles (...) without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself.[10]

There has been some discussion to what extent Open Access includes the right for third parties to further distribute an author's work or use it in derivative works; under the Creative Commons[11] various models have been developed that authors can refer to indicate which use they allow. But all definitions share the central point that scholarly work is made available on the internet for free immediately upon publication. Two main strategies are promoted to reach this goal: self-archiving and the creation of Open Access journals.

Self-archiving primarily serves the aim of direct and immediate communication, and leaves quality control to the established journals that are also the official archive of the published record. Authors themselves place preprints of the articles they submit to peer-reviewed journals on the web so that their findings are immediately publicly accessible. The subscription journals to which the article is submitted still provide the peer review and the

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6 Ian Rowlands and Dave Nicholas, 'The changing scholarly communication landscape: an international survey of senior researchers', *Learned Publishing*, 19 (1), January 2006, p.41.

7 Ian Rowlands, Dave Nicholas and Paul Huntingdon, *Scholarly communication in the digital environment:what do authors want?* Findings of an international survey of author opinion: project report. London: Ciber, 2004, p. 11. http://ciber.soi.city.ac.uk/virschreports.php

8 Deutsche Forschungsgemeinschaft, *Publishing strategies in transformation? Results of a study on publishing habits and information acquisition with regard to open access,* Bonn, 2005, p.26, http://www.dfg.de

9 *JISC Disciplinary Differences Report*, London, Rightscom, August 2005, p.26 and p.28. http://www.jisc.ac.uk/

10 Budapest Open Access Initiative http://www.soros.org/openaccess/read.shtml

11 http://creativecommons.org/

recognition, the branding associated with the journal publication. Authors may also place postprints on the web, revised versions corresponding to the final, published versions. They are expected to indicate in which journal the article has been published, so that citations can be made to the 'official' version. The article should preferably be deposited in an institutional or discipline-based repository that archives materials according to the Open Archives Initiative Protocol for Metadata Harvesting so that they can be discovered by services locating e-prints on the internet.[12]

Free software has been developed to set up such e-print repositories easily, and initial copyright issues have for a large part been resolved now that many publishers explicitly allow posting of preprints or postprints on the web. The Sherpa/Romeo website lists publishers' policies, and 76% in this list now explicitly allow some form of self-archiving[13], others are believed to allow it implicitly. Many universities and departments have now set up their own repositories.

Open Access journals, on the other hand, are electronic, peer-reviewed journals providing free access to research articles immediately upon publication. Because they use regular peer-review processes, Open Access journals may figure in citation indexes and can have impact factors in the same way as subscription-based journals. Although the best known Open Access journals, like those of Biomed Central and Public Library of Science, charge authors a fee for publication to cover costs, there are different business models. Quite a few Open Access journals are supported by funding from university departments or foundations and do not charge author fees at all. Those that do usually waive publication fees for authors that are not in a position to pay. Some offer the option of institutional membership, which allows all researchers from a member institution to publish without paying any fees. The Directory of Open Access Journals maintained by Lund University Libraries now lists over 2000 titles.[14]

The success and acceptance of Open Acces initiatives varies between disciplines. In general, there is a correspondence between current practice in a field and the adoption of an Open Access approach. Physicists and computer scientists have long communicated through preprints and consequently make more use of repositories than others. Biomedical researchers that are used to page charges more easily take the step to Open Access publishing in an author-pays model; it appears that subscription-based journals may actually charge authors more in page-charges than Open Access journals do in authors' fees.[15]

The differences in support for the various approaches confirms the idea that a transformation of the model for scholarly communication has to tailored to the concerns and needs in specific disciplines. The initiatives now being taken may work for some and not for others. There are fields where books or conference proceedings are important

[12] For definitions, background information, free software, and a directory of repositories see www.eprints.org
[13] http://www.sherpa.ac.uk/romeo.php
[14] http://www.doaj.org/
[15] Deutsche Forschungsgemeinschaft, *Publishing strategies in transformation? Results of a study on publishing habits and information acquisition with regard to open access,* Bonn, 2005, pp. 52-54. http://www.dfg.de

channels of communication, where speed of communication is not a major concern, where prices of publications are relatively modest and/or printed materials highly valued, and where things consequently may take a different direction.

The initiatives of Open Access movement should therefore not be seen as ready-made solutions for the present crisis but as explorations towards a new environment. Their most important achievement is that they have inspired the academic world to take action and make an effort to shape the publishing system to their own requirements. The Open Access movement has placed ownership of the issue with the research community, acknowledging that it has the possibility and the power and also the *responsibility* to bring about change. It concerns an essential part of the research practice that they can and must direct.

However, from the responses to recent surveys, it appears there is still a large group of researchers that is barely involved or badly informed. 70% of the respondents in the JISC study do not know whether their university has a repository,[16] Ciber found 82% know nothing at all or only a little about Open Access.[17] The JISC study found that 20% of authors do not know the copyright position when they make an agreement for publication of a journal article,[18] in the Ciber study even 46% say they took no interest in copyright issues. The report comments 'authors' views on copyright may be characterised as a mixture of indifference, ignorance (…) and principled resentment aimed primarily at commercial publishers (…)'.[19] Lack of knowledge is associated with concerns that those who are better informed do not share. Authors who have personal experience with Open Access publishing, for instance, are on the whole more positive about quality and status of Open Access journals.

It would be a missed opportunity if the academic community failed to act out of uncertainty and lack of knowledge. That is is not clear where all this will lead exactly should not be a reason to sit tight, on the contrary, it is a reason to get involved. Fixing on problems and waiting for the moment that all of them will be solved in one big master plan means that other, more enterprising parties, such as big multinational publishing houses, will reclaim the initiative. For a community driven by an a desire to explore unknown terrains, here is a whole new field open to creative experiment with ample opportunity to learn through experience.

Academies of science, as bodies committed to excellence, have a crucial role to play in stimulating that new approaches to scholarly communication are tried that optimize the conditions for research. At policy level, there is a lot of work to be done in choosing the most promising directions, developing funding models and reviewing the relationship

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[16] *JISC Disciplinary Differences Report*, London, Rightscom, August 2005, p. 52. http://www.jisc.ac.uk/
[17] Ian Rowlands, Dave Nicholas and Paul Huntingdon, *Scholarly communication in the digital environment:what do authors want?* Findings of an international survey of author opinion: project report. London: Ciber, 2004, p. 22. http://ciber.soi.city.ac.uk/virschreports.php
[18] *JISC Disciplinary Differences Report*, London, Rightscom, August 2005, p. 50. http://www.jisc.ac.uk/
[19] Ian Rowlands, Dave Nicholas and Paul Huntingdon, *Scholarly communication in the digital environment:what do authors want?* Findings of an international survey of author opinion: project report. London: Ciber, 2004, p. 15. http://ciber.soi.city.ac.uk/virschreports.php

between quality assessment and publishing. Moreover, academies represent the best senior scholars and scientists who can also individually venture out to explore new avenues, without any risk to their career prospects. They can support Open Access journals in many ways, and they can lead by example.

And: *anyone* can put their publications on the web, with or without repositories, or has a young nephew who can do it for them. This in itself will not create a new sustainable publishing system, but it contributes to a higher goal, the free flow of information and communication between scientists worldwide. To a professor at the University of Amsterdam free access to materials scattered over the web may seem less important than direct access to controlled and expensive resources. But for many others outside the major research institutions and particularly those who happen to live in parts of the world where there is no access to speak of, it is an entirely different matter. They should not have to wait till we have solved our publishing crisis. Posting publications on the web opens the door at least a little bit, and anyone committed to intellectual debate and the pursuit of knowledge should seize the opportunity the internet offers to share information and ideas with those in countries where independent thinking and the free flow of information are not encouraged. There are other, more complex things to sort out, but this is a little thing anyone can do, and can do *now*, and therefore *should* do. Not to build a new publishing system, but to help improve the world in a small way.