

Dawning of the open era

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From year 2022 *Fly* will go fully open access (OA). Our OA submissions portal is already live, and all manuscripts first received after 18 May are directed into this pipeline. Why is this such an important and exciting development?

The main advantage of OA is that authors gain much wider exposure for their work. The right to know what has been done in the world of science is no longer limited by the ability to pay. It means, for example, that students can continue to access the latest literature long after their formal studies are complete. Those working or studying in lowincome countries enjoy the same freedom of access to information as those located in prestige institutions. Scientists in those countries already face many handicaps, but if they are not even able to find out what has been discovered elsewhere they will remain permanently excluded from the top tier of research.

Since I do much of my own writing tucked away in my cottage in Lapland (the Arctic part of Finland), open availability of the research literature is something I greatly value. Wherever possible I cite only OA articles in my own papers. As soon as I hit a paywall I look for other content that documents a finding I need to explore, and never ever select the pay-per-view option. Setting up a VPN to access my library remotely is, of course, useless if the library doesn't subscribe to the journal in question, and compatibility issues with browsers and pop-up blockers can interfere with the exercise even if an active subscription does exist. Searching for an author's self-archived repository of 'almost final versions' (so-called 'green OA') is time-consuming and you are never sure what corrections or addenda were implemented before the official publication. And those pirate sites which one can theoretically access to check the contents of a paper are, by definition, untrustworthy. In many cases, sources turn out not to contain the desired

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information anyway, so it adds insult to injury to have to pay for the privilege of not citing them. So, for me personally, OA is a matter of practicality as well as principle. If information isn't freely available, I treat it as if it simply doesn't exist.

Of course someone still has to pay the costs of producing each published article, implementing peer review, creating high-quality figures, ensuring that data are properly scrutinized, deposited and extractable in a usable form. But in the OA model these costs are borne by the funder(s) of the research, not by institutional libraries or individual subscribers. Rightly, funders ask why they should pour so much money into science, if only a privileged few can read what came out of it. The costs of publication are no different, qualitatively, from any other type of expense incurred in doing science, whether we speak of instruments, materials, the costs of collecting specimens, protecting intellectual property or sending a technician on a training course to acquire necessary new skills. OA is thus moving on rapidly from being an option to an obligation, driven largely by the funding organizations. Many of the leading research funders, especially in Europe, have now made OA publishing a condition of their support. In the near future, it's likely that the results from almost all publicly funded research will be reported in fully OA journals and data repositories. Many institutions and even some whole nations – including Finland where I am based – already pay the full costs of publishing in the OA literature for their academics, considering that publishing should not be a financial burden on individual scientists who just happen to be especially prolific or original.

If scientific research is funded from the public purse, the knowledge belongs, by definition, to the public. OA therefore opens a window for them to see how their money is being spent and where it may lead. Freedom of information is sometimes inconvenient for governments, but for scientists it is a necessity for the creative process of building novel and testable ideas out of disparate findings. Open science is also a bulwark against the possible misuse of research findings. In short, we all benefit.

As with any such advance, there are, arguably a few cons as well as pros, perhaps better characterized as transitional teething troubles. The publishing cost of commentaries and editorials, for example, remains a grey area – should someone have to pay to get their opinion in print, and if not, who *should* pay?

OA does arguably add to the already burdensome cost of doing science in less developed countries, or nations that support science poorly in comparison to their national wealth. A waived or discounted article processing charge (APC) for those working in low- or middle-income countries, is one way of levelling

out the burden. But picking which countries are entitled to scientific life-support of this kind might also be counterproductive. If handled clumsily it could give populist leaders who already promote an anti-science agenda an excuse to cry foul, thus handicapping their own scholars even more. We need also to guard against commercial pressures being exerted on editors by unscrupulous or predatory publishers, who seek only to make money, not contribute to genuine scholarship.

In the 'open era' it behoves all of us within the 'ethical' publishing sector to uphold high professional standards for objectivity, reliability and scientific rigour, most obviously by co-opting editors and editorial board members who are respected within their scientific communities. It's something to which I have paid great attention since taking over at *Fly*. And I have received strong support in this from our publishers, who recognize the importance of keeping the editorial process fully independent from the production side of the business, and vigorously defend practices that keep us at a clear distance from the swamp-dwellers. This is especially important for a journal like ours, which aims explicitly to serve the fly-research community as its trusted partner.

As an OA journal, *Fly* will continue to affirm those principles. To authors there will superficially be rather minimal differences. Instead of page charges, you will pay a rather modest APC, which will be waived, discounted or paid automatically in many cases, as described above. For those who still need to pay, the APC is set at a very reasonable USD 1750. Over to you.