

Editorial

The Public Library of Science and “Open Access” to the scientific literature

I have noted in a previous Editorial that it is a time of great change in academic publishing. One of the most hotly debated issues currently is that of open access to the scientific literature, an issue that has been crystallised by the ‘Public Library of Science’ (*PLoS*) initiative (www.publiblibraryofscience.org). This initiative, which started as an internet-based petition, proposes the establishment of on-line public libraries which would make freely accessible the contents of published scholarly research in medicine and the life sciences.

The driving philosophy behind the *PLoS* initiative is that the scientific literature should be openly accessible and freely available to the entire international scientific community. The signatories to the petition pledge ‘to publish in, edit or review for, and personally subscribe to only those scientific and scholarly journals that have agreed to grant unrestricted free distribution rights ... within six months of the initial publication date.’ At the time of writing (October 2001) nearly 30 000 scientists from more than 170 countries have signed this petition, some of whom are very influential senior figures.

A number of important issues are raised by this development. The ethos of science has long been that of free and open communication of data and of ideas. This has not always occurred, of course, and certainly the recent focus on ‘intellectual property’ and the commercialisation of research in academic centres has shifted attitudes. In general, however, scientists want maximum exposure of their work through publication and wish as many others to read – and to cite – their research as possible. Furthermore, when much academic investigation is funded through the public purse there is an obligation to make the outcomes widely available.

Publication occurs in journals which have to be purchased either by institutional libraries or by individuals, and many journals are seeing a gradual decline in circulation numbers; this is a consequence of essentially static library budgets in the face of increases in cover price (frequently well in excess of any rises in costs) and in the number of journals that are being published (the *BJN* has responded by freezing the cost of the print version over the past two years). This clearly places a restriction on the availability of information and for those in less affluent parts of the world there can be an enormous hurdle to accessing scientific papers. The decline in the currency of reprints, reflecting the cost to authors and their institutions of purchase and mailing, has exacerbated the situation. However, a small number of journals are now providing early free access, via *HighWire Press*, to those who live and work in the World Bank’s list of ‘low income economies.’

The advent of on-line versions of journals has changed

the opportunities and dynamics in that it is much easier to make information widely available through the internet. A small number of journals are now freely available on the web shortly after publication. For example, the web version of the *British Medical Journal* is immediately available, while the *Proceedings of the National Academy of Sciences of the USA* can be freely obtained one month after the initial publication date. Some journals have no policy of free access to on-line versions while an increasing number fall between the radical position of the *BMJ* on the one hand and no free access on the other. Thus open access to a number of journals is now provided after a specific period of time, generally one to two years (e.g. *American Journal of Physiology*, *Biochemical Journal*, *FEBS Letters*).

The main obstacle to providing free access is, of course, the financial cost to publishers, both commercial and Learned Societies. In the case of commercial publishers there are the requirements of shareholders to satisfy while for many Learned Societies the income generated from journals supports their scientific and scholarly endeavours (such as organising international meetings). Many journals are reluctant to accept the request of the *PLoS* that all the literature should be made freely available after six months because of the real concern that this would jeopardise their financial future. The initial view of the *PLoS* was that scientific literature more than six months old is in practice no longer topical and therefore of limited interest. Such a view is dominated by the mores of molecular and cell biology, and is undoubtedly not true of many other areas of science, such as nutrition and agriculture which have a much longer time perspective (the six month timescale has been modified to one year in correspondence that I have had with *PLoS*).

The *BJN* is strongly committed to the principle that scientific work should have the widest possible audience and our current position is that we make our content freely available on-line two years after publication. This policy is under continual review and I anticipate that the period will be reduced in the near future. All benefit from a policy of open access after a defined time to the material that we publish – authors, the broad scientific community, and the journal itself.

One of the allied developments taking place is that of free access web-only journals and *PubMed Central* was the earliest proposal of this type. While this does not appear to have taken off in the way anticipated, *BioMed Central* (www.biomedcentral.com) has evolved rapidly as a free access on-line journal (or suite of journals) and there are similar proposals from *PLoS*. Someone has to pay, of course, and the author is the critical player here. At present authors do not pay for publishing with *BioMed Central*, the

costs being borne by advertising and other means, although the *PLoS* envisages a charge of approximately €330 (\$300 US).

It may well be that the future of scientific publishing lies increasingly with the costs of publication being carried by authors rather than via the purchase price of the journal – and it should be remembered that publication costs are only a small fraction of the total cost of performing a given piece of research. Free access can then be readily achieved, whether a journal is commercial or Learned Society, or published entirely on-line or with parallel web-based and printed versions. This already occurs to a limited extent with

some North American journals, particularly those from Learned Societies, through page charges, but this is not a model that has found favour elsewhere.

The *BJN* is highly conscious of the rapidly changing environment of scientific publishing, and we are following developments closely. We do not, however, have any current plans to alter the established financial model on which we operate – or our existing relationship with authors.

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