

House of Lords Science and Technology Committee Inquiry into Open Access: Response from the Royal Astronomical Society

18th January 2013

Introduction

1. With around 3750 members (Fellows), the Royal Astronomical Society (RAS) is the leading learned society representing the interests of astronomers, space scientists, planetary scientists and geophysicists.
2. Through Oxford University Press (OUP), the RAS publishes two major peer-reviewed journals, Monthly Notices of the Royal Astronomical Society (MNRAS) and (with the German Geophysische Gesellschaft) Geophysical Journal International or GJI.
3. Monthly Notices is one of the world's leading primary research journals in astronomy and astrophysics. It is circulated to 4446 institutions worldwide with a further 1663 institutions receiving it through a third party database. In addition there is a philanthropic circulation of this journal to 173 libraries and institutes in developing countries. The number of papers submitted to MNRAS is increasing by 5-10% each year. 2551 papers were accepted in 2012, of which 575 (23%) were from the UK.
4. GJI publishes papers on all aspects of theoretical, computational, applied and observational geophysics. Over 4000 libraries worldwide have access to this journal. Paper submissions to GJI increased by 11% from 2010 to 2011 but remained steady in 2012. 475 papers were accepted in 2012, of which 37 (8%) were from the UK.
5. MNRAS and GJI are so-called 'hybrid' journals that allow papers to be submitted on a 'gold' Open Access basis (whereby authors pay an Article Processing Charge (APC) once their paper is accepted) or through an embargoed route where authors can publish at no cost but papers are not freely available for three years. Until now the Open Access option for our journals has been little used, with only 1 or 2 requests each year.
6. MNRAS and GJI may thus already be compatible with the new Open Access policy set out by Research Councils UK (RCUK) that stipulates a preference for publication through gold Open Access. In the case of MNRAS, around 90% of submitted papers are placed in the ArXiv repository alongside publication in the journal and these are then freely available. UK astronomy researchers appear to see publication in a respected journal alongside Open Access through ArXiv as the best way to give their work both the stamp of peer review approval and to disseminate it to the widest possible audience.
7. We are unconvinced that Open Access to scientific papers will lead to an increase in public engagement in the disciplines of astronomy and space science. The community

of researchers in these areas has been heavily and successfully involved in ‘science and society’ activity for many years, with a key aim of this work being to explain complex topics to a diverse audience.

8. Given that the overwhelming majority of papers in astronomy are already placed in the ArXiv repository, the general public has had free access to most of these since 1992. We are not aware of any evidence that there has been a significant take up of this resource outside of the scientific community. It therefore seems unlikely that the new Open Access regime will lead to a significant widening of the research paper readership.

Engagement with publishers, universities, learned societies and other stakeholders in the development of research council open access policies

9. Along with many other learned societies such as the Geological Society and the Institute of Physics, the Society receives a significant fraction of its income through its publishing activities. This allows the RAS to remain independent of Government as we do not receive any direct funding from the public sector.
10. Oxford University Press are a not for profit enterprise. The Society sees many benefits from using a professional publisher including a consistent journal “brand”, professional copy editing, language improvement services, indexing, journal marketing, currency conversion, control of permissions and rights, support for authors against plagiarism and new access technologies.
11. As a registered charity the Society must by law use its income, including that derived from publishing, to serve its charitable objectives. In the case of the RAS the publication surplus funds activities including 15-20 scientific meetings per year, student and post-doctoral travel grants and undergraduate summer bursaries, underpins accessible journals such as Astronomy and Geophysics and supports open lectures for the public. All these activities directly or indirectly contribute to an environment in which more science is accomplished and therefore more science is available for publication. We therefore argue that this publication income contributes to a virtuous circle if intelligently deployed.
12. The two research councils that interact most closely with the RAS are the Science and Technology Facilities Council (STFC) and the Natural Environment Research Council (NERC). STFC engage with the Society via convened meetings such as our Astronomy Forum that brings together heads of groups and external contributors to discuss current science policy issues. We have plans in place to establish formal mechanisms for dialogue with NERC but these are at a nascent stage.
13. STFC has been diligent in outlining how the new Open Access regime will affect funding and how they plan to implement this system. However the opportunities for

the community to interact with e.g. RCUK have been more limited and there remain concerns about issues such as international competitiveness and the administration of funding with higher education institutions.

14. We urge Committee members to examine this in more detail. Learned societies are a key stakeholder and a conduit for the views of the scientific community, so engagement with institutions like the RAS is essential.
15. We further believe that the peer review model is vital to the scientific process, and that the management of this is underpinned by a sustainable income stream. Many of the most distinguished scientists describe how their published papers benefit from inputs from their peers and how the final version may be quite different to the original draft. The Open Access reforms should not be allowed to threaten what has until now been a successful model that gives UK science its strength on the world stage.
16. Whatever developments take place in scientific publishing, if the benefits of publicly funded research are to be delivered and maintained, both for the science itself and for any applications, then certain basic principles must be adhered to:
 - (a) High quality scientific journals must maintain peer-review by independent professional experts in the field if they are to retain the confidence of readers and contribute soundly to scientific progress.
 - (b) Any scientific publishing system must maintain an accessible "version of record" in a sustainable way which is also capable of migrating to future technologies.
 - (c) There should be no undue restriction on scientists to publish in the journals of their choice and at the rate their scientific discipline demands.
 - (d) Whatever business model develops for high quality scientific journals, the responsible agencies must provide the funds needed to maintain the quality of publications and the academic freedom of the authors, as outlined in the recommendations (a)-(c) above.

Support for universities in the form of funds to cover article processing charges, and the response of universities and other higher education institutions (HEIs) to these efforts

17. There are a number of challenges and concerns that have been raised by the scientific community, particularly around the management of APCs by universities and in handling international collaborations.
18. On the first of these, through the implementation of the Finch review recommendations, library funding that covered journal subscriptions has been moved out of the Higher Education Funding Council for England and the equivalents in Wales, Scotland and Northern Ireland to RCUK and will now be distributed to the central administration of grant receiving higher education institutions (HEIs).

19. Researchers in universities have a number of concerns about the way in which this will operate. Until now, the decision to publish a paper lay in the hands of the researcher as in most cases this was done at no charge. In the new regime, RCUK funded researchers are effectively mandated to publish their work as Open Access. Most peer review journals will demand an article processing charge (APC) for Open Access papers once they have been accepted. It may then fall to senior university managers, who do not necessarily have expertise in the scientific field, to decide whether they wish to spend a portion of their budget on an APC. In any case it is at present unclear how research groups will access APC funding.
20. There is a further risk that research-intensive institutions may be penalised for their activity, in that they pay more for APCs for publishing papers than they did to subscribe to journals.
21. HEIs not in receipt of RCUK grants will not have access to the new APC funds, so researchers there may be disadvantaged as a result. RCUK guidelines indicate that 99% of researchers will be unaffected, but we recommend that this, the overall costs of moving to the new model and its implementation are closely monitored as the rules change.

International issues

22. The UK appears to be the first country in the world to adopt a national Open Access policy for publicly-funded research. Australia has now done the same but this is not yet the case for major research competitors such as the United States, other EU nations, Japan and China.
23. The RAS is concerned that this places UK based researchers at a competitive disadvantage. Here researchers will need to pay an APC, after which their work will be freely available to anyone in the world. In other countries researchers can continue to publish in journals at no cost but UK researchers may well need their institutions to pay an access fee or subscription to read the work of their scientific peers.
24. The RAS therefore believes that the UK government should act swiftly to resolve these concerns and Committee members may wish to explore this further. There is a need to negotiate at EU level and in other international bodies to work to harmonise national scientific publishing policies.
25. International research collaborations are commonplace in astronomy and geophysics and the lead scientist in these teams is often the first author on any publications that result. If the team leader is based in the UK, they may in future ask a colleague overseas to take the first author role and avoid the APC. The new RCUK policy does not address this issue and this should be clarified as a matter of urgency.