

Clarifying Open Access: its implications for the research community

When referring to open access (OA) publishing (January, pp22--23), it is important to distinguish between two different approaches, sometimes called "Gold" OA and "Green" OA. In the former, a journal charges nothing for reader access, at least in its electronic version, while in the latter, the journal charges for subscriptions but allows authors to deposit copies of their papers in freely accessible archives.

"Gold" OA is currently being advocated by Rudiger Voss and others at CERN. Viewed however from beyond the confines of a huge, well-funded, particle physics laboratory, this model may not be in the best interests of the research community. If the objective really is to provide universal access to scientific research, rather than merely finding ways to reduce journal subscription costs, "Green" OA can achieve this quite adequately, without transferring the cost burden to researchers.

Journals must generate revenue by one or more of the following mechanisms: subscription charges, direct support from public or institutional grants, advertising revenues, or page charges to authors. In most areas of physics direct grants to publishers or advertising revenue are not adequately available, so the choice boils down either to "subscriber pays" or "author pays". Relying solely on revenue from paper subscriptions while offering electronic versions for free is not a viable business model since most libraries would simply cancel their paper subscriptions. Gold OA journals therefore have little choice but to transfer the cost burden from subscribers to authors.

This would adversely affect most researchers. While in experimental particle physics the extra cost may be only 1-2% of research funding, in other areas, such as theoretical and mathematical physics, it could be as high as 10-15%. Researchers without access to substantial research support would be particularly penalized by such page charges; e.g, (as pointed out by John Enderby) those from developing countries, and those who receive little or no funding under a highly selective process of grant attribution. Although some public funding agencies have expressed themselves in favour of OA, none have indicated willingness to increase their total funding to cover such extra expenses.

There is also a mistaken notion that "Gold" OA is more cost effective, because electronic papers are much cheaper to produce and distribute. But this has more to do with advances in technology than the OA model itself. Moreover, the cost savings could be beneficially applied to reducing subscription rates for "Green" OA journals, increasing their viability. It is also erroneous to expect that savings from libraries canceling paper subscriptions will somehow be passed directly to researchers as compensation for the extra costs imposed on them; the sources of such funding are generally completely distinct. Finally, the scientific quality of journals switching to the author-pays model may be adversely affected.

Given currently available resources, a large-scale switch to "Gold" OA is thus not in the interests of the research community. The ideal of open access can largely be achieved, however, simply by encouraging deposit of all publications in freely accessible archives. Naturally, such archives do not provide quality assurance through peer-review nor guarantees of long term preservation. But the parallel existence of "Green" OA journals with publicly accessible archives provides both, while making the results of scientific research universally available.

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