



Open Access: The Basics, the Benefits, and the Future

By Seth James
Associate Managing Editor
Peer Review Management, OA Team, Wiley
sjames@wiley.com

Introduction

Open Access (OA) is the fastest growing sector of STM and scholarly publishing, and it's not hard to see why. With more authors interested in the freedom of a Creative Commons license, in reaching the wider audience that OA journals enjoy, and with more funders and governments requiring free access to their authors' work, OA publishing continues to surpass goals and exceed expectations.

In the following sections, we will examine how OA journals and licensing work, explore the benefits to authors, readers, science, and society, and finally look into the future of OA publishing.

The Basics

What Is Open Access?

From its beginning in author-maintained archives and newsletters, OA has grown into two major forms: Green and Gold. While Green OA encompasses the free availability of the original author-submitted manuscript—either in author-maintained or institutionally maintained venues (such as NIH-mandated submission to PubMed Central)—we will focus on Gold OA, where publishers make articles freely available alongside traditional subscription content, and the final publication enjoys all the benefits of copyediting, typesetting, discoverability, and distribution. Though freely available in one form or another, OA articles differ in their terms of reuse, as determined by their article license.

The most common OA licenses are those defined by the Creative Commons. These licenses, created and maintained by the nonprofit Creative Commons organization (<https://creativecommons.org>), are the standard in OA publishing, used by many OA

journals and offered as an additional option to authors publishing in some traditional subscription journals, too. Just as a publisher's standard copyright license declares the terms and limitations of use, a Creative Commons license declares how an OA article can be reused by readers.

From least restrictive to most restrictive, the Creative Commons licenses are:

- CC BY: Allows others to distribute, remix, alter, and use content commercially provided that attribution is given.
- CC BY-SA: Share Alike; allows the same uses as the CC BY license but stipulates that any new work must also use a CC BY-SA license.
- CC BY-ND: No Derivatives; allows for distribution, with attribution, but does not allow alteration of the work.
- CC BY-NC: Non-Commercial; similar to the standard CC BY license but prohibits the commercial use of licensed work.
- CC BY-NC-SA: A license that combines the versatilities and restrictions of the Share Alike and Non-Commercial licenses.
- CC BY-NC-ND: Another combination license, in this case merging the Non-Commercial and No Derivatives licenses.

Some traditional subscription-based journals allow their authors to purchase a variety of Creative Commons licenses. Full OA journals—where every article is free to read—often only offer the basic CC BY license.

How Do Hybrid OA and Full OA Journals Work?

For subscription journals that offer authors the option of purchasing an OA license (often referred to as “hybrid” journals), the submission and peer-review process is identical for all articles

regardless of licensing. The difference arises from how the articles are presented online: if an author purchases a Creative Commons license, the article is made freely available, while the rest of the journal's content remains accessible only via purchase or institutional subscription.

Full OA journals, where all articles use a Creative Commons license and are freely available online, come in two types: those that accept referral articles and those that do not. For an OA title that does not accept referral articles from other journals (called “referral” or “supporter” journals), the submission and peer-review process is identical to that of their subscription journal cousins: authors submit their articles, editors evaluate them with the aid of reviewers, and accept or reject articles based on quality. Such OA journals differ from subscription journals only in that all articles must have a Creative Commons license (whether purchased by the author, the funder, or a supporting society).

The second form of full OA journals receives referred articles in addition to direct submissions. Sometimes called “cascade” journals, these OA journals partner with multiple supporter journals, which refer rejected but worthy articles for consideration. Why would an OA journal want to consider rejected articles? This question often incorrectly gives the impression that OA journals publish inferior content. Nothing could be further from the truth.

Many prestigious subscription journals have acceptance rates below 10%. Such journals, limited by their page budgets, have long recognized that they are rejecting vast quantities of scientifically worthy articles, delaying their eventual publication. Space—for print journals, which only have so many pages per issue—and scope are the two most common reasons for worthy articles being rejected. But if a journal that specializes in pediatric cancer, for instance, receives an article about cancer in an adult—and the article is scientifically valuable—referring it to an OA journal is in everyone's best interests.

The process for cascade OA journals starts with the supporter journals:

1. An author submits a manuscript to a subscription (supporter) journal.

2. The supporter journal reviews the manuscript, finds it worthy of publication but recognizes that it is out of scope for its particular area of focus, or has already exhausted its page budget.
3. The supporter journal rejects the manuscript but offers the author the option of transferring it to the journal's OA partner.
4. The author agrees.
5. The manuscript files, metadata, and—most importantly—the reviews are transferred to the OA journal.
6. The editors of the OA journal evaluate the previous reviews, as well as the manuscript, and either render an immediate decision or send it out for additional review.

The transfer of existing reviews—in addition to files and metadata—is the heart of the OA journals' advantage. No additional time is consumed by re-submitting the manuscript, and additional reviews are often unnecessary, thus allowing for significantly faster publication. There are many other benefits to publishing with a Creative Commons license and/or with a full OA journal, which we will now examine.

The Benefits

Benefits to Authors

Though speed and costs are compelling arguments for submitting to an OA journal, it is the Creative Commons license—available to both full OA and subscription/hybrid journals—that provides the most tangible benefit to authors. With a Creative Commons license, authors continue to own their work after publication and are at liberty to reuse, remix, distribute, and even submit their work elsewhere, provided that they include attribution. Recent doctorate recipients whose universities host their dissertations online, researchers who wish to include their published articles in a conference's collection, and developers interested in including their published results in new product proposals all benefit from the flexibility of Creative Commons licenses.

Costs remain a concern for most authors. Page charges, color print charges, and publication

charges can quickly add up. While the purchase of a Creative Commons license with a hybrid journal does imply an additional fee, more and more funding agencies have standing agreements with publishers to cover such costs. Authors that publish with full OA journals, on the other hand, often enjoy the best of both worlds: the cost of the Creative Commons license is frequently less than comparable subscription journals' charges, the audience of OA journals is predictably larger, and the cost of the Creative Commons license may still be covered by funders.

Of particular interest to authors who have received a rejection from a supporter journal is the speed with which a full OA journal can pick up the peer-review process. The systematic migration of files and metadata avoids administrative delays accrued through traditional re-submission, while the transfer of reviews may catapult authors' manuscripts directly to the decision phase—no additional reviews needed. From the highly competitive world of polymer science to the life-saving research of medical journals, publication speed continues to factor significantly in where authors choose to submit.

Benefits to Readers

The first benefit to readers is both the most obvious and the most important: it's free. For readers interested in niche areas of research, as well as those in a pre- or un-funded phase, free access to journal content allows research to begin earlier, more widely, and—in some cases—at all. The speed of OA publishing also offers the very cutting edge to the widest possible audience. And, as OA articles are indexed identically to their traditional subscription-based cousins, they will be visible to readers in relevant databases and repositories.

Benefits to Society

The most significant benefit of OA research goes beyond the individual reader and impacts the world at large. The majority of traditional subscription journals base their access fees on developed world monetary standards. Though a reader in New York City may think little of a \$35 reading fee, a doctor in Kenya—taking home

\$100 a week—would find the cost impossible. In an age of frequent disease outbreaks and the rise of antibiotic resistance, OA is more vital than ever to the developing world. Knowledge is not only power, it is often the difference between life and death.

And yet, the publishing apparatus must be paid for. The databases that host content, the electronic Editorial Office systems that facilitate peer review, the editors who conduct it, the IT professionals who maintain the systems—all of it must be paid for. By shifting the burden from readers—many of whom desperately need the information but lack the means to access it—to authors who have received funding for their research, the purchase of a Creative Commons license enables the fruits of scientific research to reach those who most hunger for it.

One of the most powerful forces driving the success and growing preponderance of OA is the support of the various funding entities. Societies, universities, private industry, and grant agencies of all kinds, interested in their authors' research reaching the widest possible audience, are more and more often requiring the use of Creative Commons licenses. And while some funders ask authors to use a portion of their grants to purchase a Creative Commons license, many now have accounts with publishers that automatically cover the license cost.

Recent government mandates (www.chorusaccess.org) and proposals (http://europa.eu/rapid/press-release_SPEECH-15-5243_en.htm) are also pushing for greater adoption of OA and open science. Thus, many governmental requirements for free access to research can be satisfied through OA publishing. Compliance is made simple, effective, and immediate with OA.

Benefits to Science

The most fundamental benefit of OA publishing is that it enriches the scientific community itself. Faster publishing and the inherently wider audience of OA content means more inputs to ongoing research. Free access also translates into more readers acting upon research, testing hypotheses again and again. The online-only nature of

full OA journals means no page budgets—which means more articles and more data. And readers reap not only raw data, they take away—with the Creative Commons license—the raw materials to create their own contributions, remixing, reusing, and revitalizing what we know and bridging the gap to what we imagine.

The Future

Just as the infrastructure for OA journals is new and every year improving through further development, the versatility of that infrastructure is inspiring new conceptions of the review process. A scientific renaissance is beginning, with the free flow of research and ideas shattering old

boundaries and inspiring a new age of scientific collaboration and openness. The history of human progress has always been charted by the development of thought: the next era will be defined by open science, where every thinker is empowered to contribute his or her all in truly global scientific endeavors. We're not there yet, but the technology and philosophical direction of OA publishing—where the discussion of research continues, traveling with a manuscript as it undergoes review and revision on its journey to publication—is leading the way to a world of living documents, continuous improvement of our understanding and depth of knowledge, and the uplifting of all humankind that only education can achieve.

WHAT DRIVES US TO DELIVER...

You do.

Your goals, your time,
your resources, your revenue.

It's why we offer you...

Services for every aspect of production – from peer review management, copyediting and composition to author services and fulfillment.

Print and e-products of which you can be proud.

The perfect balance of technology and automation to quality craftsmanship and professional service.

Sheridan-developed processes and workflows to make you more efficient, and the training and support you need to use them.

Services to deliver your content
on time and on budget.



www.sheridan.com

Sheridan 

Ideas. Delivered.

Sheridan is the proud sponsor of Editorial Office News.