

FROM THE EDITOR

The state of open access

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On page 24 you'll find David Kramer's in-depth report on the current state of open-access publishing. Open access and its place in the landscape of academic journals have changed since November 2012, when PHYSICS TODAY last covered the topic. Besides authors, publishers, and policy makers, other actors are now on the open-access stage, among them charitable foundations, scholarly collaboration networks, and, yes, pirates who post unauthorized copies of papers on Russian servers.

My attitude toward open access is conflicted. On the one hand, I agree that the fruits of publicly funded research should be freely available, especially to scientists in poor countries and to scientists employed by companies and colleges that can't afford journal subscriptions. On the other hand, I'm well aware that PHYSICS TODAY is funded in part by the profits that AIP's publishing subsidiary makes from selling subscriptions to its 19 journals. If PHYSICS TODAY had to rely solely on advertising and subscription revenue, it would have to shrink and change format.

Regardless of where you, I, or anyone else stands on open access, there are forces in play that are hard for publishers to resist. One of those forces arises from the nature of the principal end product of scholarly research, a paper that's usually in the form of a PDF. The P in PDF stands for portable, which is what PDFs all too easily are. For PHYSICS TODAY's August 2009 issue, I wrote a feature article about iron-based superconductors, which had been discovered just two years earlier. Google Scholar lists 16 unauthorized PDFs of the article, 13 of which are on Chinese websites. (I couldn't find the article on Sci-Hub, the pirate website founded by a Kazakhstani grad student.)

Portability isn't the only disrupting force at play. University library budgets have not kept up with inflation or with the growth in the number of the world's scientists and their output. The cash crunch is forcing librarians to scrutinize journals based on price and usage. Subscriptions to those that don't meet increasingly stringent criteria are not renewed.

Despite those trends, some aspects of scholarly publishing remain the same. It's just as hard now as it was in the 19th century to conceive of an experiment or theory that is both original and



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significant enough to be worth publishing in a scientific journal. Reviewing your peers' papers before publication continues to be an unpaid yet valuable duty. And a paper's final version of record still needs to be archived, online if not in bound volumes on library shelves.

When I ask physicists and other scientists how they choose where to publish their work, I tend to get the same answers. Scientists want their papers to be read, so they publish in journals that their peers read. A physicist told me once that he regretted publishing in the prestigious *Proceedings of the Royal Society* because his fellow fluid dynamicists didn't read that journal. *Physics of Fluids*, he mused, would have been a better choice.

Some physicists tell me that if they have a hot result, they'll go for a journal with a high impact factor, such as *Physical Review Letters*, *Nature*, or *Science*. But in the digital age, as George Lozano, Vincent Larivière, and Yves Gingras discovered in an extensive bibliometric

study, the correlation between a journal's impact factor and a paper's citations is weakening.¹

One of the findings in David's report in this issue is that open-access papers in the physical sciences currently make up just 10–12% of the total. That modest proportion likely reflects the continuing appeal and reputation of traditional journals. But as any marketing guru will tell you, appeal and reputation are intangible components of a brand. The contest for the best papers in physics will likely be won by the publishers who nurture those intangibles, regardless of access model.

Reference

1. G. A. Lozano, V. Larivière, Y. Gingras, *J. Am. Soc. Inf. Sci. Tec.* **63**, 2140 (2012). 