

Position statement on Open Access, 19th September 2007

Executive Summary

Maximising access to research articles is very important to learned societies in fulfilling their missions. Open Access publishing is a way to achieve this, providing it is adequately funded so that the viability both of journals, and of the various activities which are made possible by journals income - conferences, meetings and other educational events as well as grants, bursaries and research funding - is not compromised.

The Biosciences Federation believes that a number of practical issues need to be addressed if Open Access publishing is to succeed, and is keen to enter into dialogue on these issues with the higher education community, funding bodies and government. The major issues identified are:

- Adequate funding needs to be available, and authors need to be aware of this.*
- Publication charges will necessarily vary between journals.*
- Authors must understand clearly their funder's or institution's requirements.*
- In some disciplines, research funding is modest or non-existent; an alternative way forward needs to be found for these areas.*
- Consideration must be given to publication which takes place after the end of the grant, and to work which is not carried out under the terms of a specific grant.*
- The balance of costs will change; those who publish relatively little will save money, while research-intensive universities will have to find more money than under the subscription model.*

The Biosciences Federation's members see the alternative route to Open Access – self-archiving – as being more problematic unless Open Access publication is in place:

- Journals are likely to face widespread cancellations when a 'tipping point' of free access to their content is reached.*
- Should some journals disappear as a result, so too would the framework within which they currently manage peer review.*
- The significant contribution which learned societies make to the research community through conferences, training, bursaries and other grants, research funding, etc. – partly supported at present by publishing revenues – would be reduced.*
- Authors have the task of depositing their articles, with accompanying metadata.*
- Readers will be confused by the availability of multiple versions.*
- Institutions have the labour and expense of creating and maintaining copies of articles in their databases.*

In order to inform the debate, the Federation has commissioned research to establish the scale to which publishing income supports member society activities; additional research will explore learned societies' current and future response to Open Access initiatives, and their members' attitudes and behaviour in relation to Open Access. The results will be published early in 2008.

The members of the Biosciences Federation believe that if Open Access publication can be made to work, and can be funded at appropriate levels, then the problems and risks currently surrounding self-archiving would disappear. Institutions would be free to link to the definitive version and/or to store a copy of the definitive version themselves.

Position statement on Open Access

Learned societies, professional associations and institutions, and other similar bodies exist to promote their discipline for the public benefit:

- “The objects for which the Society is established are to promote the science of biochemistry and the cellular and molecular life sciences in general”
Biochemical Society
- [The Society's objectives are] "to promote for the benefit of the public the advancement of Physiology, and facilitate the intercourse of Physiologists, both at home and abroad"
Physiological Society
- “The object for which the company is established is the advancement of public education in endocrinology”
Society for Endocrinology
- “The Society's objective is to advance the art and science of microbiology”
Society for General Microbiology

They advance their objectives in many ways, including supporting scientists by facilitating research and educating young scientists. (The Federation is currently undertaking research to ascertain the amount of research support which is provided in these and other ways, where the beneficiaries are located, and to what extent it is supported by current levels of journal income.)

Thus, the members of the Biosciences Federation* strongly support the principle of maximising access to research information, for the benefit of both scientific progress and public education; this is entirely consonant with the mission of its member organisations. Many members already make their published journal content freely available after a relatively short period (often as little as 12 months, although the period necessarily varies), and also make it available at reduced or no cost to many developing countries, for example through such projects as HINARI, AGORA, OARE and PERI¹. In addition, numerous individual articles of particular interest are often made freely available. In many cases authors are also permitted to distribute and/or post online copies of their own articles.

Societies and similar organisations also wish to ensure that researchers are able to devote as much of their time as possible to advancing their research, by ensuring that efficient support systems are in place that do not impose an unnecessary administrative burden on researchers.

The subscription model has been the main basis for funding journal publication in the past; ways of adapting the model for electronic journals, such as different forms of site licence, are still evolving. Learned societies have been consistently shown² to provide high quality journals at very reasonable prices. However, alternatives to the traditional, reader-side funded business model are now being proposed, and societies are entering fully into the discussion and indeed experimentation surrounding these.

* The Biosciences Federation (<http://www.bsf.ac.uk>) has nearly 50 member organisations, predominantly learned societies, professional associations and institutions. It represents the UK's biological expertise, providing independent opinion to inform public policy and promoting the advancement of the biosciences.

One of the proposed alternative models is Open Access publishing, where publication is explicitly paid for (e.g. through author-side publication charges or sponsorship) in order that the article or journal is free for all to read. We see this as a potentially effective alternative model for achieving the widest possible access, providing that it is adequately funded[†] by author-side charges (normally paid by the funder of the author's research, or failing that the author's institution) or by some combination of subsidy (not a realistic possibility for societies, although it may be for other types of organisation), third-party sponsorship and advertising. This approach (unlike library budgets) scales with the inexorable growth in research and, thus, research outputs in the form of articles. A number of Federation members are already experimenting with this model in their own journals – for example, by offering optional Open Access in return for payment of a fee.

Under this model, the journal itself becomes in a sense the 'repository' which contains the definitive (i.e. peer-reviewed and edited) version of the article – thus removing any confusion for readers as to which version should be consulted and cited. At the same time, no administrative burden is imposed on the author or her institution. If the funder or institution wishes to include the article in other repositories, all they need to do is provide a link to the published version. If, for whatever reason, they are insistent upon holding a copy of the article in their own database, they can use a copy of the definitive version without directly endangering the journal's revenues and thus, potentially, its survival. (However, enabling access at an alternative site does have the worrying disadvantage of artificially distorting usage statistics for the journal;³ this is of particular concern given the growing evidence⁴ that usage statistics are an important factor in librarians' cancellation decisions. While fully OA journals would not be vulnerable to variations in usage reporting, those offering optional OA would.)

In order for this model to succeed, we perceive a number of practical issues that need to be addressed:

- Publication charges will inevitably vary between journals. The necessary level of charge will vary not only according to the amount of value-added but also according to the percentage of articles rejected (which still incur some costs⁵). In the case of journals with a very high rejection rate (which are generally of high quality and high impact factor), it might be more sensible to charge a submission fee in addition to a publication fee – funders would therefore need to be willing to cover these fees. The surplus required in order to fund other forms of direct and indirect support for research (e.g. conferences, bursaries, educational support, science policy initiatives, public information etc.) will also have a bearing on the level of charges.
- Authors need to understand clearly their funder's or institution's requirements⁶.

[†] We note that some prominent OA publishers have gone on record as stating that their current level of author-side charges is not sufficient to cover all costs, and a number have already steeply increased their charges.

- The funding needs to be available to support those requirements, and authors need to know that it is available, what exactly it is intended for, and how to acquire it. (Some societies are already reporting that authors are having difficulty in accessing funds from their funding bodies or their institutions.)
- Suitable arrangements need to be made to ensure that funding is available (whether from the original funder or from the author's institution) for publication which takes place after the end of the grant period, as is often the case with scientific papers.
- Consideration needs to be given to the (sometimes significant) proportion of authors whose work is carried out as part of their salaried work and not under the terms of a specific grant.
- Consideration also needs to be given to those disciplines (e.g. systematics, clinical medicine, mathematics) where research grants are modest or non-existent; an alternative way forward needs to be found for these areas.
- The balance of costs will change (although the overall costs will change little, if at all); those who publish relatively little (e.g. non-research universities, industry) will save money, while research-intensive universities will have to find more money than under the subscription model⁷.

An alternative model is for self-archiving: deposit by (or on behalf of) authors of a version, probably an earlier one rather than the definitive (i.e. peer-reviewed and edited) version, in institutional or other repositories, in parallel to conventional publication. Unless the author has paid an Open Access fee, however, this approach carries a number of risks which can only be offset if free availability can be delayed by a sufficient 'safeguard' period, which will of necessity vary according to the nature of the discipline:

- Journals are threatened with widespread cancellations when a 'tipping point' of widespread free and convenient access to their content is reached⁸; while 'safeguard' periods may help to protect against this (assuming that authors abide by them – there is some evidence that they do not⁹), the period that is necessary to avoid damage varies considerably between journals, and a 'one size fits all' period could be seriously threatening to some of them.¹⁰
- 'Unfunded access' thus threatens the viability of a number of journals; should they disappear, so too would the established and trusted framework within which they currently manage the peer review process which is the basis of the quality control of science. While other (e.g. institutional) frameworks have been proposed, these are untested and would lack the benefit of editors and reviewers who are both independent and focused on the specific needs of their own journal's community of readers.
- In turn, the significant contribution which learned societies and professional associations make to the research community¹¹ through the provision of conferences, training, bursaries and other grants, research funding, etc. – which is generally supported at present by publishing revenues – will be

severely reduced if journal subscriptions are reduced or even eliminated (see Appendix for examples).

- Authors have to bear the administrative burden of depositing their articles, with accompanying metadata.
- Readers will be confused by the availability of multiple versions, some of which may differ to a greater or lesser degree from the definitive version¹².
- Institutions have the additional labour and expense of creating and maintaining near-duplicate copies of articles in their databases¹³.

The members of the Biosciences Federation believe that if Open Access publication can be made to work, and can be funded at appropriate levels, then the problems and risks currently surrounding self-archiving would disappear. Institutions would be free to link to the definitive version and/or to store a copy of the definitive version themselves.

We are therefore eager to work with research funders and other bodies to find practical solutions to the issues we have enumerated here, in order that the 'funded access' model can become a realistic and workable alternative route to the widest possible access to research articles. We would welcome the opportunity to discuss the practicalities as soon as possible.

Biosciences Federation

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Appendix

How societies and associations fund their activities for the benefit of science

The members of the Biosciences Federation are probably typical in making a surplus from their publishing activities, which (as is required by their charitable status) is redirected to subsidise other activities for the benefit of their scientific communities – keeping down the cost of conferences, other educational and training activities, society membership, and providing grants and bursaries (for example, for travel to meetings) and in some cases directly funding research.

In addition, societies and associations spend money on encouraging school-age children to study their subject, on training teachers, on public education, on answering patient queries and providing support, and on campaigning both nationally and internationally on behalf of their discipline.

- The **Physiological Society**'s annual meeting is one of the premier international conferences in its field, attracting about 1000 delegates from around the world. Registration fees for 2008 are minimal (£50) for members and free for research students. If the event had to cover its own costs, delegates would have to pay in excess of £400 each, which would have to come out of grant or institutional funds; this would undoubtedly deter younger and less well-funded scientists from attending.
- In 2006 The **Physiological Society** spent £145,000 on educational activities which were provided at no cost to schools and universities. The Society also gave grants totalling £207,000 to support scientists and students attending meetings, workshops and vacation studentships.
- The **Society for Endocrinology** has noted that, as endocrinology cannot be studied as a first degree subject, many postgraduate students begin researching an endocrine topic with very little knowledge of the subject, and thus risk having a very narrow understanding. The Society has therefore initiated a free postgraduate diploma, part of which will be a free residential teaching retreat, aimed at improving the standard of postgraduate students. An estimated £44,000 has been budgeted for this in 2007-8.
- The **Society for Endocrinology** is the main provider of specialist endocrinology training for UK scientists, clinicians and nurses, at an approximate net cost of £60,000 per annum.
- The **Society for Endocrinology** expects to spend nearly £390,000 on research grants, travel grants, public support grants and other grants and prizes in the financial year 2007-8. Most of the recipients will be based in UK academic institutions.
- The **Biochemical Society** provides a number of free resources designed to support the teaching of science in schools and nurture the next generation of young scientists. These include, in addition to printed materials, widely acclaimed websites that link directly to the national curriculum (www.scibermonkey.org, www.biochem4schools.org). The Society also organises schools workshops to support and train teachers in many aspects of

the curriculum. A particular area of concern at present that is being addressed is the teaching of practical science. All these services are provided free of charge, at a budgeted cost to the Society in 2007 of £303,000.

In order to inform discussion of the benefits to science which are currently supported by societies' publishing surpluses, the Biosciences Federation is conducting research among its members to obtain accurate data about the extent and nature of such cross-subsidy. The results will be made available in early 2008.

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- ⁶ See, for example: Kindle Research & GFK NOP. *NIH Author Posting: a study to assess understanding of, and compliance with, NIH Public Access Policy*. London, Publishing Research Consortium, 2006. http://www.publishingresearch.net/NIH_Author_Postings.htm
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- ⁹ See, for example, Swan, A. 2007. Author compliance with publisher open access embargoes: a study of the journal *Nature Physics*. http://eprints.ecs.soton.ac.uk/13930/01/Nature_Physics_article.pdf.
- ¹⁰ Oxford University Press, for example, carried out an analysis of 8 journals with free back issue archives; they found that when content was made freely available within 6 months rather than 12 months, there was a marked increase in the level of subscription decline (6.1% compared with 2.0%) – personal communication
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- ¹² See, for example, the comparisons of author's and publisher's version by Wates & Campbell (Wates, E. & Campbell, R. 2007. Author's version vs. publisher's version: an analysis of the copy-editing function. *Learned Publishing*, 20:121-9. <http://dx.doi.org/10.1087/174148507X185090>) and by Goodman, Dowson and Yaremchuk (Goodman, D., Dowson, S. & Yaremchuk, J. 2007. Open access and accuracy: author-archived manuscripts vs. published articles. *Learned Publishing*, 20:203-15. <http://dx.doi.org/10.1087/095315107X204012>. The ALPSP/NISO 'Versions' project (http://www.niso.org/committees/Journal_versioning/JournalVer_comm.html) is also addressing this problem.
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