

## Open Access: Basics and Benefits

“Open Access” has emerged in recent years as a major development in the world of scholarly communication. It may have the potential to greatly alter the university publishing environment and change the ways in which everyone accesses research material, particularly scholarly journals. This article will take a look at the basics of Open Access (or OA) as well as some direct and indirect benefits of OA inside and outside of academe.

### What Is Open Access?

First, let’s look at the traditional “restricted access” publishing: Generally-speaking, university researchers (professors) carry out research and report their findings in articles which appear in peer-reviewed journals which are published by commercial publishers. These journals are then sold as subscriptions to libraries, frequently at high and regularly-increasing prices. There are a number of problems with this situation. For example, access to these journals is essentially restricted to users of university libraries (mostly faculty, staff, and students). As well, library budgets are tight and often can’t accommodate growing journal costs; this has often led to journal cancellations which, in turn, has led publishers to increase prices even more to compensate for loss of revenue (journal price increases have mitigated in the last few years but they are usually still above inflation). In addition, authors usually have to sign away copyright on their articles, relinquishing control of their writings to the publisher.

Open Access is much different. In an OA environment, articles are available over the World Wide Web free of charge to all readers. Scholarly works are no longer restricted to the institutions and individuals who can afford journal subscriptions and are available widely. Also, OA publishers normally allow authors to retain copyright.

It has been estimated that roughly 5% of scholarly publishing is presently of an Open Access nature. Much of this publishing is made up of articles published in journals and many of these journals follow an OA model. It should be noted that OA journals can retain many of the same features as non-OA journals, such as peer-review. A list of many OA journals can be found in the Directory of Open Access Journals (DOAJ) at [www.doaj.org](http://www.doaj.org).

### Repositories

It is also possible to separate the article from the journal, so to speak, and make the article available via inter-operable repositories. Articles can be published in any sort of journal, Open Access or non-Open Access but, as long as the author does not surrender the right to other uses, an article can also be placed in one of

these repositories (as can many other types of scholarly publication including theses, dissertations, technical reports, audio-visual material, and e-books. Repositories range from discipline-specific databases such as the long-standing physics pre-print server, arXiv ([arxiv.org](http://arxiv.org)), to the growing number of institutional repositories, many of which are located at Canadian universities, which are designed to manage the scholarly digital output of an institution.

## **Benefits of Open Access**

So, what benefits does Open Access bring? For the academic world, as noted, it could help libraries better cope with subscription costs and provide more stability to budgeting, give researchers more control over their works, and also allow for wider distribution of those works, something most academics desire. What about the “general public”? There are both direct and indirect benefits for the general public.

Direct benefits occur when the public reads the primary research literature. At first glance, it might not seem intuitive that the public would be interested in reading this material. Perhaps this is because there is a tendency to view “the general public” as if it were some homogenous, average group of people. In reality, “the general public” is all of us. Here in Western Canada, “the public” includes a significant percentage of the population with university degrees; graduate degrees are not uncommon. Even academic researchers are members of “the public” outside of their areas of specialty.

The most popular notion of the direct benefits to the general public, and an important one, is the ability of patients and families to directly read the literature relating to medical conditions. The need for this access is perhaps most poignantly felt when someone is diagnosed with a rare, genetic condition, one that doctors know little about, and which might well affect many members of a family.

Another example of a direct benefit is the ability of students outside the research universities to read the primary research literature. Students who begin their studies at smaller colleges or university colleges, and high school students, could have the same access to the literature as students at research universities. This, in turn, would make it easier for educators and librarians at these institutions to help these students develop information literacy skills.

There are also people who are serious hobbyists who are quite capable of following the scholarly literature, and, in some cases, these people are assisting in the advancement of scientific knowledge. One example is astronomy; apparently there are so many serious amateur astronomers in the world, that whenever a new event in the heavens occurs, it is more likely to be reported by an amateur first, rather than a professional.

Indirect benefits to the public could come through the mediation of others. In an OA world, journalists and freelance writers would have ready access to the latest in the research literature. As one example, it could be easier for a journalist to investigate an environmental problem, as well as possible solutions. It could be easier for journalists to translate the latest medical discoveries, to help “the public” understand issues like SARS and AIDS, what causes common diseases (and how they might be prevented), what kinds of treatments might someday be available when we, or our loved ones, need it, and so on.

Finally, the increased exposure to results of the research of our universities can only enhance the value of the universities themselves in the eyes of the public and politicians. Scholars giving away the fruits of their labours can only result in greater support (definitely moral and hopefully financial) for future endeavours.

### **Paying for Open Access**

Everything costs and OA publishing is no exception; how Open Access is paid for is a vital question. With traditional journal publishing, up-front subscription fees cover costs but this is precisely the situation that the Open Access movement seeks to avoid. One method of dealing with costs is to charge authors a submission fee. The Public Library of Science (<http://www.plos.org/>), publisher of the journals PLoS Biology and PLoS Medicine, charges \$1,500 US per submission while BioMed Central ([www.biomedcentral.com](http://www.biomedcentral.com)), publisher of many OA journals, normally charges \$525 US. The difficulty here is that some authors do not have the money to pay such tolls; this is particularly true in the humanities and the arts, where scholars generally do not have the large research grants that their counterparts in the sciences and medicine do (social scientists are traditionally somewhere in between). Fortunately, methods are being developed to get around this problem; for example, some OA publishers have institutional memberships that allow all scholars at a member university to submit articles free of charge. As well, granting agencies are looking more at including publication costs in grants and grant-writers are also increasingly incorporating publication costs into their funding requests.

Other options also exist. For instance, based at Athabasca University, the International Association for the Advancement of Academic Publication (ICAAP) requests donations of approximately \$3,000 CAN per year to publish an OA scholarly journal, much less than most traditional commercial publishers. ICAAP presently publishes or hosts dozens of journals, most of which can be considered Open Access (<http://www.icaap.org/>).

## **Recent Developments**

Open Access continues to attract interest and appears to be a growing concern. Funding agencies, such as the National Institutes of Health (NIH) in the United States, are looking at requiring that the results of the research that they fund (with tax dollars) be made OA-compliant. At a higher level, legislative bodies are working to make this taxpayer-supported research output publicly-accessible; the House Appropriations Committee in the US and a parliamentary committee in the UK have both recently made recommendations to this effect. Many societies and associations that publish journals are investigating Open Access options for their publications. Lastly, even some for-profit publishers are wading into the OA environment in some small ways; many journals are now freely accessible prior to the last 6-12 months and a few commercial-produced journals have been made completely open.

## **Libraries and Librarians in an Open Access World**

Libraries and librarians might be wondering what their roles will be in an open access world. With even more available for free over the internet, will there still be a need for libraries and librarians? The answer is certainly “yes, more than ever”. The electronic medium, and the potential of open access, does make it much easier to publish and make much more information available. Few people, however, seem to be much concerned about archiving and preserving this information, with the exception of librarians and archivists.

There will be a need for libraries to revisit and strengthen their roles as preservers and safekeepers of the store of the world’s knowledge. With more information on hand, quite likely in a variety of versions of various authenticities, the need for professional to help find the *right* information will be greater than ever.

## **Conclusion**

As it has grown, the Open Access movement has attracted more interest and more debate. The definitions of OA have become more complex. However, most importantly, more OA content has emerged, which is the aim of the movement.

Open Access may well be the way of the future (or one of the ways of the future) in terms of scholarly communication and publishing. As such, it merits watching, investigating, and, in the eyes of many in the library world, it merits supporting.

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