

What's on the (publication fee) menu, who pays the bill and what should be the venue?

A. C. TSIKLIRAS and K.I. STERGIOU

Laboratory of Ichthyology, School of Biology, Aristotle University of Thessaloniki, UP Box 134, Thessaloniki, 541 24, Greece

Corresponding author: atsik@bio.auth.gr

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When initially launched, the Open Access (OA) journal model created a lot of noise and lead to several opinion articles expressing mixed views (e.g. Butler, 2004). Nowadays, the OA model seems to be winning the battle as it is continuously gaining support from world-class universities (e.g. Harvard University) and governments (e.g. EU, UK and US) that no longer wish to spend large amounts for journal subscriptions (see Nature 487, 285; 2012).

Globally, the output of scientific research appears in over 2.5 million journal articles, which are published each year in the international peer-reviewed journals (Harnad *et al.*, 2004), with around 1.8 million English-language articles published in 2011 (Nature 495, 426–429; 2013). The lowest OA journal publication fee (also referred to as page charges or OA fee) varies from around US\$100 per article and may reach US\$5000 in ‘hybrid’ OA journals (i.e. those that provide OA opportunity on an article basis), with an average OA fee of US\$660 in 2011 (Nature 495, 426–429; 2013). Thus, the global OA publishing cost will work up to around US\$1.5 billion per year. This amount is certainly low compared to the turnover rate of US\$3 billion and net gain of US\$0.76 billion of a single publisher, Elsevier, one of the world's largest scientific publishers. Therefore, paying for OA rights may seem at a first glance to be economically beneficial for universities, institutes, governments compared to paying for journal subscriptions (Nature 495, 426–429; 2013).

Although there are certain advantages in OA publishing (see details e.g. in Suber, 2002), there is an issue of what services are included in the publication fees (“what’s on the menu”) and who covers the cost of getting the knowledge freely available to the public (“who pays the bill”).

Given that the majority of OA journals do not copy-edit their articles and that the members of their editorial board who handle the manuscripts and referees who review them are not compensated for their workload, only editor-in-chief, administrative, secretarial and typesetting expenses remain on the menu. We believe that the publication fees are very high for covering these activities, given that typesetting can be easily performed by the authors themselves. This is clearly demonstrated by the high profit of publishing which is 30% or more (Nature 495, 426–429; 2013). It must be noted here that, in general, both reviewers and editorial

board members of most OA journals have no ‘privileges’ from serving those journals, i.e., they themselves have to pay publication fees to get their work published.

In OA publications, it is the authors that cover the publication fees, whereas journal subscriptions are covered by institutions/governments (for a comparison of the two models see Bergstrom & Bergstrom, 2004). This leads to equity issues because not all scientists can afford publication fees due to constrained budgets, unavailability of funding and/or illegibility of the publishing cost in some grants/programs/projects. Deep pockets and large project contractors benefit against small labs and especially scientists from developing countries, who after the barrier of language (Meneghini & Packer, 2007) will have to face the even larger barrier of money. As a consequence, in an fully OA ‘publishing world’ the part of scientific output not supported by grants will never get published, even if the fees are partly waived (Doyle *et al.*, 2004), leading to knowledge monopolies (Bauer, 2004). This raises the question of which publication venue scientists should select to publish their work.

As opposed to the ‘pseudo’ OA journals requiring a publication fee, there are several ‘true’ OA journals that do not charge publication fees but provide their full text freely available online (e.g. *Scientia Marina*, *Acta Adriatica*, *Mediterranean Marine Science*, *Turkish Journal of Zoology*, to name a few Mediterranean journals). All these true OA journals are non-profit-making, most are supported by institutes, universities and/or governments and maintained thanks to the voluntary work of their editor-in-chief (and naturally of their editorial board members and reviewers, as in all journals). These journals, some of which have a long publishing history (e.g. *Acta Adriatica* is published since 1932), contribute substantially to the dissemination of scientific knowledge to society and should be strongly supported.

This is a win-win scenario in which (a) publication fees are non existent and, thus, the burden of access to knowledge is not shifted from institutes/governments to authors/labs; (b) editors and reviewers provide free work; and (c) nobody gets a profit out of their free work (i.e. the science-publishing industry had revenues of \$9.4 billion in 2011: Nature 495, 426–429; 2013). Naturally, this will be realised only if such venues remain true OA in the future, irrespective of their success (or dire economic environments).

We believe that the above-mentioned ethical issues that ensure equitable access to scientific knowledge need to be fully addressed before pseudo OA policy is adopted worldwide.

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