SCIENCE EDITOR

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Perspectives on Open Access

The recently completed Finch report and the mandate from the Research Councils UK (RCUK) requiring published papers that it has funded be made publicly available were the provocation behind choosing open access (OA) as the topic of the current issue of *Science Editor*. The mandate is effective for articles submitted to journals beginning 1 April 2013, so I expect expanding access to scientific publications will generate a good deal of conversation this spring. It seems that new OA journals are being launched daily by both new and traditional publishers. This issue's lead-off article by Morna Conway defines the various models of OA today, and David Crotty describes the status of the intiatives under way in the UK.

The perspectives on OA provided in this issue include those from a member of the traditional publishing community (Joyce Rachel-John, of *BMJ*) and from PLOS, 10 years strong and instrumental in creating the momentum behind OA publishing (see article by Kristin Ratan). Will Schweitzer and Charles Choe define the challenges and opportunities for SAGE Publications in OA publishing in the humanities and social sciences, as does Dan Kulp for the field of physics. Two examples of forays into OA publishing by societies are presented by Tracey Depelegrin, of the Genetics Society of America, and Heather Goodell, of the American Heart Association.

To round out the OA discussions, Jeffrey Beall discusses the publishing effects of predatory publishers (those taking advantage of funder fees to profit from publishing low-quality, often non–peer-reviewed articles), and Richard Schneider discusses the implementation of OA by the University of California, San Francisco and other institutions. Finally, we present a member profile of a passionate OA advocate, Jocalyn Clark, of *PLOS Medicine*.

We also bring you the final reports from the 2012 meetings held in Seattle. And, as our cover suggests, the 2013 CSE annual meeting, to be held in Montreal, is rapidly approaching. Articles by Nancy Devaux, coordinator of the CSE short courses, and Michael Friedman and Tony Alves, CSE Program Committee cochairs, describe the short courses to be held on 3–4 May and the general sessions to be held on 5–6 May. Don't forget to register!

Patricia K Baskin
Editor-in-Chief, *Science Editor*

Open Access Demystified: Flavors, Colors, and Practices in Today's Scholarly Publishing Marketplace

Morna Conway

Open access (OA) is a term that—despite careful definition, intense discussion, and inherent significance for the scholarly publishing world—continues to be misused and misinterpreted. During the course of one recent meeting of the publications committee of a highly respected medical group, I heard OA referred to as "vanity publishing", used interchangeably with "online-only" journals, and accused of being represented by no journal with "an impact factor greater than 2"! I imagine that my colleagues in CSE are a great deal more *au courant* than that group of doctors, but it does seem that OA has had its share of misconception. This article attempts to clarify the types of access that journals offer and the current status of OA journals.

The impetus for the OA movement was the idea that the results of research funded by taxpayers should be free to taxpayers, but the movement struck a chord with institutions as a way of combating their perennial budget constraints. The recession of 2009–2010 fueled an institutional desire for alternatives to subscription-based journals. Authors themselves have been under pressure or constraint by their funders to make the results of their funded research permanently and freely available to the public. Such funders as the Wellcome Trust, the Howard Hughes Medical Institute, and the Max Planck Society not only insist that authors whose research they fund publish in OA journals but have established a new, broad-based, gold OA journal, *eLIFE*, which is completely free to authors "at least for an initial period", according to the Web site.

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Finally, the growth of scientific research output itself, particularly in Asia and South America, is driving demand for more publication outlets. As the established literature (largely subscription-based journals) vies for position, largely on the basis of impact factors, editors are increasingly selective about what they publish in their journals. Many editors now deliberately keep their acceptance rate low to support a small denominator in the calculation of the average number of citations (the impact factor).

In this environment, it is not surprising that OA has grown into an important part of the scientific journal scene. Surprisingly, funding for authors appears to be available, either tacitly from their grants or as part of their institutions' or funders' commitment to making science as universally accessible as possible. The following are indicators that OA is not only here to stay but on the rise (in this context, we are talking about gold OA):

- The *Directory of Open Access Journals* (*DOAJ*), maintained by Lund University in Sweden, lists more than 8,000 OA journals and adds new titles daily.
- *PLOS ONE* published more than 14,000 articles last year alone.
- Major STM publishers, such as Elsevier and Wiley, are launching new OA journals. (Springer has been in this field for several years through BioMed Central and Springer OPEN.)
- Many societies are launching OA journals as companions to their flagships, part of the rationale being that, as rejection rates rise, disaffected authors submit their good, sound papers to competing journals, which results in added citations to the impact factors of competitors, after the original journal has invested time and resources in peer review.

The growth of OA has surprised many in the publishing industry. Although "freeing science", to use the term coined by Spencer Reiss in his *MIT Technology Review* article,[1] is a worthy ideal, some abiding concerns about how science should be set free need to be addressed by the editorial community, inasmuch as editors are the arbiters of soundness and quality in science.

There are a few concerns:

1. Is quality control in science scalable? In other words, with the increase in output and the continued drive to publish, are resources available to provide critical peer review and, for accepted articles, stringent copyediting?
2. Does bringing money into the supply side of journals (the authors) influence editorial and publishing decision making? It is a different dynamic when, for success, a journal must attain 500 subscribers (through marketing, "big deal" bundles, and so on) compared with the 100 articles that it must publish to be at break-even.
3. Is there enough money in the academic system to support both subscription journals and faculty output?
4. Is the proliferation of new journals—it seems that there is at least one OA journal for every "traditional" journal—providing a real service to the users of science, that is, the public and the professionals?

There is already evidence that some OA journals are not going to survive—they have no submissions and will die on the vine. There is also evidence that some

continued

Table 1. Access to STM Journals

Type of Access	Characteristics
Free by selection of editor or publisher	• Editor (or publisher) selects articles and makes them free, that is, outside the access-control firewall. Typically, such articles are of broad interest or have public-health impact (for example, concerning H1N1 a couple of years ago) and are featured on the journal's homepage or on the society's Web site. • Often, free selected articles are accompanied by a commentary or editorial explaining their significance. • Sometimes, such articles are made free because there is media activity (press release by publisher or author's institution). • Sometimes, the articles are free only for a limited period, such as 4–6 weeks, and then go back behind access control.
Free by virtue of commercial support of journal	• All articles in a journal are free because the journal is supported by advertising revenues (in print or online, "controlled" or "free" circulation). • Such articles might not be peer reviewed, and the typical controlled-circulation journal has no impact factor and is not indexed in MEDLINE. • Such journals may use "gated access" to put a barrier in place for the reader who is not registered (or not a member of the sponsoring association) as a means to protect the commercial opportunity associated with the journal.
Open—gold (journals)	• Gold OA means that the article is universally and permanently outside access control, and costs of publication are paid by the author's institution, funding agency, grant, or, in rare cases, the author. Gold OA is the gold standard for OA. High-profile gold OA journals include the Public Library of Science (PLOS) journals (such as *PLOS Medicine and PLOS ONE*) and BioMed Central's 250+ journals. • Gold journals charge a wide range of article-publishing fees, from $750 (which may include a discount for authors who are members of a sponsoring society or institution) to $5,000. • Some journals, supported by foundations or other groups, charge no article-publishing fees; they are free to all—readers, authors, and institutions.
Open—gold (articles): the hybrid journal model	• Gold OA can apply within a subscription-based journal. Many established journals that rely on their institutional and consortium subscription bases for revenue accommodate author needs for immediate and universal OA through a system of paid article-publishing fees, typically $3,000–3,500 per article. Such articles are placed outside access control, which means that anyone—institutions, consortia, members of a society, personal subscribers—can have access from day 1.
Open—green (articles)	• Green OA means that the author self-archives a version of the accepted paper in a publicly accessible repository, such as PubMed Central, or in an institutional repository (managed by the author's academic or research institution). • Self-archiving a version, typically the final accepted manuscript before copyediting (one "value-add" of publishing), allows authors to comply with funder mandates. • Most of the large publishers facilitate deposit of author papers into public repositories as a service and to ensure that the correct version is used.
Delayed OA journals	• Many scientific and medical journals, particularly ones that self-publish or that are owned by societies, have adopted policies of making all content free after an embargo date (e.g., 6 months, 12 months, 24 months, 12 months being the most common). Their publishers have analyzed subscription-renewal rates and have determined that there is no adverse effect on their revenues if they free up content after a year or so. Note that in the slower-moving disciplines, a year's delay could put subscription revenue at risk.

OA journals, such as the PLOS journals, are strong. I suspect that in another decade or so, there will be a familiar landscape in scientific publishing: journals—whether OA or under access control—will thrive when they attract and publish the best papers, and the pecking order of journals will continue to drive author decisions on where to submit and editorial decisions on what to publish.

Reference

1. Reiss, S. Science wants to be free: the argument for open access journals. MIT Technology Review. http://www.technologyreview.com/article/404007/science-wants-to-be-free/.

Open Access: Scholarly Publishers Can Take the Lead

David Crotty

The last decade has seen enormous movement toward broadening access to scholarly literature. The number of articles published in an open-access (OA) manner continues to climb rapidly, as does the number of OA journals. Despite the growth and a near constant level of discussion and debate in the publishing industry, OA still has low priority for most researchers. Governments and funding agencies are working to counter the lack of uptake in the community by changing tactics, philosophically moving from the carrot to the stick.

Study after study shows that researchers place low priority on OA when choosing an outlet for their work. Participants in Ithaka's most recent faculty survey[1] put journal OA policies as the least important determining factor in choosing a venue for submission. Only 10% of respondents in the Research Information Network's study on communicating knowledge[2] felt that OA repositories were important dissemination channels for their work. Even the Study of Open Access Publishing (SOAP) survey[3], most of whose participants were actively publishing OA articles, ranked OA as only the 10th-most important factor in selecting an outlet for publication. When depositing research papers funded by the National Institutes of Health (NIH) in PubMed Central (PMC) was voluntary, rather than required, compliance peaked at 3.8%.

Those data points should not be taken as indicative of a lack of support for broader access to the research literature. They are instead probably a result of the career structure in academe and the priorities that it engenders. Academic research offers an increasingly demanding career path. More and more, researchers are forced to focus relentlessly on the few things that bring in funding and provide concrete career advancement. Everything else, even things that are seen as beneficial, falls by the wayside.

Public and private funding agencies see OA as an important means of maximizing society's return on investments in research. Funders are slowly recognizing the institutionalized inertia and lack of motivation toward progress and are beginning to implement new policies and enforcement regimes to drive academe to better serve their purposes.

The Finch Report

In June 2012, a UK government-commissioned report, "Accessibility, sustainability, excellence: how to expand access to research publications"[4], known as the Finch report, was released.

The group that wrote the report was made up of representatives of funding agencies, libraries, academe, and publishing. The report is an incisive and fair document but in some ways a frustrating one. It does a nice job of making clear the concerns and issues for each set of stakeholders involved and does not sugarcoat a complex situation. It is somewhat lacking, though, in that it mostly discusses goals and roadblocks but offers little in the way of solutions. For example, the report goes into great depth about how important research societies are and how OA models threaten their continued existence, but it does not offer solutions other than to caution that efforts should be made to help them continue to exist.

The Finch report's conclusions can be summarized essentially as stating that broader access is a good thing, but that it is important not to lose other important aspects in the quest for improved access, including the high quality of services and usability that the research community now experiences. The report estimates that the transition period to OA will be long and cost the UK alone an additional £50–60 million per year, and that to make the transition all interested parties need to work together in a managed process.

The Finch report posits "gold OA" as the way research should be published and made publicly accessible. There seems to be a high level of confusion over the terms *gold* and *green* OA. To pare them down to simple definitions, gold OA involves publishing through formal journals, and green OA involves using repositories and self-archiving to achieve OA. There are multiple variations in each route; the two routes are not incompatible and can occur together or separately.

The report suggests that papers be published through journals and made publicly available through the payment of article-processing charges (APCs). Funding must be provided for APCs, and the fewer restrictions on use and reuse of published articles, the better.

The authors offer strong cautions to funders in setting licensing terms and in setting policies, stating that great care should be taken in determining embargo periods for green OA: "We believe that it would be unreasonable to require that embargo periods are shorter than twelve months. . . . Moreover, in subject areas where the half-life of the articles in each issue of a journal is several years, there may be a case for a longer period".

Many OA initiatives use Creative Commons licenses. The two most often used are CC-BY-NC, which means that anyone is free to reuse material for non-commercial purposes but must gain permission or pay a license fee for commercial uses, and CC-BY, which means that anyone can do anything with the work without compensation or permission, so long as attribution is provided.

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The Finch Report warns against the use of the CC-BY license and the associated threat of lost reprint revenue, particularly for medical publishers, and also because it allows others to "harvest published content from repositories and present them on new platforms that would compete with the original publisher".

RCUK Policies

Just after the Finch report was released, the Research Councils UK (RCUK) announced its new OA policy[5]. It hews closely to the Finch report in some ways but diverges from it in others, particularly in setting embargo length and licensing terms, which has resulted in a great deal of controversy. As of this writing, the UK House of Lords has held a hearing on the RCUK's policy, and a second hearing, by the Business, Innovation and Skills Committee, is scheduled.

The original RCUK policy applies to any paper for which the RCUK has funded any portion of the research and goes into effect for any paper that is submitted to a journal editorial office after 1 April 2013, regardless of when the funding itself was actually issued.

Any paper published must meet one of two requirements:

Option 1 is to publish via gold OA and have the article become immediately freely available in the journal through payment of an APC. Articles that take this route must be deposited immediately on publication into the relevant repository and must use a CC-BY license. Note that the payment of an APC comes with an assumption that no page charges will also be paid.

Option 2 takes the green route. The final accepted manuscript version of the paper must be deposited in the appropriate repository and made freely available within 6 months (or 12 months for papers in the humanities or social sciences). There can be no restrictions on noncommercial reuse, and no APC is paid to the publisher.

A letter signed by the editors of 21 leading British history journals announced that they will not accept these terms as doing so will harm the sustainability of their journals and, more importantly, damage the integrity of the research and the authors' reputations[6]. Instead, they have proposed use of a CC-BY-NC-ND license, which offers unlimited noncommercial reuse of articles and blocks the generation of derivative works. The editors are willing to work with a 36-month embargo for the green route because, compared with papers published in biomedical research journals, the citation lives of history papers are extremely long.

At the House of Lords' hearing on the subject, these and other concerns were raised. Representatives from the RCUK suggested that embargo periods of 12 and 24 months might be acceptable and noted that there are no plans to actively enforce the policy for at least 5 years.

The Wellcome Trust Policy

The Wellcome Trust has had an OA policy in place since 2005 and continues to refine it. Its current policy expects funded authors to make their publications freely available, and Wellcome supplies funds to pay APCs. Deposit in PMC and UKPubMed Central is required within 6 months of publication. As of April 2013, all articles must be published under a CC-BY license.

Compliance has been an issue for Wellcome, with only 55%–60% of researchers following through on its rules, so it is adding stricter enforcement, withholding the final 10% of grant funding if papers are not in compliance, and preventing the award of future grants to noncompliant researchers.

Compliance

Compliance with funder mandates offers a competitive advantage for journals, and taking care of required tasks, such as depositing articles in repositories, is an attractive benefit for authors. But given the broad spread of funding agencies, each with its own policy (or lack of policy), determining compliance requirements can be difficult. It is also important to note that funding agencies are still refining their policies. Funder OA policies will be iterative, requiring continual readjustment as new issues or unexpected consequences arise.

The first step in compliance by publishers is determining which agencies fund your authors. Tools such as that provided by Web of Science list the funding agencies behind the papers that a journal publishes. Knowing which agencies are most relevant to your journal will help publishers narrow down the policies to track.

More funders will be issuing mandates, though, so it is likely that publishers will need to have a plan, regardless of whether the funding agencies connected with papers in your journal have made any policy announcements. Putting into place an immediate hybrid OA option for your journals, offering the CC-BY license for articles when an APC is paid, and implementing the current NIH policy on deposit after 12 months will probably bring a journal into compliance with most currently announced requirements.

Open Questions

Scientific publishing is a complex world, and any far-reaching policy, no matter how well intentioned, creates challenges. New OA policies leave many unanswered questions and generate some unexpected consequences that should be considered. None of these concerns is unsolvable, but they will take further thought and nuance to sort out.

An immediate positive result of the recent policy announcements is that many new voices have entered the conversation. Most academic researchers have not been involved so far in the debate; access issues are not on their radar. However, funding and researcher freedom are key concerns and it seems that everyone in research and in publishing wants to broaden access to the literature. The question is how to do so effectively. The involvement of the mainstream research community in conversations about policy can help forge a better path forward.

Many of the questions raised revolve around money. The transition will be expensive, and it is unclear where the money to pay for it will be found. There is a notion that the money now spent on

subscriptions will eventually be moved over to APCs, but that time may be a long way off, and to get there will require some redundant spending. If you are the Wellcome Trust, you can probably afford that. But if you are a smaller funding agency, a government funding agency in an age of belt tightening, or a poorly funded university or researcher, finding those extra dollars is not a trivial matter, and they will probably come from funds that could otherwise be spent on research.

Both Wellcome and RCUK have announced that they will pay APCs through block grants to institutions rather than through individual grants. That has created concern that funds will be unfairly concentrated at major research centers, disadvantaging smaller institutions. It also may result in the creation of an additional round of prepublication peer review as universities decide who gets the funds and where people are allowed to publish. That will reduce researcher freedom and may delay publication as more hurdles must be cleared.

Determining a sustainable embargo period is another important issue. Policies should be designed to be rational and evidence based. A good deal of information is available on the 12-month embargo period, at least for biomedical publications, courtesy of the NIH policy. The rationale behind the 6-month embargo is unclear, and, as the Finch report notes, such short embargoes are a worrisome unknown.

Policies can instead set rational criteria for embargo length, including a mechanism for lengthening or shortening embargoes as evidence is collected on their effect. There are huge differences among fields. A history journal sees a peak in citation around 5 years after publication, which is vastly different from a bioinformatics journal, where developments move much more rapidly. Embargo periods should reflect such differences.

As the Finch report also recommends, licensing terms need to be carefully approached. If we are to move away from the subscription business model, we need to find new ways to generate revenue to pay for the services that we render. The more we can shift the financial burden away from the researcher, the better. There seems to be a great deal of confusion over the differences between copyright of journal articles and patents of research results, and the proposed CC-BY license may not be the best route to maximize return on funder investment.

For many publications, particularly medical journals, secondary rights licensing brings in a significant amount of revenue. Current APC prices are subsidized by this revenue. If the CC-BY license is required, this revenue is lost, and must be made up elsewhere. The Nature Publishing Group already charges an additional fee for the use of a CC-BY license in some journals, and other publishers are likely to follow suit. Asking researchers to pay more to support for-profit companies and pharma marketing does not seem like a particularly good trade-off.

The CC-BY-NC license provides the same benefits and the same open access to the academic research community but asks for-profit companies to pay their fair share of the costs needed to support the raw materials that they are using to generate income and may provide a more sustainable alternative.

Even so, these CC licenses are incompatible with the inclusion of previously copyrighted material, making them impossible to implement for some journals. An article about a work of art could not include a reproduction of the actual artwork, or a literary journal could not include a substantive excerpt from a written work. Review articles could not reuse figures from previously published papers. There are also ethical concerns that CC-BY licenses would allow reuses of patient information and images that would violate research subject consent agreements.

Finally, enforcement of the new policies is another cost sink, requiring time and effort to track each grant recipient and to check on the status of each publication. Each dollar spent in enforcing OA policies is a dollar diverted from funding research.

Taking the Lead

A key conclusion of the Finch report is that all the players involved need to contribute to progress, and we all need to work together and coordinate our actions. So far, many individual groups are driving their own policies, at times in a vacuum without input from other parties. Scholarly publishers have an enormous level of expertise and experience in the publishing process. It can be frustrating to watch scientists and bureaucrats play amateur publisher and offer unrealistic plans—but instead of just complaining about it, we need to take a leadership role and offer better alternatives.

Funder mandates are happening. Complaining about them or wishing them away will not make any difference. They are now part of the landscape.

Scholarly publishing is a service industry. Our job is to provide the services that our customers require. If the community wants to broaden access to knowledge, to put vital knowledge into the hands of as many people as possible, then that is what we need to provide.

That means a cooperative approach rather than a combative one. It means working with funders, librarians, and researchers to prise out the details of a complex system, to remain vigilant against and correct for unexpected consequences, and ultimately to meet the needs of our customers. It will not be an easy task, but it is not impossible. More scholarly publishers must take the lead, to turn an antagonistic relationship into a cooperative one, and to offer realistic and sustainable solutions that meet the needs of the research community.

References

1. Schonfeld RC, Housewright R., Ithaka S+R. Faculty Survey 2009: Key insights for libraries, publishers, and societies. http://www.sr.ithaka.org/research-publications/faculty-survey-2009.
2. Research Information Network. 2012. Communicating knowledge: how and why researchers publish and disseminate their findings. http://www.rin.ac.uk/our-work/communicating-and-disseminating-research/communicating-knowledge-how-and-why-researchers-pu.

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Embracing Open Access

Joyce-Rachel John

Many in the science–technology–medicine (STM) world think open access (OA) is a recent phenomenon, something that evolved over the last several years. The reality is that OA was launched many years ago, and BMJ Group was one of the pioneers of the movement.

Our first foray into OA occurred when our flagship, *British Medical Journal* (*BMJ*), published content as OA in the 1990s; by 1998, all *BMJ* research content was freely available. It is important to note that OA to the BMJ Group did not mean merely that content was free. OA, to us, has always meant supporting the author community by supporting authors' rights in retaining copyright. *BMJ* had a license that allowed the reuse of articles, and eventually the journal moved to a Creative Commons License for research. The journal's policy also supports authors in depositing their articles in PubMed Central with an immediate deposit on publication as opposed to a deposit several months later.

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Providing the author a choice in our specialty journals was the next obvious step for us in the OA movement. We knew that publishing in an established journal was important, but so was the option to disseminate research as widely as possible. We believed that we met those needs by creating an OA option within our well-known specialty publications. The new publishing model (often referred to as a hybrid model) was developed after the National Institutes of Health policy and similar policies issued by the Wellcome Trust and Research Councils UK were signed into law in December 2007. That choice was originally branded as *unlocked* but renamed simply as *open access* and is compliant with the policies of the main funding bodies and also serves the public interest when funding is paid by tax dollars. Hybrid OA is available for a fee to any author publishing original research in our specialty journals and allows authors to make their articles free online. With the OA option, we also deposit the final (copyedited and typeset) version into PubMed Central immediately on publication. Authors may also place the full, final article in the repositories of their choice. The article is recognized as OA in the journal table of contents and in the article itself.

Our next step in the world of OA was to launch the first OA general medicine journal (*BMJ Open*). Peer review for the journal began in 2010, and papers were published online in 2011. Our aim was to create a journal that published all types of research, including clinical science, clinical practice, health policy, health-care delivery, medical education, and research methodology. Editorial policy specified that publication decisions were based on the scientific and ethical soundness and transparency of the research. We also established an editorial policy to publish studies that reinforced practice, policy, or research—to create an open-door policy for research, if you will. The open-door policy allows research to have a home at *BMJ Open* if it asks good questions, even if the answers are not definitive. We believe that publishing such studies in an OA environment is essential and important both for ethical reasons and for completing the research record. That belief has also led us to facilitate sharing of data sets and increasing the availability of research data.

OA is changing. We recognize that OA is important to the research community, as is choice. Already, publishers have seen an increase in submissions, and new OA publishing models will no doubt be created to meet new needs. We are proud to be a pioneer, sponsor, and publisher of OA content in various publishing models.

continued (from page 7)

3. Davis P, SOAP survey requires clean interpretation of data. 2011. The Scholarly Kitchen. http://scholarlykitchen.sspnet.org/2011/02/02/soap-open-access-survey/.
4. Research Information Network. Finch report: report of the working group on expanding access to published research findings – the Finch group. 2012. http://www.researchinfonet.org/publish/finch/.
5. Research Councils UK. RCUK announces new open access policy. http://www.rcuk.ac.uk/media/news/2012news/Pages/120716.aspx.
6. Institute of Historical Research. 2012. Statement of position in relation to open access. http://www.history.ac.uk/news/2012-12-10/statement-position-relation-open-access.

PLOS and the Surge in Global Momentum for Open Access

Kristen Ratan

Open Access is the new black. PLOS (Public Library of Science) will celebrate the 10th anniversary of its flagship journal, *PLOS Biology*, this year. Started in 2000 as an organization to advocate for open access (OA), PLOS recognized early on that there needed to be a demonstration that OA publishing could work. There were two key aspects—quality and cost—to consider.

PLOS Biology and *PLOS Medicine* proved that high-quality publishing with OA was possible. The four community journals—*PLOS Genetics*, *PLOS Pathogens*, *PLOS Computational Biology*, and *PLOS NTDs*—proved that the model could break even financially and even draw a surplus. As the organization grew, *PLOS ONE* demonstrated that the entire business model was viable. A cross between quality and scale, *PLOS ONE* has been financially successful for several years.

PLOS ONE was not instituted to generate revenue. Instead, PLOS's founders believed that journals were rejecting valid research largely to maintain journal reputation, and that this practice might delay the communication of science. *PLOS ONE*'s innovative publication criteria mean that they publish all technically sound research regardless of its perceived impact. By accepting any paper that was good science, *PLOS ONE* hoped to increase the pace of science. And by experimenting with what is so far a sustainable business model, *PLOS ONE* has inspired others to follow suit with variations on the model.

Today we are seeing a proliferation of OA. On the eve of its 10th anniversary as a publisher, PLOS and other leaders in the OA community welcomed three concurrent announcements[1] in July 2012—Research Councils UK, the government response to the Finch report, and the Higher Education Funding Council for England—that established a framework for introducing OA to the UK over a short period, with implementation starting in April 2013. Also in July 2012, the European Commission[2] published its own set of documents on OA, giving even greater credence to the belief that OA will become a prevalent mode of dissemination of scientific research and widen the set of accepted publishing models.

PLOS applauds those developments and supports any organization or initiative that seeks to eliminate unnecessary barriers to the immediate availability, access, and use of research. In the United States, OA advocates secured more than 64,000 signatures on a petition[3] that urges expanding OA to research funded by all US federal science agencies. Over the last several months, it has become clear that momentum has reached a pivotal juncture: the commitment to OA and signs of transformation are there for all to see, but what exactly do they mean?

PLOS defines OA *publishing* as making scientific articles immediately and freely available to anyone, anywhere to be downloaded, printed, distributed, read, and reused (including commercially) without restriction as long as the author and the original source are properly attributed according to the Creative Commons Attribution License that is used. The organization believes that only by truly embracing OA in this way and emphasizing reuse will we experience substantial innovation and change real-life outcomes. Such results are exemplified by an article published in *PLOS Medicine* titled "The Dirty War Index",[4] which provided a global health and human rights tool to measure the brutality of conflict and was adapted for use in NATO military environments to monitor civilian casualties.

Not all OA is equal, however, so PLOS recently launched a campaign to move beyond the question "Is it open access?" to encourage scientists, publishers, and funders to ask "How open is it?" Three OA community partners—PLOS, the Open Access Scholarly Publishers Association (OASPA), and the Scholarly Publishing and Academic Resources Coalition (SPARC)—have recently published the Web resource "HowOpenIsIt?"[5] —that helps to clarify the extent to which a publication is open. In this way, authors can evaluate the relative openness of different publishers and decide for themselves where to publish their research.

PLOS's unique position as a publisher, an OA advocate, and a technology-led innovator allows it to leverage its mission of leading a transformation in research communication. In 2009, PLOS became the first publisher to provide measures of the reach and impact of each article, including downloads, citations, blogs, social media, and bookmarks, which are collectively known as *article-level metrics*. That launch generated excitement and support in an entire community of scholars who are interested in making the best use of the newly emerging data, for example, how they can be used to help others to decide what to read in the growing body of OA literature, to provide more measures for users to determine the significance of the work, to shift the emphasis from impact at the journal level to an article focus, and to assess the impact of funding sources or analyze the long-term societal value generated by scientists.

It is useful to consider the original motivations of PLOS's cofounders, Nobel Prize winner Harold Varmus, Patrick Brown, and Michael Eisen. In 2000, they intuitively understood the power of the Internet to revolutionize every aspect of scientific communication, from the slow pace of publishing that was holding back advances

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in science to the high cost of distribution associated with ink on paper, and the frustration of not being able to read their own work or that of their colleagues without multiple expensive subscriptions. Those factors and the reluctance of traditional publishers to embrace change led to affirmative action.

In October 2000, the founders began informally circulating an open letter that expressed the belief that the scientific literature should be a public resource that is freely distributed by online public services (those ideas evolved to give us the current PubMed Central[6]). By signing the letter, scientists pledged to support—with their submissions, subscriptions, and voluntary service as editors and reviewers—only journals that placed their published research articles in publicly accessible resources.

In early 2001, the founders published two opinion pieces in the *Proceedings of the National Academy of Sciences of the United States of America*[7] and *Science*[8] that made the case for public availability. Both articles led to large increases in the number of signers of the open letter and triggered responses from established publishers that ranged from lukewarm to hostile. The letter eventually generated more than 64,000 signatures from scientists in 175 countries. Hundreds of leading scientists in every field of biology and medicine committed their support. However, few publishers made substantial moves toward increasing OA.

When it became clear to Varmus, Brown, and Eisen that the established publishers—with their entrenched interests in the subscription system—were not willing to adopt a fundamental change in their business, PLOS acted. "We realized that if we wanted to change how scientific research is published, we would have to do it ourselves," according to the founders. "Moreover, we felt a responsibility to the supporters of the PLOS initiative to provide the kind of publications that they had pledged to support."

All PLOS publications directly address preconceptions about OA. Every journal article that PLOS publishes is rigorously peer reviewed; OA publications have demonstrated the same citation rates as subscription journals or higher; and through the charging of publication (instead of subscription) fees paid largely by the funders and institutions that support research grants, it has also been possible to prove that the OA model is sustainable.

It's a game-changing time for everyone involved in OA: policy makers are bringing about meaningful change in support of OA; publishers are adopting it, and there are now tools to evaluate how open they are; we can digitally measure the impact and reach of research in more ways than ever before. OA has proved not only that can it change outcomes in our daily lives but that it is a sustainable force to be reckoned with in the world. All of us who participate in this vibrant community gratefully acknowledge the authors, readers, reviewers, and editors for all that they have accomplished and for supporting the OA effort. We invite you to join us in the PLOS mission to lead a transformation in scientific communication for the benefit of all.

References

1. Research Information Network. Finch report: Report of the working group on expanding access to published research findings – the Finch group. http://www.researchinfonet.org/publish/finch/.
2. Europa Press releases RAPID. Top news from the European commission 14 July – 7 September 2012. http://europa.eu/rapid/press-release_AGENDA-12-26_en.htm?locale=en.
3. PLOS Blogs. Congratulations! 25,000 people strong for open access…and counting! http://blogs.plos.org/plos/2012/06/congratulations-25000-people-strong-for-open-accessand-counting/.
4. PLOS Medicine. The dirty war index: a public health and human rights tool for examining and monitoring armed conflict options. http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.0050243.
5. PLOS Open for Discovery. Open access spectrum (OAS). http://www.plos.org/about/open-access/howopenisit/.
6. PMC. http://www.ncbi.nlm.nih.gov/pmc/.
7. Roberts RJ. PubMed Central: The GenBank of the published literature. Proc Natl Acad Sci USA. http:// www.pnas.org/content/98/2/381.full.
8. Roberts RJ, Varmus HE, Ashburner M, et al. Science Source: Building a "GenBank" of the published literature. Science 2001:2318–2319. http://www.sciencemag.org/content/291/5512/2318.1.full?sid=f2c9d469-136f-439f-b5c8-e48b425af20f.

An Open-Access Future: Challenges and Opportunities for the Humanities and Social Sciences

Will Schweitzer and Charles B Choe

Recent events, including the release of the Finch report in the UK and protest by a growing number of universities over rising periodical costs, have dramatically increased the awareness of open access (OA) in the humanities and social sciences (HSS). OA presents a number of unique challenges for HSS disciplines; such fields as communication studies and history cannot easily replicate OA policies or practices that are prevalent in science, technology, engineering, and mathematics (STEM) disciplines. Faced with the inevitability of an OA future, many HSS scholars are struggling to find a collective voice on how to adapt and reform scholarly communication in their fields (Nosek and Bar-Anan's recent article in *Psychological Inquiry* is an excellent example[1]).

That is not to say that the HSS are anachronistic; some of the earliest OA journals were social science titles, including *New Horizons in Adult Education*, launched in 1987 by Syracuse University, and Stevan Harnad's *Psycoloquy*, first published in1989 (and later sponsored by the American Psychological Association). The Social Science Research Network repository debuted in 1994, just 3 years after *ArXiv*. Today, the Directory of Open Access Journals lists just over 1,600 OA HSS titles, roughly 20% of the total number of titles listed.[2]

What challenges does OA present for HSS? A recent statement by the American Historical Association highlights many potential problems with adopting current OA models.[3] For example, the association points out that many historians lack federal research funding that could offset gold OA article processing charges (APCs), and few institutions have funds set aside to pay APCs, so economically disadvantaged historians could be marginalized. The 2010 Study of Open Access Publishing (SOAP) project survey reinforces this assertion.[4] Of roughly 38,000 HSS and STEM researchers surveyed, 39% of respondents indicated that they lacked funding to pay APCs. The SOAP survey also indicated that many social scientists are unaware of appropriate OA journals for their research and that many researchers are skeptical about the quality of OA journals. That skepticism is probably attributable to the fact that few, if any, HSS OA journals are ranked or are considered acceptable for promotion and tenure evaluations. In addition, many HSS publishers and societies are concerned that green OA publishing, in which articles published in subscription journals are deposited in an open repository, may jeopardize subscription revenues, on which many societies are dependent, particularly if articles are embargoed for any period less than 12 months.

SAGE discusses OA extensively with its HSS authors and societies, trying to find ways to overcome many of these challenges. SAGE is testing several OA models, including launching *SAGE Open*, a gold OA "megajournal"; expanding the SAGE Choice program, a hybrid OA program that allows authors to pay to make their articles OA within a traditional subscription journal; and launching new OA journals with its partners.

SAGE Open launched in January 2011 as the first OA megajournal to cover the HSS. Manuscripts are evaluated only on the basis of their research methods and scientific validity, not thematic significance. Authors pay an APC if their manuscript is accepted. As of this writing, the fee is $99. SAGE also considers hardship requests from authors. From its launch through the end of December 2012, SAGE Open received 1,390 submissions. Of those submissions, 76% received a final decision; of those that received a final decision, 16% were accepted, 45% were asked to submit a major or minor revision, and 39% were rejected. It is important to note that all papers are peer reviewed.

SAGE Open has quickly become one of SAGE's most frequently accessed titles. In 2011, SAGE Open's articles were downloaded over 51,600 times—an average of 782 downloads per article. By this metric, SAGE Open was the third-most frequently downloaded SAGE journal that year. The early successes suggest that a gold OA megajournal may provide a viable solution for the HSS; however, more time is needed to confirm that.

OA is certain to be part of the scholarly communication landscape going forward, and the HSS will not be exempt from this shift. Many issues need to be resolved, most important how the cost of OA publishing can be supported in the HSS. SAGE and its society partners will continue to discuss and experiment with OA to find the most equitable and sustainable publishing model. In the meantime, SAGE will continue to advocate for more funding for HSS authors and will work with its partners in academe to help to usher in this new era in academic publishing.

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continued

Table 1. *SAGE Open's* submissions and published articles through October 2012, arranged by discipline.

Discipline	No. Submissions	No. Published Papers
Education	254	31
Psychology	184	19
Sociology	116	19
Communication	107	7
Management	102	13
Political science	101	7
Criminology	51	5
Humanities	51	7
Economics	49	6
Research methods	27	6
Anthropology	22	0
Science, technology, and medicine	20	0
Social work	17	0
Public health	15	0
Urban studies	13	0
Nursing	6	0
Information science	6	0
Public administration	5	0
Linguistics	4	0
Computer science	4	0
Social science	3	0
Total	1,157	120

References

1. Nosek BA, Bar-Anan Y. Scientific utopia. Opening scientific communication. Psychol Inq. 2012; 23:217–243.
2. Directory of Open Access Journals. http://www.doaj.org/doaj?func=subject&cpid=87.
3. American Historical Association. AHA statement on scholarly journal publishing [press release]; 2012. http://blog.historians.org/news/1734/aha-statement-on-scholarly-journal-publishing.
4. Dallmier-Tiessen S, Darby R, Goerner B, et al. 2011. Highlights from the SOAP project survey: what scientists think about open access publishing; 2011. http://arxiv.org/abs/1101.5260.

Asking for Trouble: Submit questions or problems to "Solution Corner"!

One of the returning features of *Science Editor* will be "Solution Corner", a column that explores problems and challenges that our members deal with in their jobs, be they technical, managerial, or other issues in the STM publishing realm. This column needs your input! If you submit a question that is general enough to be relevant to many of our members to solutioncorner@ametsoc.org, we will run them by two or three professionals in the field; your question and their responses will be printed in *Science Editor*. We look forward to your submissions!

The American Physical Society's Experiences in Open-Access Publishing

Daniel T Kulp

The American Physical Society (APS) is a non-profit membership organization representing more than 51,000 physicists who are working to advance and diffuse the knowledge of physics through a series of programs and activities, not the least of which is its family of research journals. Currently publishing more than 19,000 articles and nearly 155,000 pages of physics each year, the *Physical Review* family of journals is accessed by researchers worldwide and has played an active role in supporting the needs of physicists to share and distribute ideas, information, and knowledge.

With open access (OA) becoming a prevalent topic of debate at the government level and discussions expanding to mandated free access to publicly funded research, APS recently articulated its long-held position on OA in the following statement:

> The APS supports the principles of Open Access to the maximum extent possible that allows the Society to maintain peer-reviewed high-quality journals, secure archiving, and the Society's long-term financial stability, to the benefit of the scientific enterprise.

Although that statement was not formulated until 2009, it embodies our position on green, gold, and public access for more than 2 decades.

This article is not meant to be a broad guide to OA; rather, it describes APS's approach to it. For the purposes of this article, the different types of OA can be broadly summed up as follows:

> Green: The author's final version is available in an institutional repository or in a subject repository.
>
> Gold: Someone pays to make the article available on publication without cost barriers.
>
> Public: Researchers, students, and the general public have subscription-free access.

I will describe APS's activities in each type of access.

APS has long been a green OA publisher. The society has supported and promoted the physics e-print arXiv since its inception in 1991 through a liberal and expansive transfer-of-copyright agreement. The agreement not only allows authors to post their final peer-reviewed version on e-print services, such as arXiv, but allows them to post the APS versions of articles on their and their institutions' Web sites; this clearly goes beyond standard green OA. Thus arXiv represents the evolution from traditional postal and e-mail distribution to specific individuals to a more expanded and unknown audience.

The transfer-of-copyright agreement is not static. APS has consistently been open to finding solutions that support our authors and readers. As more and more institutions followed the lead of Harvard's faculty in mandating OA deposit into institutional repositories, APS negotiated agreements with the institutions to allow them to deposit manuscripts into the repositories on behalf of authors without the need for special addenda or for authors to seek waivers from their departments. After extended discussions with two authors, APS modified the agreement in 2008 to allow authors to retain copyright when they create derivative works based on their published APS articles.

APS has been involved in gold OA publishing since 1998, when it introduced its first OA journal, *Physical Review Special Topics–Accelerators and Beams* (*PRST-AB*). The journal was created in response to the need for a specialized journal for accelerator scientists and engineers. The journal is supported primarily by contributions from major accelerator laboratories, although APS continues to contribute to the support of the journal rather than sell subscriptions.

A second special-topics journal, *Physical Review Special Topics–Physics Education Research*, followed 7 years later and, unlike *PRST-AB*, is funded primarily by article-processing charges paid by authors or their institutions.

When those two online-only journals were launched, the primary intent was to ensure that readers had barrier-free access to research articles. The copyright remained with APS, and reuse was limited. The approach was formalized and applied to all the *Physical Review* journals in 2006 through a program called "Free to Read". That made all the APS journals except *Reviews of Modern Physics* hybrid open access.

In 2011, Free to Read was replaced by Creative Commons (CC) licensing when it became clear that readers expected more than read-only access to journal articles. APS not only implemented that with one of the most liberal and open licenses available (CC-BY 3.0) but applied it to all previous Free to Read articles without collecting any additional fees.

In the same year and in coordination with the introduction of CC licensing, APS introduced *Physical Review X* (*PRX*), an electronic-only OA journal with high editorial standards. Although introduced during a period in which megajournals, such as *PLOS ONE*, were being launched, *PRX* filled a niche in which high editorial standards and the expectation of excellence and importance, rather than technical correctness, were primary features of published papers.

Finally, in response to calls to make results of government-funded research available to

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Article

Evolving Access: Genetics Society of America Journals GENETICS *and* G3: Genes | Genomes | Genetics

Tracey DePellegrin

The journal *GENETICS* published its first issue in January 1916, featuring Calvin Bridges's proof that chromosomes are the carriers of heredity.[1] This first American journal of genetics predated the professional society that has since become its publisher, the Genetics Society of America (GSA).

The desire to provide access to peer-reviewed scientific research is nothing new. Henry Oldenburg, founding editor of the *Philosophical Transactions of the Royal Society*, the oldest scientific journal, wrote in the inaugural issue in March 1665, "And No Small Number are at present engaged for those weighty Productions, which require Time and Assistance, for their due Maturity. . . . But every many may receive some benefit from these Parcels."[2] Could we imagine what kind of Creative Commons license Oldenburg would have assigned to his journal in the 17th century?

Nearly 400 years later, in this rapidly changing scholarly publishing environment, most scientific publishers, including GSA, recognize the need to remain agile and resilient as we juggle the interests of multiple (often competing) audiences and stakeholders while remaining true to our intellectual and scientific missions. This article presents the history of the GSA's journals *GENETICS* and *G3: Genes | Genomes | Genetics* primarily in terms of their access models and some of the shoals they have navigated.

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Offering Open Access in *GENETICS*

Like many longstanding journals in scientific publishing, *GENETICS* has a hybrid business model that derives income from institutional subscriptions as well as author publication charges. In addition to being available to its subscriber base, the full contents of *GENETICS* are available to members of GSA and freely accessible to everyone 12 months after each issue's publication date. In 2010, after more than 90 years of print publication, *GENETICS* moved to an online-only publishing model.

GENETICS was in the vanguard promoting rapid access to its content. The journal began offering "publish-ahead-of-print" (now called "early online") in late 2004, with authors' manuscripts ("preprints") freely available on the *GENETICS* Web site and in PubMed. Those manuscripts are rough cuts—devoid of copyediting (which can be substantial and provide marked improvements in readability), formatting, and other enhancements that add value to the final article, the version of record. During 2012, in response to discussions with our population and evolutionary geneticist authors and readers, the GSA journals developed a policy that allows authors to deposit manuscripts into preprint repositories such as arXiv, before review or submission. If the article is eventually published, the journal requires that authors insert a link from the preprint in arXiv to the final article on the GENETICS journal Web site.

In 2008, responding to feedback from members of its community, in particular those whose funding agencies were encouraging publication in open-access (OA) journals, GSA began exploring a hybrid OA model for *GENETICS*. In November 2008, *GENETICS* offered its first immediately available OA articles: for a nominal fee [*too nominal!!*], authors were able to make their articles free-to-read OA. Today, about 20% of authors elect to pay an additional fee for that option. All editorials and some articles selected by the editors (such as *GENETICS*' first educational primer, published in August 2012) are made free to read. Authors who choose that option—whether required by their funders (such as the Wellcome Trust or the Howard Hughes Medical Institute) or because they "just want it to be OA"—report satisfaction. Many demur because they cannot be sure whether OA will result in their articles being seen, read, or cited more often; others seem certain that free-to-read OA will increase their articles' reach.

Creating G3

Around 2009, *GENETICS*' Editorial Board began to explore the need for a publication that would function as a sister of *GENETICS* and complement its mission. Why consider a second journal? Because, as Bob Dylan sang, "The Times, They Are a-Changin'."[3] Recent strategic changes, and a paradigm shift at *GENETICS* had brought a revised scope statement that meant publication in the journal would be reserved for articles that describe a significant advance in the field, have broad appeal, and are unusually novel. That led to more rejections and more submissions returned to authors without review. And that resulted in a slimmer *GENETICS*, with the number of articles published purposely declining from 576 in 2007 to 288 in 2011. The scope change left a number of authors without a venue for publication of some of their valuable work.

The new journal, *G3: Genes | Genomes | Genetics*, was born of the *GENETICS* Editorial Board's desire to serve that group

G3 Scope Statement

G3: Genes | Genomes | Genetics provides a forum for the publication of high-quality foundational research, particularly research that generates useful genetic and genomic information such as genome maps, single gene studies, genome-wide association and QTL studies, as well as mutant screens and advances in methods and technology. The Editorial Board of G3 believes that rapid dissemination of this research is the necessary foundation for analysis that leads to mechanistic insights.

G3: Genes | Genomes | Genetics meets the critical and growing need of the genetics community for rapid review and publication of useful results in all areas of genetics. G3 offers the opportunity to publish the puzzling finding or to present unpublished results that may not have been submitted for review and publication due to a perceived lack of a potential high-impact finding.

of authors—many of whom are GSA members—and the broader genetics community, by providing a venue for publishing high-quality, useful research and rapidly disseminating information. The GSA recognized the need for a respected venue for publication of genetic screens, genome sequences of novel species, population data, quantitative trait locus (QTL) studies, collections of novel mutants, genome maps, human genetics studies outside the new scope of *GENETICS*, and more. Only later did we recognize the financial opportunities that G3 potentially offers to the GSA.

G3 was launched not to compete with *GENETICS* but to strengthen it; the plan is for the two journals to provide a synergy. The OA model seemed a natural fit for *G3* as a native-online new journal for which quick publication is top priority. We were uncertain of the degree to which OA would drive submissions, but *G3* is, in part, an experiment to determine whether researchers' actual behavior (such as submitting a manuscript to *G3* or reading the journal) would match their expressed attitudes ("The field needs an OA journal like *G3*"). Other considerations included a trend toward OA for genetics and genomics articles and the need for a scholarly publisher to provide fast and open access to data and research useful to other scientists.

Lively discussion (and much debate!) took place among editors, GSA Board members, current and prospective authors, OA advocates, OA skeptics, scholars in scientific publishing, consultants, and members of the various scientific communities. Discussions took place concerning scientific content, scope, strategy, and finances, among other elements. A few critical questions were: Is launching an online-only OA journal in the best interest of GSA and its mission ("to foster a unified science of genetics and to maximize its intellectual and practical impact")? How would GSA define the scope of *G3* so that its community clearly understood the different missions of the two GSA journals? Would launching another journal be in the best interest of GSA's members, authors, the scientific community, institutions, and readers? How could GSA assess and accurately predict its level of intellectual and fiscal risk and return? What type of Creative Commons license would work for *G3*? (*G3* uses a Creative Commons Attribution license, CC-BY 3.0.)

One of the most important tasks was to identify the right scientist to lead such a venture. After a thorough international search, Brenda J. Andrews, professor and director of the Terrence Donnelly Centre for Cellular and Biomolecular Research at the University of Toronto, was appointed editor-in-chief in July 2010. Infusing *G3* with energy and vision, Andrews assembled a team of four (since expanded to five) senior editors and nearly 80 associate editors, all of whom are well-regarded practicing scientists. In fall 2010, working with some of the senior editors and the editor-in-chief of *GENETICS*, *G3* began to accept submissions. In June 2011, *G3* published its inaugural issue.

Update on *G3*

As of December 2012, 230 papers had been published in *G3*, on topics as varied as the genetics and genomics of *Drosophila*, mice, plants, fungi, the nematode worm *Caenorhabditis elegans*, humans, insects, bacteria, viruses, and livestock; bioinformatics; population and evolutionary genetics; and tools. The number of submissions and articles published continues to increase, and the journal continues to expand its breadth.

As sister journals published by GSA, *G3* and *GENETICS* complement each other in numerous ways. GSA has published or is publishing sets of related papers ("blocks" of articles) in both journals, including collections on the mouse collaborative cross, genomic selection, and (in 2013–2014), and the genetics of immunity. Authors submitting manuscripts to GENETICS that are outside the journal's scope but are thought worthy of publication are encouraged to allow their manuscripts to be considered for publication in *G3*; most agree. In some cases, *G3* has been able to offer authors "accept with revision" decisions based on the existing reviews for *GENETICS*. That process serves authors by allowing them quick publication without having to revise and resubmit to another journal, while making the GSA journals a welcome venue for submissions.

Has *G3* reached its goal to provide authors with fast, clear decisions? The average time to first decision in 2012 is 30 days. While there is room for improvement, our first responsibility is to ensure that authors receive fair, helpful reviews and clear decisions. *G3* is also considering more frequent, possibly continuous, publication.

How is the business model working? As an OA journal not supported by institutional subscriptions, memberships, grants, or other funding sources, *G3* must make its operations fully sustainable through publication charges and other efficiencies (advertising and reprint revenue are expected to remain negligible). Manuscript volume has been trending upward, but the initial investment to launch *G3* was

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One Society's Perspective on Open-Access Publishing

Heather Goodell

The mission of the American Heart Association (AHA) is "Building healthier lives, free of cardiovascular diseases and stroke." The stated 2020 Impact Goal of the AHA is to reduce cardiovascular disease and stroke by 20% and improve the health of all Americans by 20% by 2020. The AHA has a dynamic strategic-planning process. In 2009 and 2010, as the AHA was completing a cycle of strategic planning, one of the action strategies of the AHA Strategic Plan (driving to the 2020 goal) was to "Accelerate Science Interpretation". "Open-science" methods were called for to speed "the interpretation of research relevant to the attainment and maintenance of ideal cardiovascular health into guidelines, statements, public policy recommendations or other expert guidance" and to speed "interpretation of research relevant to maintenance and improvement of health throughout the lifespan into guidelines, statements, public policy recommendations or other expert guidance".

Open science means much more than open-access (OA) publishing, especially inasmuch as the AHA is also a funder of research (the second largest funder of cardiovascular disease and stroke research in the United States, after the National Institutes of Health). Although the AHA Research Committee is still deliberating about some open-science strategies, the AHA Scientific Publishing Committee had already embarked on educating AHA leaders about OA publishing. The Scientific Publishing Committee did that knowing that AHA volunteers, authors, and readers had not been clamoring for an OA publishing option as researchers in other fields were demanding. The AHA did not have to experiment with the 11 existing, traditional-model journals that it already published. However, the committee could see that traditional scientific publishing was changing, even if slowly, and that the AHA needed to be poised to adapt. The 11 existing journals had acceptance rates as low at 10%, and despite launching six journals in 2008, many good scientific papers were being rejected. In addition, none of the AHA journals was strategically positioned to address part of the 2020 mission: the prevention of cardiac diseases and stroke in the population. None focused on prevention, especially primary prevention, behavioral studies, and so on. The AHA needed a good vehicle to publish such research.

The AHA Scientific Publishing Committee engaged a consultant to perform a feasibility study. The committee spoke with AHA editors, to the AHA councils, and to the AHA's volunteer leadership. It looked at rejected articles and where they were eventually published. The AHA already had a referral model in place with *Circulation* in that it referred articles to the six *Circulation*-branded journals that launched in 2008.

We, the committee, realized the need to ensure an easy, well-established payment process for authors and their funders. The *only* income that a publisher can plan to receive for an OA journal is author fees. We knew that we needed a turnkey operation rather than trying to gather those payments ourselves. We also wanted to emphasize speed, although some of our journals already publish articles within 2 weeks of submission. However, except in the case of an "editor's pick" article, an article would not be freely available until 6 months after publication (the 11 traditional-model journals also make original research articles freely available after 6 months).

The feasibility study led to an RFP for a publisher and a search for an editor-in-chief. The AHA Scientific Publishing Committee announced its intent to launch the new OA journal at the AHA's annual meeting in November 2010. Although lacking both an editor and a journal name, the OA journal was promoted extensively at the meeting. The wonders of marketing! Committee members also discussed the journal at length with current AHA editors to allay misgivings and encourage referrals from the 11 existing journals. Objectives included using the same peer-review process and achieving a slightly higher acceptance rate. The AHA's 16 member councils were asked to nominate editorial-board representatives, with the editor-in-chief making the final selections. It is the committee's hope that all the councils will participate, but especially those representing nutrition, physical activity, nursing, and other fields important to the AHA's overall mission, fields not represented often in the existing 11 journals.

The *Journal of the American Heart Association, JAHA*, began accepting submissions in November 2011 and published its first articles in February 2012. The referral process continues to be refined because we are also switching manuscript submission systems. Until all 12 journals are using one system, the process will be a bit tedious. *JAHA* submissions are steady, and we are encouraged by the number of direct submissions (not referred from the other journals). The editor-in-chief and the staff have been able to roll with the punches, handling the surprises that invariably occur in launching a new journal. We do not know what the future holds and are about to embark on more strategic planning, but we believe that we are better positioned to adapt and contribute to the AHA mission.

Thanks to Jody Hundley, AHA production manager, for reviewing and editing this article.

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PeerJ Heralds in a New Era of Innovation and Affordability in Academic Publishing

Peter Binfield

PeerJ (https://peerj.com), a new journal publisher founded on the principles of affordability, innovation, and open access, published its first 30 peer-reviewed articles on 12 February 2013, premiering several innovative features. Launched by Jason Hoyt (formerly at Mendeley and Stanford University) and Peter Binfield (formerly at PLOS ONE), *PeerJ* was shaped from the premise that "if society can set a goal to sequence a human genome for just $99, then why shouldn't academics be given the opportunity to openly publish their research for a similar amount?"

PeerJ aims to establish a new model for the publication of all well-reported, scientifically sound research in the biological and medical sciences. The journal has an economical and efficient peer-review and publication system and has assembled an editorial board of 800 academics, including an advisory board of 20. Articles undergo rigorous peer review; publication decisions are made on scientific validity rather than on perceived impact. *PeerJ* encourages "open" peer review (reviewers are encouraged to provide their names; authors can then reproduce the peer-review history alongside their published articles). The journal uses a Creative Commons License; all articles are free for readers to read, distribute, or reuse provided authors are properly attributed.

PeerJ is unique in that it operates a "membership model": Authors become lifetime members for a single payment, which can be as low as $99, giving them the ability to freely publish their articles thereafter. As a result, publication costs for authors are significantly lower than for similar OA publications.

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the taxpaying public, APS became (to my knowledge) the first publisher to offer free public access to the entire *Physical Review* corpus. This access has so far been limited to the United States, but plans are being made to expand the service to other nations. APS provides access to all its journals, back to 1893, to any US public library or high school that agrees to provide in-house, walk-in access to its patrons.

APS remains committed to producing journals of the highest quality while ensuring that researchers and students at all levels have access. APS has been an active participant in OA for a long time and will continue to work with our community in a responsive and responsible manner.

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substantial, and it is too early to predict its long-term success. In addition, the astounding success of *PLOS ONE* makes it difficult for new journals to compete in the OA marketplace.

Looking Forward

Times are interesting (perhaps a bit too interesting…) for scholarly publishers. The arena is competitive and dynamic, with rapid proliferation of journals (several well funded with staff tens of times the size of those of many society journals); pressure from authors, funders, and institutions to provide OA for content; increasing pressure from academic libraries and institutions to keep subscription prices flat (which may inadvertently quash publisher innovation and growth); and many other factors, depending on publisher niche.

Clearly, there is no one predefined path to (or definition of) success, though intellectual and fiscal sustainability are critical elements. For the GSA journals, less than 2 years after the launch of *G3*, it is too early to draw firm conclusions. We are, in many ways, still at the beginning of our experiments with OA, even as we remain optimistic and buoyed by community response.

Publishers—in particular, scholarly society publishers such as GSA—have myriad constituents and responsibilities, each distinct and important. It is our responsibility to rise to the challenge, commit to our mission to foster scholarship in our field of science and support our colleagues who pursue it, adjust our vision and practice when necessary, and set a high bar. It is our intent that *G3*, like *GENETICS* since its inception nearly a century ago, will tell stories of discoveries for years to come.

References

1. Bridges CB. Non-disjunction as proof of the chromosome theory of heredity. Genetics. 1916;1:1–52, 107–163.
2. Oldenburg, H. Phil Trans. 1665;1(1–22)
3. Dylan, B. The Times They Are a-Changin'. Columbia, 1963. LP.

Article

Predatory Publishers Threaten to Erode Scholarly Communication

Jeffrey Beall

Predatory open-access (OA) publishers—the ones that exploit the gold (author-pays) publishing model for their own profit—threaten the reputation of rigorously peer-reviewed OA journals. Many OA advocates singularly champion the open licensing of scholarly works but largely ignore the emerging serious quality issues. The result is an ever-increasing number of low-quality and even corrupt publishers, many of whom self-identify as noble for merely functioning as OA publishers—an identification that far too many OA advocates support.

The trend of increasing numbers of predatory OA publishers gives the regrettable impression that the quality aspects of scholarly publishing are diminishing. For example, one major OA publisher is stealthily doing away with journal editors, leaving accept–reject decisions to its staff members. Author misconduct is increasing, especially in non-Western countries. The continuing financial crisis has made governments worldwide demand more accountability on the part of the colleges and universities that they fund or subsidize. Accordingly, the schools are increasingly called on to demonstrate a return on investment, and quantifying faculty publications is a common method of making the return evident. In turn, that increases pressure on faculty to publish, so many hurriedly write or copy publications that the growing predatory publishing market is more than eager to accept and publish for a fee.

In contrast, if you are an honest and conscientious editor of a science journal, all the plagiarism and all the OA corruption might have a silver lining. It is probable that over time the editors and publishers who care about publishing ethics and about following industry standards will be increasingly valued for the good work that they do. The corruption of the predatory publishers will compel academe to assign greater value to the honest publishers, their editors, and their publications.

JEFFREY BEALL *is the scholarly initiatives librarian at the Auraria Library at the University of Colorado, Denver, Colorado.*

The Editor-in-Chief: A Diminishing Presence?

Hindawi Publishing Corporation is an example of a successful OA publisher. I do not classify it as a predatory publisher, but it is valuable to examine Hindawi as a case study of where OA publishing might be taking the scholarly publishing industry. Hindawi publishes 444 journals spread among five brands. The brands include the original Hindawi journals, the incongruously named International Scholarly Research Network (which is not a network in the usual sense of the word), Case Reports in Medicine, Conference Papers in Science, and Dataset Papers in Science. Hindawi is an OA publisher and charges about US $1,000 as the article-processing fee per accepted paper. The publisher relies on e-mail as its chief method of soliciting editorial board memberships and manuscripts.

One of the controversial aspects of Hindawi's peer-review process is that its journals do not have editors-in-chief. Instead, editorial duties are carried out by staff members at the company's headquarters in Cairo.[1] Contributing to Hindawi's success is the combination of Egypt's very high unemployment rate and a well-educated middle class. Hindawi has much lower labor costs than most publishers. Indeed, Hindawi is very profitable. In a September 2012 interview, the company's owner, Ahmed Hindawi, stated that "our results for the first half of 2012 show revenues of $6.3 million with a net profit of $3.3 million."[2] That means that Hindawi's profit margin, at least for that period, was 52%, much higher than Reed Elsevier's 36%.[3]

Science editors and the scientific community alike ought to be concerned that the editor-free Hindawi model will spread throughout the industry, not only because of the potential loss of positions but because of what it will mean for learned publishing itself. Reading *CSE's White Paper on Promoting Integrity in Scientific Journal Publications, 2012 Update*, I see a long section called "Editor roles and responsibilities".[4] Reading that section raises the questions of who will be covering all those roles in journals that lack editors and whether the responsibilities will be met at all. One of the main qualities that may separate high-quality journals from vanity-press journals is competent editorship, including editors-in-chief and manuscript editors. Among the predatory publishers that I observe and track, most purport to have editors-in-chief and editorial boards, but in many cases the editors are honorary or the editorial board members' names are added without their permission or knowledge or are even made up. Among those publishers, it is easy to observe the effects of the lack of editorial oversight. Papers are poorly edited or not edited at all, peer review is obviously not carried out, and the many variations of author misconduct, especially plagiarism, are evident in the papers published.

The poor editing and author misconduct bring into question the suitability of gold OA as a model for financing scholarly publishing. The model focuses on pleasing the authors rather than the readers because the authors pay the bills. Authors want their works to be reviewed and published quickly, and they want to submit their papers to a journal that offers them a good chance of being accepted—a strategy that saves time by avoiding the need for multiple submissions. The predatory publishers know that and

tailor their business practices to offer what their customers, the authors, want. They are extremely good at exploiting the naiveté of junior faculty and graduate students.

Author Misconduct

The publishers are not the only players in the OA movement that are "gaming" the system. I observe almost daily acts of author misconduct in predatory publishers' journals. Most of what I see involves piracy in the form of outright plagiarism or self-plagiarism. It is not uncommon for authors to use a previously published paper as a template for a new paper that they are writing. In doing so, they change some of the words but keep the earlier article's structure. When I document such plagiarism in e-mails to predatory publishers, I get a variety of reactions. Some ignore the message. Others quietly remove the article without printing a retraction statement.

It is clear that there is intense pressure to publish, especially in the developing world, and that the predatory publishers are merely meeting the need that the pressure is creating. A correspondent in Tamil Nadu, India, recently wrote that "our fellows have started to publish quick papers in the journals published by these people, as a force by institute to produce more output. After looking at your website, I have fear that our people [are] falling prey to such journals" (2012 e-mail from HN Kumara to me). The institutes grant more credit for work published in international than national journals, and this results in a surfeit of recently launched journals whose titles begin with "International Journal of . . . ".

The Future

Divisions among OA advocates have worsened the problems surrounding the adoption of OA as a distribution model: some fight for green (author self-archived) OA, and others for gold. Any questioning of the OA model generally attracts sharp and personal criticism. Some advocates seem more concerned with shutting down commercial publishers than with opening up access to scholarly research.

The number of predatory publishers is exploding, especially in South Asia. The word is out: you can make easy money by setting up a scholarly publishing Web site and accepting payments to publish fourth-rate articles. Never before has it been so easy to set up and start a scholarly publishing operation. Numerous templates exist, and the Public Knowledge Project's Open Journal Systems open-source software is being used by many corrupt publishers as their journal publishing platform.

At the end of the day, all those questionable publishing practices could be good news for the traditional scholarly publishers and for OA publishers who strive to add value to research by following rigorous editorial and scholarly-publishing industry standards. High-quality research publications will become more valued in an academe filled with rubbish articles. Recommender systems will be developed that filter out low-quality and questionable research and favor research published under the careful scrutiny of a well-qualified editor-in-chief. Social-media tools as applied to scholarly publishing will help to separate the high-quality works from the low-quality ones, and new metrics will confirm the value of well-edited journals. In the meantime, however, we all need to advance our scientific literacy, which now must include the ability to detect and avoid scholarly publishing scams.[5]

References

1. Poynder R. The OA interviews: Ahmed Hindawi, founder of Hindawi Publishing Corporation. Accessed 2012 Nov 6. http://poynder.blogspot.com/2012/09/the-oa-interviews-ahmed-hindawi-founder.html.
2. Hindawi A. The OA interviews: Ahmed Hindawi, founder of Hindawi Publishing Corporation. Accessed 2012 Nov 6. http://poynder.blogspot.com/2012/09/the-oa-interviews-ahmed-hindawi-founder.html.
3. Till JE. E-mail sent to the BOAI Forum e-mail list on 2012-09-17. Accessed 2012 Nov 6. http://threader.ecs.soton.ac.uk/lists/boaiforum/2769.html.
4. Council of Science Editors, Editorial Policy Committee. CSE's white paper on promoting integrity in scientific journal publications, 2012 Update. Accessed 2012 Nov 6. http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3313.
5. Beall J. Predatory publishers are corrupting open access. 2012. *Nature. 2012;489(7415):179.*

Article

Reshaping Scholarly Communication: Why Faculty Are Adopting Institutional Open-Access Policies

Richard A Schneider

On 21 May 2012, the Academic Senate of the University of California, San Francisco (UCSF) voted unanimously to make electronic versions of current and future scientific articles freely available to the public and thus made UCSF the largest scientific institution in the nation to adopt an open-access (OA) policy and among the first public universities to do so. The issues are complex, but our motivation was simple: The predominant system for scholarly communication has become economically unsustainable, restrictive, and critically limited in its ability to disseminate our research.

Our faculty members have come to recognize that although there remains a need to access increasing amounts of scholarly materials, the costs of purchasing such materials continue to rise, largely because of the pricing models of commercial publishers. Traditional fee-for-access publishing models restrict the distribution of scholarly publications to those who can afford subscriptions or per-article download prices. Across its 10-campus system, the University of California (UC) spends about $40 million per year to access scholarly materials, including the works of UC authors that are submitted to publishers. Many other universities and the public have less access.

UCSF has worked closely with colleagues on other campuses to develop an OA policy that it hopes will be adopted throughout the UC system. The policy is similar to those already in place in more than 140 peer institutions, including Harvard, the Massachusetts Institute of Technology (MIT), Duke, and Princeton. Those policies vary in details, but they operate similarly: By default, faculty members grant their institution permission (through a non-exclusive license) to disseminate the products of their scholarship freely and immediately through an OA repository. Faculty members have the option to deny or delay permission (to trigger a waiver of the license or policy) for any specific work. The implications of a UC system-wide OA policy are vast inasmuch as the UC system generates about 50,000 journal articles each year—more than 3% of the world's published articles. The California Digital Library supports the repository as part of its eScholarship service.

Questions often asked include, "Have we now achieved our objectives? When will faculty and the public see benefits? How have the commercial publishers responded?"

The OA policy has been an overwhelming success. UCSF publishes about 375 peer-reviewed, primary research articles per month; waiver and embargo requests have averaged 18 per month, under 5% of the total output. Thus, 95% of the articles are published in the repository without waivers or embargoes and are immediately and freely available to the public and other scholars. Those percentages are similar to the ones seen by our colleagues at Harvard and MIT.

The policy has markedly advanced our conversations with commercial publishers. When we implemented the policy, we notified publishers about UCSF faculty authors' expectations. Most of the publishers indicated that they would comply with the policy; a few raised objections or asked for additional clarification about what they could do to be compliant. In August 2012, we met with Elsevier executives who came to UCSF to request help in navigating the policy and to talk about our future relationship. We have been in discussions with the Nature Publishing Group (NPG) for more than 2 years—since threatening a potential UC system-wide faculty boycott of NPG in 2010 when NPG proposed raising licensing costs; the proposed increase has now been shelved. The CEO of Macmillan, the parent company for NPG, visited UCSF to discuss our OA policy, the process of peer review, and commercial publishing more broadly. We have had a similar conversation with the publisher of the *Proceedings of the National Academy of Sciences of the United States of America*. We encourage faculty to ask publishers that do not yet accept our OA policy to modify their author agreements to be compliant.

UCSF faculty members have a new awareness about author rights, access to their own work, and how their choices of where they publish affect those rights and access. More faculty members now understand that publishing and disseminating their scholarly work so that it is accessible to all has tremendous advantages, and they are embracing such OA journals as *PLOS*, *eLife*, and *PeerJ*.

Other institutions are following our lead. The movement toward institutional repositories that enable OA will require some individual sacrifices and inconveniences for faculty at first but will result in far-reaching rewards for academe and society. We have committed to developing a system that minimizes administrative burden on the faculty. We are working with publishers to make automatic deposits into our repository on behalf of faculty as some currently do for PubMed Central. An easy system for managing rapid workflow for deposits, addenda, embargoes, and waivers has been developed.

UCSF's OA policy has changed the culture and expectations at UCSF with respect to scholarly communication. As faculty who provide the content, peer review, and editorship that sustain traditional commercial publishing, we are now creating momentum for a new system that allows us to keep control of our own work and disseminate our research widely.

RICHARD A SCHNEIDER *is associate professor, department of orthopaedic surgery, University of California, San Francisco, California.*

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Current State of Peer Review

Speakers:
Anna Jester
Director of Sales & Marketing
eJournal Press

Kirsten Patrick
Clinical Reviews Editor
BMJ

Reporter:
Jeannine Botos
Scientific Managing Editor
Journal of the National Cancer Institute,
Oxford University Press

"Peer review is important, but it can be different at different journals," stated Anna Jester, director of sales and marketing at eJournal Press, to begin the session. Jester and Kirsten Patrick, editorials editor of *BMJ*, discussed three models of peer review: single blind, double blind, and open. In the single-blind model, the authors' identities are known, but the reviewers' identities are not revealed to the authors. In the double-blind model, the authors' and reviewers' identities are not revealed to each other.

Jester addressed some of the issues surrounding the practice of keeping identities confidential when files are sent as attachments—specifically how to find and remove additional information in a PDF or Microsoft Word document that might reveal the identity of its author. She recommended using a decision letter and adding the reviewer comments at the end of the letter rather than sending the reviewer comments as an attachment or sending the manuscript file with tracked changes that were incorporated by the reviewers. She provided an example of a decision-letter template in eJournal Press's manuscript-tracking system containing the reviewer comments following the body of the letter. She also presented examples of an electronic conflict-of-interest disclosure form for reviewers and mentioned that some journals send reviewer comments through their production departments as metadata.

Patrick shared some opinions regarding the pitfalls of the peer-review process and provided some suggestions for improving and maintaining the quality of reviews, such as scoring the reviews and giving reviewers rewards for high-quality reviews, for example, through CME credit; providing the comments of the other reviewers; training reviewers and giving them guidance; and using an open review process, in which the identities of the reviewers and the authors are known to each other, to increase the accountability of the comments (as *BMJ* does).

Patrick shared results of studies that compared the quality of open and blinded reviews, mentioning that one main finding of several randomized controlled trials was that recommendation decisions were similar in both systems. One study also found that reviewers could identify authors in double-blind reviews in 24–50% of cases. Kirsten discussed the *BMJ* open process of publishing original submitted manuscripts and reviewer comments online to supplement revised accepted manuscripts and noted that *BMJ* enables fast online postpublication open review—that is, with the identities of the postpublication reviewers—of *BMJ*-published manuscripts through Rapid Response, *BMJ*'s online correspondence.

Terminology in Science

So much talk has been making the rounds about open access (OA), and not all authors or editors are able to keep up with the multitude of articles that are published every day about it. It's difficult to learn and remember all the new terms that keep popping up, so here is a brief rundown of some of the lingo you should know when you want to have a semi-intelligent conversation about OA:

- DOAJ = Directory of Open Access Journals (www.doaj.org)
- ROAR = Registry of Open Access Repositories (roar.eprints.org)
- ROARMAP = Registry of Open Access Repositories Mandatory Archiving Policies (roarmap.eprints.org)
- Gratis OA = free (no cost) online access
- Libre OA = Gratis OA with some additional usage rights
- Gold Access = allows authors publishing in this type of journal to immediately access all of the journal's articles on the publisher's website
- Green Access (with Self-Archiving) = allows archiving in a public or institutional repository
- Delayed Access/Embargo = period of time (usually 6–12 months) after which a non-OA article or journal may then be provided as OA
- Free Access (as opposed to Open Access) = reader exchanges personal information (as currency) by completing a registration in order to gain access to an article or journal
- Access Tolls = subscription or pay-per-view; charge to cover publishing costs

If you have a more advanced understanding of OA, you might be interested in checking out a new resource that SPARC, PLOS, and OASPA are developing: a guide called HowOpenIsIt?, which serves as a one-stop shop for definitions, standardized terms, and mandates related to OA. (http://www.plos.org/about/open-access/howopenisit/)

Did You Know? Government Issues That Affect Publishing

Speakers:
Ori Lev
Health Science Policy Analyst
National Institutes of Health

David Carr
Policy Adviser
Wellcome Trust

Mary D Ari
Senior Scientist
Centers for Disease Control and Prevention

Moderator:
Christine Casey
Deputy Editor
Morbidity and Mortality Weekly Report
Centers for Disease Control and Prevention

Reporter:
Lindsey Buscher
Managing Editor
Allen Press, Inc

You read and hear in the news about the government issuing new regulations or passing bills about any number of things that pertain to a million different facets of life, but the questions constantly in the back of your mind—whether you're aware of it or not—are how does this affect me, and, as a professional in the publishing industry, why should I care? Christine Casey led a well-organized and informative panel that answered those questions.

The primary government issue that should currently interest those of us in the publishing world, especially in the life-sciences field, is something called dual-use research of concern (DURC). Ori Lev introduced session attendees to this topic and explained that DURC refers to the possibility that a piece of research could have more than one application; the problem is that scientific, and more often specifically medical, findings, if placed in the wrong hands, no matter how good the original intention, could be used in negative ways.

In 2004, the US government established the National Science Advisory Board for Biosecurity (NSABB), which reports to the secretary of health and human services and advises 15 departments and agencies. The following extract is from the government policy defining DURC as follows:[1]

Life sciences research that, based on current understanding, can be reasonably anticipated to provide knowledge, information, products, or technologies that could be directly misapplied to pose a significant threat with broad potential consequences to public health and safety, agricultural crops and other plants, animals, the environment, materiel, or national security.

Lev went on to explain that the NSABB was charged with recommending strategies for mitigating the potential for misuses of DURC. The NSABB established seven categories of experiments for which such strategies should be considered:[1]

Does the experiment

- Enhance harmful consequences of a biologic agent or toxin?
- Disrupt immunity or effectiveness of an immunization without clinical or agricultural justification?
- Confer on a biologic agent or toxin resistance to clinically or agriculturally useful prophylactic or therapeutic interventions against that agent or toxin or facilitate their ability to evade detection?
- Increase the stability of, the transmissibility of, or the ability to disseminate a biologic agent or toxin?
- Alter the host range or tropism of a biologic agent or toxin?
- Enhance the susceptibility of a host population to a biologic agent or toxin?
- Generate or reconstitute an eradicated or extinct biologic agent or toxin?

The NSABB formed a working group on journal review policies. Through its research, it found that few manuscripts had been flagged as reporting potential DURC. But in talking with editors, the working group discovered that most editors were not even aware of the policy or that DURC was a problem. That resulted in the NSABB recommendations of steps that journal editors and staff can take to mitigate the risk of publishing a paper with potential DURC. The recommendations include adding a section in the instructions for authors and providing them with information about DURC and allowing them the opportunity to notify editors at the time of submission if any part of a paper has potential for meeting DURC criteria.

David Carr, policy adviser at the Wellcome Trust, spoke from the perspective of a research funding agency. In line with the NSABB recommendations that Lev discussed, Carr said that, as a funder, the Wellcome Trust has an obligation to promote self-governance in the scientific community. To meet that obligation, the Biotechnology and Biological Sciences Research Council, Medical Research Council, and Wellcome Trust devised a joint policy in 2005 that established a guideline specifying that a checkbox be added to application forms that authors must check if anything in their research may meet the DURC criteria. The joint policy also established a guideline for referees that explicitly mentions research misuse as an issue to consider and a guideline for funding committees that spells out the process for assessing cases that raise concern. Carr noted that in his experience most authors applying for funding and questioned about potential DURC respond forthrightly, and only a few cases have been flagged; nothing has been of such great concern that it affected a decision to fund a project.

(continued on page 24)

Libraries and Librarians: A Changing Landscape

Speakers:
Bart Ragon
Associate Director for Knowledge Integration, Research, and Technology
University of Virginia Claude Moore Health Sciences Library

Jean Shipman
Director
University of Utah Spencer S Eccles Health Sciences Library

Reporter:
Judith A Connors
Managing Editor
Drug Information Association

Those in publishing are not the only ones experiencing drastic changes in job responsibilities and industry due to technology and economic issues. The session titled "Libraries and Librarians: A Changing Landscape" explored the changing roles of libraries in the support of researchers and knowledge sharing. It also addressed ways for librarians, publishers, and editors to work together to improve scholarly communications.

With ever-increasing quantities of information and research, how will universities keep up with the "data deluge" and maintain data in ways that keep them both manageable and accessible to researchers? Bart Ragon, associate director for knowledge integration, research, and technology at the University of Virginia's Claude Moore Health Sciences Library, discussed unique challenges presented by budget cuts and reduced funding opportunities as the library strives to meet needs for collaborative networked science. Concepts of data storage, data curation, the data life cycle, intellectual property, translational science, and data sharing are affecting how science is conducted. Ragon discussed how libraries are embracing changes and adjusting service models to meet the needs of highly networked and technology-savvy patron groups. He addressed the look of libraries in the future and explored the evolving nature of science, university responses, and new roles for libraries.

Jean Shipman, director, University of Utah Spencer S Eccles Health Sciences Library, also serves as principal investigator for the National Network of Libraries of Medicine, MidContinental Region and the NLM Training Center. Shipman addressed the shift of libraries from repositories for stored information to vibrant centers of discovery and knowledge creation in her presentation titled "Librarians Supporting Research". At the University of Utah, the administrative offices associated with the university's Clinical and Translational Science Award and a biomedical-device innovation center are housed in the library. The library leads the university's health-sciences interprofessional education initiatives, and an interprofessional student organization is also headquartered in the library. Librarians support all those occupants by conducting traditional literature reviews and offering new services, including data management, presentation-skill development, and training on federated clinical database searching and statistical database design. Libraries are changing their focus from organizing materials to organizing people, inasmuch as librarians are members of many mission-based teams to enable the effective use of high-quality, relevant, and timely information.

continued (from page 23)

Mary Ari echoed Carr's assertion that in the big picture of day-to-day processes, few articles produced by the Centers for Disease Control and Prevention (CDC) have been flagged for DURC, but CDC has a clearance process that is overseen by the Institutional Biosecurity Board and follows the NSABB guidelines. Ari also said that CDC now requires all its scientists to receive Web-based DURC training. CDC uses an electronic system to track compliance, which requires authors to obtain a DURC ID number from the system and to include it in the submitted manuscript.

Ari discussed the importance of data sharing. Although it is not a requirement in the United States, CDC was an early user of data-sharing Web sites. It has discovered that using such Web sites as ArrayExpress, GenBank, and Dryad increases use of and interest in the journal and increases transparency and credibility. Such challenges as choosing which Web site to use, protecting data to avoid DURC, and ensuring confidentiality are involved in requiring authors to share data, but the incentives and rewards, such as receiving grant funding, tend to outweigh the burdens.

The take-home message: For data sharing to work at its optimal level, everyone needs to be on board—editors, authors, funders, and publishers. Funders would like to see more discipline-specific databases available. Authors want to make sure that their research is protected, and they do not want to be responsible for publishing anything that violates the DURC policy and could lead to a national-security or public-health threat; but they want access to other researchers' data that may help them to further research in their fields. All arms of academic and scientific publishing must continue to have joint policy-making discussions about DURC and data sharing.

Reference

1. United States Government Policy for Oversight of Life Sciences Dual Use Research of Concern. Accessed 2012. http://oba.od.nih.gov/oba/biosecurity/pdf/united_states_government_policy_for_oversight_of_durc_final_version_032812.pdf

Helping Novice and International Authors to Publish

Speakers:
Thomas M Annesley
Professor of Clinical Chemistry
University of Michigan

Helen B Atkins
Editorial Director
American Association for Cancer Research

Moderator:
Sue Silver
Editor-in-Chief
Frontiers in Ecology and the Environment

Reporter:
Barbara Gastel
Professor, Department of Veterinary Integrative Biosciences
Texas A&M University

Many authors of scientific papers are new to scientific publishing, are non-native speakers of English, or both. Speakers at this session discussed initiatives to guide such authors.

Introducing the session, Sue Silver described workshops that she and fellow science editor Philippa Benson have given since 2007 in China, which now is second only to the United States in number of papers published per year. Silver emphasized that the workshops, which last 2 days, address not how to write papers but what happens once a paper is submitted. She and Benson have also written a book titled *What Editors Want: An Author's Guide to Scientific Journal Publishing* (University of Chicago Press, 2012).

Thomas M Annesley began by saying that even in the United States many researchers are non-native speakers of English. He noted that cultures differ in norms regarding authorship criteria, plagiarism, duplicate publication, and response to editor and reviewer comments. He observed that although formal courses and workshops are the best way to help scientists improve their writing, they are not always available.

"What can journals and editors do?" Annesley asked. His answers: make authors aware of available resources, create and disseminate resource materials, and collaborate to make resources available.

Annesley identified a variety of resources, including materials available online through OARE (Online Access to Research in the Environment), HINARI, AGORA (Access to Global Online Research in Agriculture), ARDI (Access to Research for Development and Innovation), and AuthorAID. With regard to creating and disseminating resource materials, Annesley noted the article series that constitutes the *Clinical Chemistry Guide to Scientific Writing* and reported that the series had been translated into Chinese and Spanish and that translations into Russian and Arabic were under way.

With regard to collaborating to make resources available, Annesley listed tasks for journals and editors to consider, including assembling and publicizing an agreed-on set of online resources, supporting conferences on scientific writing and publication, and developing joint projects to educate authors about publication standards and ethics. He also raised the possibility of constructing standardized sections or wording for instructions for authors, and mentioned possibly developing tools to bridge cultural gaps regarding publication norms and ethics.

Helen B Atkins spoke from the perspective of the American Association for Cancer Research (AACR), which publishes seven peer-reviewed journals. She said that the submitting authors of many of the papers received are outside the United States. She then described measures that AACR has taken to facilitate publication by novice and international authors. For example, Atkins reported that since 2009, AACR has included in its annual meeting a professional-advancement lecture series featuring presentations by journal editors and publication staff. Intended mainly for early-career researchers, the presentations address such topics as journal selection, authorship determination, manuscript organization and writing, the review process, response to reviewer comments, and publication ethics. The presentations sometimes draw 300–400 attendees.

Atkins mentioned that the AACR publication portal includes an author-services center with links to information on such subjects as journal scope, editorial policies, and language-editing services. She also said that the instructions for authors of all AACR journals had been standardized, with consistent core policies and requirements, to facilitate compliance by authors. In closing, she noted three other measures taken that can help novice and international authors: appointing international editors and editorial-board members, distributing information about the journals at international meetings, and having editorial staff provide excellent customer service.

Journals Production: Workflow, Efficiency, and Metrics

Speakers:
Dana Compton
Production Manager
Proceedings of the National Academy of Sciences of the United States of America

Jackie Perry
Editorial Manager
Society for Neuroscience

Angela Cochran
Director, Journals
The American Society of Civil Engineers

Moderator:
Michael Friedman
Journals Manager and Technical Editor
American Meteorological Society

Reporter:
Ken Heideman
Director of Publications
American Meteorological Society

The primary goal of this session was to help journal publishers of all kinds to optimize their operations. The group of speakers provided a microcosm of the challenges faced by different publishers throughout the STM community. In terms of the size of their operations, publications varied from one weekly journal and 18,500 pages published annually in the case of *Neuroscience*; to one weekly journal and 22,000 pages in the case of the *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*; 33 technical journals, 22,000 pages, and 220 issues per year in the case of the American Society of Civil Engineers (ASCE); and 10 technical journals, 26,000 pages published, and more than 100 issues released annually (semimonthly to quarterly) in the case of the American Meteorological Society (AMS).

Different fundamental workflows are needed for publishers with such a variety of throughput. Jackie Perry discussed the need for *Neuroscience* to transition from an "assembly-line" workflow, in which rapid training and production were outweighed by the boredom and burnout associated with that approach, to a "people-designed" workflow, which allows a unified team approach consisting of interested and integrated staff that have much broader knowledge of all aspects of the workflow. ASCE, with its many journals, has opted to forge a single workflow that covers all but one of its journals; this requires rigid schedules and lots of planning but yields maximum efficiency. ASCE has the same month-by-month schedule for each journal, staggered due dates, and standardized deliverables (for example, one due date and one mailing date). The exception or outlier is a quarterly journal that has its own scheduling paradigm and that, according to Angela Cochran, is an enormous time sink, taking up a disproportionate amount of time. Cochran strongly recommends against having titles that are outliers with respect to workflow. The ASCE approach is in distinct contrast with that of AMS, in which production scheduling and resource allocation are customized to the demands associated with each individual journal, which can range from under 1,000 to more than 6,000 pages annually. AMS also maintains separate in-house copyediting and technical-editing staffs; this allows for increased scrutiny of each paper but requires a larger staff than most STM publishers to adjust for the number of journals and pages published. The print schedule for *PNAS* is fixed; author proof return dictates the online production schedule. Processing and production are handled by two teams of six people each.

Although the contrasting workflows described show clearly that there is no single overarching approach to optimal production for publishers of different kinds, what was most striking in listening to the speakers were the *similarities* in reporting, metrics, and relationships with vendors that undergird the production workflow of all four publishers. It is those common characteristics that appear to drive the success of the publishers and that other STM publishers would do well to emulate. They include comprehensive reporting and scheduling (knowing where each paper is at any given moment), regular meetings with staff and vendors to make sure that expectations are clear and that production is on track, robust metrics to measure performance throughout the production process, and adherence to predetermined budgets.

The session was engaging, and the takeaway message was that although publishers can use any number of workflow designs effectively, core elements are common to all successful publishers in producing their journals.

Remote Office: Experiments in Working Offsite

Speakers:
Robert G Sumner
Editorial Coordinator
American Association for Clinical Chemistry

Glenn Landis
Managing Editor
Journal of Clinical Oncology

Reporter:
George H Kendall
Managing Editor
Anesthesiology

This session focused on new opportunities in publishing that allow publishing professionals to work remotely. Because our industry has adopted such tools as online peer-review and tracking systems, content is for the most part online, and editorial-board members are usually situated around the country and the world. Thus, it seems logical that the important business of journal editing, peer-review management, and even oversight of an editorial staff can also be managed from remote locations rather than a centralized office. To be sure, remote offices require new tools and technology and a new style of management; this session focused on these requirements.

Robert G Sumner, editorial coordinator of *Clinical Chemistry*, began by discussing the "cloud" in his presentation, "Life Above the Clouds". The American Association for Clinical Chemistry (AACC) has adopted cloud servers, which allow office workers to log in from any computer or smartphone. Employees' personal desktops and all saved information are on a server. Thus, all work is mobile, and nearly all work requires Internet connectivity.

The drawbacks to the cloud lie in potential connectivity problems and bugs, such as printer and copy-and-paste issues, for which the help of IT staff is needed. The AACC servers are no longer housed at the society but are maintained by Citrix (some might see this as a potential problem). However, as Sumner pointed out, working from the cloud is more cost efficient than housing servers on site. In addition, the latest software is updated in the cloud, so users do not need to install it on their devices.

Glenn Landis, managing editor of the *Journal of Clinical Oncology*, published by the American Society of Clinical Oncology (ASCO), discussed ASCO's experiment with ROWE, Results Only Work Environment. ASCO began using ROWE in the middle of May 2011, and it has been successful to date. Landis explained that ROWE has nothing to do with being a remote-only worker. The management strategy behind ROWE focuses on results. Employees have control over their time, but each job has concrete and measurable goals in addition to expected results. Performance is measured by results, not by time or physical presence. Employees can start late, leave early, and work in the office or at home.

Landis explained that the advantages of "going ROWE" are an improved work–life balance, improved team capacity and efficiency, improved morale, and optimization of the latest technology. Another ROWE plus: It is a great way to attract and retain top talent. But how do you measure results in ROWE? Management must be clear about goals and is expected to monitor and determine whether goals and expectations of results are being met. It is also critical to monitor staff workloads.

Meetings are an interesting aspect of ROWE. Landis noted that all meetings are optional. The meeting planner has to be descriptive about the meeting topic; for example, the planner must note who is required and who is optional and must provide an agenda. All meetings are conducted via telephone and Webex. Landis observed that since ASCO began ROWE, the journal has had fewer meetings; some may consider this an added benefit of adopting ROWE!

Think Now about Registering for the CSE Publication Certificate Program

The launch of CSE's certificate program in scholarly publication management in spring 2012 was well received. Members accepted into the program include Ashley Apple, Mary Billingsley, Jessica Brabrant, Christine Casey, Judith Connors, Bridget Egan, Shirin Heidari, Jennifer Jongsma, Nevzat Karabulut, Lee Ann Kleffman, Roger Ladouceur, Jackie Malling, Angel Marsh, Julie Methot, Jon Munn, Sandra Page-Cook, Virginia Ramsey, Kavitha Reinhold, Sasha Ruiz, Rebecca Simmons, Morgan Sorenson, Julie Strain, Anne Sundermann, Ana Traversa, and Laura Ziehm.

Any CSE member may apply for the program; accepted applicants will receive a 20% discount on related activities (Webinars, conferences, and short courses). Over a 3-year period, participants must attend two CSE annual conferences, including four sessions at each meeting that are identified on the program as part of the "track"; three CSE Webinars (one may be recorded); and two CSE short courses (choice of Publication Management, Journal Editors, Publication Metrics, or Publication Ethics). Each participant will propose an independent research project, prepare a poster presentation for an annual meeting, and submit a research paper based on the project to *Science Editor*. Go to *www.councilscienceeditors.org* to complete an application.

CSE–COPE Joint Session: Learning to Do the Right Thing—Educating Editors, Authors, and Reviewers in Publication Ethics

Speakers:
Virginia Barbour
Chief Editor, PLOS
Chair, Committee on Publication Ethics

Sarah Tegen
Director, Editorial Office Operations
American Chemical Society

Christina N Bennett
Publications Ethics Manager
American Physiological Society

Moderator:
Angela Cochran
Director, Journals
American Society of Civil Engineers

Reporter:
Leslie A Walker
Manager, Journals Editing
American Chemical Society

If you are reading this summary, you are quite possibly wrestling with the hot-button topic of publication ethics. This session was a strong kickoff to the variety of excellent concurrent sessions at the CSE annual meeting and pointed to a wealth of information and resources. The three speakers are experienced in publication ethics and how to promote understanding of ethical expectations and behaviors.

Virginia ("Ginny") Barbour opened the session with a brief history of the Committee on Publication Ethics (COPE) and its mission, introducing herself as the current chair of the committee. COPE formed in 1997 as an organization focused on ethical issues touching researchers and publishers of biomedical content and has grown to more than 7000 members, representing a wide array of academic fields.

As a service organization, COPE has taken on the roles of educating, guiding, and supporting and uses various approaches and resources to accomplish these goals. A visit to the COPE Web site at http://publicationethics.org and a click on "Resources" offers numerous tools, including the COPE guidelines, case studies, flowcharts for feasible action related to various ethical situations, information on seminars and forum meetings, and e-Learning resources. The News & Opinion section links to a variety of related stories and media sites to keep members informed.

Following Barbour's introduction, Sarah Tegen's presentation was a seamless segue to describe how one publisher, the American Chemical Society (ACS), is actively addressing concerns about publication ethics and providing guidance to authors and scientific editors. Tegen's presentation, "Teaching Our Constituents to Do the Right Thing", summarized innovative ways in which ACS approaches publication-ethics education for editors, authors, and reviewers, using opportunities to meet in face-to-face settings and to reach audiences around the world through technology-based avenues. One of the most popular avenues is the outreach program "ACS on Campus". Each ACS on Campus event, hosted in a university setting, affords opportunities for personal interaction with ACS editors and staff who bring the message of publication ethics directly to students, researchers, and authors. If ACS is not on your campus, the video series "Publishing Your Research 101" at http://pubs.acs.org/page/publish-research/overview.html includes an episode on ethical considerations for authors and reviewers. The series is a must-see for scientists who are considering publishing for the first time and for seasoned researchers alike.

Christina N Bennett rounded out the presentations by describing the process approach that the American Physiological Society (APS) follows to communicate concerns to authors when ethical violations are detected. In addition to the description of sample communications to authors regarding potential transgressions in textual content, of special interest were the information and insights related to imagery and acceptable and unacceptable practices that authors often follow with graphics. Bennett noted that authors have sophisticated tools at their disposal and often a high level of expertise with them, but do not realize that image manipulation may be inappropriate and violate publishers' ethical guidelines for data presentation. APS and other publishers are now including detailed information on image presentation and acceptable practices regarding graphical elements with their information for authors. Bennett further noted that publishers are evaluating submitted images for compliance with stated guidelines and policies.

The Council of Science Editors remains a key support resource for publishers, researchers, and other people and organizations that are trying to navigate the changing and competitive academic landscape while avoiding ethical roadblocks along the way. The newly updated *CSE White Paper on Promoting Integrity in Scientific Journal Publications* (2012 update) is available online at www.councilscienceeditors.org.

Correcting the Literature: Committee on Publication Ethics Seminar Highlights

May Piotrowski

The 2012 Committee on Publication Ethics (COPE) North American Seminar, held on 19 October at the Bechtel Conference Center in Reston, Virginia, focused on the importance of correcting the scientific literature. Speakers and members of the COPE Council discussed ways to handle expressions of concern, corrections, and retractions. The seminar was attended by more than 50 science, technical, and medical editors in various roles and disciplines.

Retraction of Scientific Papers: The *Science* Experience

COPE defines retraction as a mechanism for correcting the literature and alerting readers to publications that contain flawed or erroneous data. Barbara Jasny, deputy editor of *Science*, shared her journal's best practices in dealing with retractions. Her first piece of advice: Rapid online retraction can do harm. Jasny recommended that journals exercise caution and ensure that a fair process has been implemented before issuing retraction notices and editorial expressions of concern. She emphasized that each case is different; science editors must evaluate each scenario carefully to ensure that appropriate steps are taken. For example, if a retraction request were prompted by an anonymous whistleblower, it is important to ask about the whistleblower's motivations. According to Jasny, when *Science* receives a credible report from an anonymous whistleblower, it requests identification of the person making the report with the understanding that he or she will remain anonymous throughout the retraction process.

MAY PIOTROWSKI *is editorial manager*, Proceedings of the National Academy of Sciences of the United States of America, *Washington, DC*.

Jasny presented three kinds of retractions: good—retractions are initiated or agreed upon by the original authors; bad—one or more authors refuse to sign the retraction; and ugly—authors refuse to accept findings of an institutional investigation.

The retraction process takes staff time and journals' resources. What can journals do to help prevent retractions? At *Science*, all authors are required to be responsible for the submitted work. According to Jasny, the requirement comes at a time of increased multidisciplinary papers, which makes it more difficult for journals to verify author responsibility. As a result, *Science* asks for specific author activity on the basis of the level of participation measured by percentages.[1] In addition, senior authors are asked to affirm that they have personally checked all original data. *Science*'s authorship policy follows authorship requirements presented in *On Being a Scientist: A Guide to Responsible Conduct in Research*, third edition, published by the National Academy of Sciences.[2]

The Hwang et al papers that *Science* published in 2004 and 2005 and later retracted in 2006[3] prompted the journal to revisit some of its policies.[4] Since the Hwang et al retraction, *Science* has implemented the following procedures: Alerts all coauthors when an author submits a paper with their names on it; requires all authors of accepted manuscripts to affirm and explain their contribution to the manuscript and any conflict-of-interest disclosures; sends submitted figures through a digital image check; and asks authors to ensure that all data necessary to understand and extend conclusions of the manuscript are included so that they are available to readers. *Science* does not allow references to unpublished data; all references and data must be available at the time of publication.

Jasny attributes the rise in retractions to large data sets, the possibility that supplemental material is not as rigorously reviewed as the main article, an increase in interdisciplinary papers, miscommunication, and pressures on scientists associated with grants, prestige, and public attention. Jasny identified risk factors that can help journals to flag papers that should receive a higher level of scrutiny: the multidisciplinary nature of the work, results that seem too good to be true, involvement of multiple laboratories in different countries, and fast turnaround in data preparation.

Jasny mentioned an article by Casadevall et al in the *Proceedings of the National Academy of Sciences of the United States of America* that reported that of the 2,047 biomedical and life-science research articles indexed by PubMed as having been retracted on 3 May 2012, only 21.3% were attributable to error. Meanwhile, 67.4% of retractions were attributable to misconduct (43.4%), duplicate publication (14.2%), or plagiarism (9.8%).[5]

Jasny acknowledged the complications associated with retractions but emphasized that problem papers are in the minority.

CrossMark: There Is No Final Version

CrossRef's Carol Meyer provided updates on how CrossMark is helping journals to deal with the increasing incidence of retractions.[6] Readers need to know when scientific literature changes, said Meyer. She showed five samples of actual journals and asked attendees to try to identify quickly whether any of the articles were corrected or retracted. Most of the samples were clearly marked; a couple required a few extra seconds to identify whether they were linked to a correction or retraction.

Meyer noted that although the Internet helps to disseminate scientific literature, search results can include republished PDFs, outdated press releases, and other unidentified sources, which leave readers in the dark as to whether a published work has been corrected or retracted.

To help in identifying corrected and retracted literature, a CrossMark ribbon logo is added to documents published by participating CrossRef members. By clicking on the CrossMark ribbon, a reader can identify whether the literature is current or is linked to a published correction or retraction.

CrossMark is available to all CrossRef members, and participation is optional. Participants must maintain their content, keep CrossMark metadata up to date, and adhere to CrossMark logo display guidelines.

Legal Issues in Corrections, Retractions, and Expressions of Concern

Mark Seeley, senior vice president and general counsel of Elsevier, offered advice on how journals should handle legal correspondence, which he said often deals with patent issues, defamation, or allegation of ethics violations. For someone to take the time to have a lawyer write to a journal is superfluous, said Seeley, in that anyone can contact a journal or institution directly to air concerns.

According to Seeley, patent issues are not for journals to solve. Inventor–authors have a short window to file their patents, so they are not always mindful of the legal requirements. Publication of a paper is considered public disclosure.

A journal's primary defense against defamation is clearly stated policies, Seeley said. In defamation cases, a researcher's or academician's reputation may be at stake. A journal's objectivity and due process are also being questioned. He emphasized the need for consistent, well-communicated journal policies.

Legal correspondence that involves allegations or refutations is typically related to fraud, plagiarism, unreported conflict of interest, or submission-process misconduct. Seeley advised treating such legal correspondence like any other complaint: evaluate the alleged act to determine whether it violates publication ethics and whether it matches the journal's policy, Seeley added. He suggested reaching out to trusted experts to help in evaluating the allegations.

Seeley also noted that before editors of journals consider reporting the violation to an author's institution, they should provide an opportunity for an alleged wrong-doer to explain and defend against allegations.

The courts are not unsympathetic but are reluctant to intervene in these matters because they recognize that there are other forums for them. "The courts seem to respect the scientific process and are not overawed by legalistic complaints," he said.

Summary

Closing remarks by COPE Council members Geri Pearson and Charon Pierson underscored the value of well-written retraction statements. They recommended making sure that statements are linked to manuscripts, clearly identified, published promptly, and freely available.

A retraction statement should clearly note who issued the retraction and the reason for it and should avoid defamatory language, Pearson said. In handling retractions, it is important for journal editors to move cautiously but decisively. The retraction process can put a strain on smaller specialty journals that have small staff and limited resources, Pierson said. Editors should turn to their trusted experts and not make decisions in isolation.

References

1. Science/AAAS authorship form and statement of conflicts of interest. Science. 2012; http://www.sciencemag.org/site/feature/contribinfo/prep/coi.pdf.
2. Committee on Science, Engineering, and Public Policy. On being a scientist: a guide to responsible conduct in research. The National Academies Press. 2009; http://www.nap.edu/catalog.php?record_id=12192.
3. Special online collection: Hwang et al. controversy–committee report, response, and background. Science. http://www.sciencemag.org/site/feature/misc/webfeat/hwang2005/
4. Vogel G. Picking up the pieces after Hwang. Science. 2006;312(5773):516–517. http://www.sciencemag.org/content/312/5773/516.full?sid=6d792ee0-2c02-44bc-b746-07ac52812a35.
5. Fang FC, Steen G, Casadevall A. Misconduct accounts for the majority of retracted scientific publications. Proc Natl Acad Sci. 2012 (published ahead of print Oct 1, 2012); http://www.pnas.org/content/early/2012/09/27/1212247109.full.pdf+html.
6. Van Noorden R. Science publishing: the trouble with retractions. 2011 Nature. ;478:26ñ28. http://www.nature.com/news/2011/111005/full/478026a.html.

Member Profile: Jocalyn Clark

Stacy Christiansen

She may have what she calls a "traditional academic health-sciences background", but Jocalyn Clark has anything but a traditional health-sciences job. She is the senior magazine editor for *PLOS Medicine*, a peer-reviewed, weekly, open-access medical journal.

Jocalyn started her career as an undergraduate biochemistry major, completed both a master's degree and a doctorate in public health, and landed a fellowship with the Canadian Institutes of Health Research. Her interests included research on the use of health services by women who had been sexually assaulted and gender-equity and public-health issues. In addition, she researched, wrote, and edited a fair amount on peer review, and this led her to attend the International Congress on Peer Review and Biomedical Publication in 2001. There she met Richard Smith, editor of *BMJ*, who encouraged her to apply for a fellowship at *BMJ*. Jocalyn said that she "really enjoyed the 1-year *BMJ* fellowship" and was later hired full-time as an assistant editor.

In 2008, Jocalyn moved back to Canada, when she joined *PLOS Medicine*. In her current role, Jocalyn oversees the magazine (front) portion of the journal, including commissioning pieces and editing content for weekly publication. She believes PLOS has been most influential in articles about ghostwriting, the role of the food industry in global health, and access to clean water as a basic human right. Jocalyn wrote one of the first pieces published in a medical journal that examined the use of rape as a tool of war. She believes that *PLOS Medicine* is uniquely situated to provide a forum for critical issues in global health both because of its open-access license and because it does not take money from the pharmaceutical industry for advertising. Jocalyn notes that her job requires travel, so she gets to meet "amazing, dedicated people who are addressing health inequities".

When asked about the open-access model for a medical journal, Jocalyn explains that open access allows the world's scientific and medical research to be a public resource. She notes two important issues: removal of barriers to accessing the literature and author retention of copyright. She notes that although wealthier countries do not see barriers to content access ("many of us in wealthy countries can use our library's institutional subscriptions to read journals"), this is not the case for most people, especially in developing countries. She says that authors tend not to understand the copyright issues involved in publishing when they transfer copyright to publishers who then sell access to their content, and that research funded by public dollars—and peer review conducted by academics—should be free and in the public domain.

Jocalyn Clark

In addition to her work at *PLOS Medicine* and as a professor of medicine at the University of Toronto, Jocalyn stays active with yoga, Pilates, and running (including a few marathons). She is an avid sports fan and could see herself as a yoga and Pilates trainer if she were not in biomedical publication.

But that is where she wants to be: At *PLOS Medicine*, Jocalyn is able to pursue her passions in global and public health. "I want to travel and experience other cultures, especially regarding public health." She feels that her current position allows her to make contributions in public health, and this is the most important work that she has done in her career.

STACY CHRISTIANSEN *is director of manuscript editing at* JAMA, *Chicago, Illinois*.

Selected Articles and Posts of Interest to Publishing Professionals

Barbara Meyers Ford

The Benefits of Rejection

by Ruth Williams

A survey of the pre-publication histories of papers reveals that manuscripts that are rejected then resubmitted are cited more often. A rejection notice never feels good, but new research suggests an upside to this routine disappointment in the scientific community. Chances are, if a researcher resubmits her work to another journal, it will be cited more often, according to an extensive pre-publication survey published on 11 October in *Science*. The finding should not only reassure frustrated scientists, but also persuade journal editors to perhaps reduce rejection rates and instead encourage revision.

Photo: WIKIMEDIA COMMONS

Posted 11 October 2012 on THE SCIENTIST Web site(http://www.google.com/search?q=The+Scientist&rls=com.microsoft:en-us&ie=UTF-8&oe=UTF-8&startIndex=&startPage=1&rlz=1I7AURU_enUS499)

Effective Wording for Your Backlinks

by Carolyn Cohn

Cohn is clear and concise, yet comprehensive, in her treatment of this topic of importance to all publishers. "Links are a critical and extremely regular part of your content and your business. You want your readers to click on them so that they can understand more clearly what you do and what you offer. Link wording must entice." She lists and explains in detail what you should work on to influence readers into an active response to your content. Her main items to remember:

- Use the most effective phrasing possible
- Have links that lead to specific things
- Where to place the link in your content? At the end of a sentence

Posted on 13 October 2012 to Compukol Connection (http://www.compukol.com/blog/effective-wording-for-your-backlinks/)

CC-BY Reflects a Small Subset of Open Access. Claims of 'Emerging Consensus' on CC-BY are Premature.

The Open Access Scholarly Publishers' Association's "Why CC-BY page" http://oaspa.org/why-cc-by/ refers to an "emerging consensus on the adoption of CC-BY." OASPA refers to an "emerging consensus" that CC-BY is the best license for open access. I argue that the evidence suggests that CC-BY is a peripheral phenomenon and very far from consensus. From Peter Suber's SPARC Open Access Newsletter, June 2012—in brief only 11% of the journals listed in DOAJ use CC-BY, and outside of full gold OA publishing as illustrated by the journals in DOAJ, the proportion of OA that is CC-BY is lower still. http://www.doaj.org/?func=sealedJournals

Posted by Heather Morrison on 23 November 2012 on the *The Imaginary Journal of Poetic Economics* blog (http://poeticeconomics.blogspot.com/2012/11/cc-by-reflects-small-subset-of-open.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+blogspot%2FAWUpr+%28The+Imaginary+Journal+of+Poetic+Economics%29)

Can Drug Research Still be Trusted? *Washington Post* Exclusive

Arguably the most prestigious medical journal in the world, the *New England Journal of Medicine* regularly features articles over which pharmaceutical companies and their employees can exert significant influence, a Washington Post investigation has found.

Over a year-long period ending in August, about two-thirds of the articles on new drugs published in the journal were co-written by employees of the companies that made the drugs, a *Post* analysis has found. The journal's reliance on industry research, despite notable examples of potentially lethal bias, reflects the ability of pharmaceutical companies to shape science and influence what doctors prescribe for their patients.

Posted Saturday, 24 November 2012 Read more at: http://www.washingtonpost.com/business/economy/as-drug-industrys-influence-over-research-grows-so-does-the-potential-for-bias/2012/11/24/bb64d596-1264-11e2-be82-c3411b7680a9_story.html

The CSE Short Courses: A Great Reason to Arrive Early in Montreal

Nancy Devaux
Director, CSE Short Courses

We are excited to offer four engaging short courses immediately before the 2013 CSE annual meeting in Montreal. These short courses provide a unique opportunity to learn about relevant publishing topics from experienced leaders in the scientific and medical journal community and are conveniently held at the same venue as the conference. The courses are specifically designed by and for editorial and publications professionals just like you. Attendees are encouraged to bring questions for discussion in a room full of like-minded people. Come to Montreal a day or two before the annual conference to learn from and with other journal editors, managing editors, manuscript editors, and publishing leaders. Increase the value of your CSE experience—expand your knowledge and skill set while sharing with your publishing colleagues.

Short Course for Journal Editors

Friday, 3 May, and Saturday, 4 May—William Lanier, MD (editor-in-chief of *Mayo Clinic Proceedings*) will again coordinate this 2-day Short Course for Journal Editors. It is designed as an introduction for newly appointed editors and a refresher for experienced colleagues, providing a comprehensive survey of the roles and responsibilities of editors of scientific journals. There will be formal presentations on the fundamentals of editing, the editorial board, journal management, publishing ethics, operating business practices, and considerations for introducing a new publication or improving an established one. The group discussions are a key feature of the course: they provide an opportunity for detailed consideration of decision making, manuscript improvement, allegations of inappropriate behavior, and, most important, the issues that participants bring to the table.

Short Course for Publication Management

Saturday, 4 May—Course Coordinator Amy McPherson (managing editor of the *American Journal of Botany*) and her experienced faculty will present and reinforce efficient and effective methods of managing a journal. This 1-day course will address the wide-ranging role of managing editors and publication managers and the challenges that they face daily. This is the basic course for those new to journal management; it is also designed to fill in the gaps and provide new ideas and perspectives for experienced managers. The keynote session of the course will be "Managing to Lead". Further sessions will address managing communications and people; working with publishing partners; organizing workflow; working with editors-in-chief, associate editors, editorial boards, authors, and reviewers; and perspectives of editors, authors, and reviewers. Discussions will include current controversies in ethics, conflicts of interest, and open access.

Short Course on Journal Metrics

Saturday, 4 May—Journal managers have a plethora of data at their fingertips. The Short Course on Journal Metrics, led by Angela Cochran (journals director at the American Society of Civil Engineers), will explore the kinds of data available to journal managers and why it is important to

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"Communicate Science Effectively: The World Depends on It!"—Making It Happen at the 2013 Annual Meeting in Montreal

Michael Friedman and Tony Alves
Cochairs, 2013 Program Committee

In the world today, communicating science effectively is not just an option—it is arguably one of the most important prerequisites for constructively addressing fundamental problems that the planet we live on and society as a whole are facing. CSE members are uniquely positioned to be key contributors in identifying relevant issues, addressing them, and working toward solutions.

In recognition of those important roles, the theme of the 2013 CSE annual meeting is "Communicate Science *Effectively*: The World Depends On It!" The meeting will be held at the Fairmont Queen Elizabeth Hotel in Montreal, Quebec, Canada, on 5–6 May 2013, immediately after the pre-meeting short courses on 3–4 May. Two outstanding keynote addresses will connect to the topic:

- On Sunday, 5 May, the keynote speaker will be Jeffrey Drazen, editor-in-chief of the *New England Journal of Medicine* (*NEJM*). Dr. Drazen serves as the Distinguished Parker B. Francis Professor of Medicine at Harvard Medical School and professor of physiology at the Harvard School of Public Health. He joined *NEJM* as editor-in-chief in July 2000. His editorial background includes service as an associate editor or editorial board member of the *Journal of Clinical Investigation*, the *American Journal of Respiratory Cell and Molecular Biology*, and the *American Journal of Medicine*. His presentation is titled "Two Hundred Years of Communicating the Medical News" and traces the history of medical-event reporting over the 200 years of *NEJM*'s existence.
- On Monday, 6 May, award-winning *New York Times* blogger Andrew Revkin will deliver the plenary address. Mr. Revkin is the senior fellow for environmental understanding at Pace University's Academy for Applied Environmental Studies and writes the award-winning Dot Earth blog for the Op-Ed section of *The New York Times*. He also serves on the Advisory Board for the Center for Communicating Science at Stony Brook University. An author of several books, he has written extensively on communication and the environment and speaks to varied audiences around the world about the power of the Web to foster progress on a finite planet. He will speak on "The New Science Communication Climate", examining the very rough path from research lab to journal to the public and policymakers, and exploring issues and opportunities as conventional science journalism shrinks and other means of exploring science online grows.

A number of the sessions in Montreal are built around bringing published work out of the academic world and into the wider world:

- "Transforming Journal Content for Multiple Audiences", moderated by Christine Casey, of the Centers for Disease Control and Prevention.
- "Informed Decisions: Sense about Science and Helping People Make Sense of Science and Evidence", moderated by Julie Nash, of J&J Editorial.
- "Communicating Through Media: From Journal Page to Center Stage", moderated by Tamer El Bokl, of Canadian Science Publishing, NRC Research Press.
- "Scientific Podcasts: Why, When, What, Everywhere", moderated by Anna Jester, of eJournal Press.

Other sessions will be looking ahead to how the communication of science is evolving and how publishers need to adapt and change:

- "Evolution of the Article", moderated by Barbara Meyers Ford, of Meyers Consulting Services.
- "New Standards in Science Publishing", moderated by Tony Alves, of Aries Corporation.
- "Copy and Technical Editing in the 21st Century: Addressing Changing Conventions and Technology: Reader Needs and Preferences", moderated by Ingrid Philibert, of the *Journal of Graduate Medical Education*.

CSE's continuing focus on ethics, dealing with problematic editorial situations, and advances in technology will also be evident in a number of sessions at the meeting:

- "When the Business and Ethics of Publishing Collide: Avoiding Fatalities", moderated by Kristi Overgaard, of the American Orthopedic Society of Sports Medicine.
- "CSE/COPE Joint Session: The Life of a Retraction", moderated by Heather Goodell, of the American Heart Association.
- "Advances in Publishing Technology from Authoring to Content Delivery", moderated by Mike Friedman, of the American Meteorological Society.

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In addition, a number of other sessions relevant to the global publishing enterprise are planned, covering such topics as challenges facing "Eastern" authors publishing in "Western" journals, translations, and improving review quality and referee engagement. There really will be something for everyone at the 2013 Annual Meeting, so clear your calendars and plan to attend.

The Program Committee members and cochairs are not only excited about the diverse speakers and broad scope of the program but looking forward to being in Montreal in the spring! We encourage you to take full advantage of the several walking tours and events that are being planned to help you discover the beauty, history, and famous hospitality of Montreal. We're eagerly looking forward to a wildly successful annual meeting and hope to see you there!

2013 Program Committee

The 2013 Program Committee is chaired by Tony Alves and Mike Friedman. Committee members are Peter Adams, Patty Baskin, Philippa Benson, Mary Billingsley, Carolyn Brown, Christine Casey, Judy Connors, Tamer El Bokl, Jennifer Fleet, Barbara Meyers Ford, Heather Goodell, Anna Jester, George Kendall, Glenn Landis, Sandi McIntyre, Rebecca McLeod, Sheehan Misko, Julie Nash, Kristi Overgaard, Ingrid Philibert, Mary Beth Schaeffer, Angela Schmeckebier, Sarah Tegen, and Richard Wynne.

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know about these data. Participants will learn different ways to collect, analyze, and present journal data to editorial boards; how to detect trends and analyze changes; how to use online usage data in conjunction with circulation data for marketing the journal; and the value of readership surveys and competition surveys. New this year will be a session on Altmetrics—a discussion of new ways to gather data.

The Short Course for Manuscript Editors

Saturday, 4 May—Peter Olson (senior copyediting coordinator at Dartmouth Journal Services) has designed this short course to introduce beginning editors to the tools of the trade and to enable seasoned editors to stay current and competitive

in the field. The course will include a review of skills required for mechanical and substantive editing of scientific materials for publication and sessions on best practices in manuscript editing, including language editing, process efficiencies, and Word tips; editing of tables, including table structuring, data consolidation, and technical tips; working with authors, with an emphasis on effective and appropriate means of author querying; and ethical and legal issues that manuscript editors must address on an increasingly routine basis. The day will conclude with a roundtable discussion of various issues that manuscript editors face regularly.

Council of Science Editors – Social Media

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Calendar

2013

13–16 April	**Association of Clinical Research Professionals annual conference**. Orlando FL. *www.acrpnet.org*.
17–19 April	**American Society for Indexing annual conference**. San Antonio TX. *www.asindexing.org*.
29 April–1 May	International Society for Medical Publication Professionals annual meeting. Baltimore MD. *www.ismpp.org*.
3–16 May	**Council of Science Editors annual meeting**. Fairmont Queen Elizabeth, Montreal QC. Contact: CSE: 10200. W 44th Ave, Suite 304,Wheat Ridge CO 80033; (720)881-6046; *www.CouncilScienceEditors.org*.
4 May	**BELS (Board of Editors in the Life Sciences) examination**. Montreal QC. Registration deadline is 13 April. Contact: Leslie E Neistadt, BELS Registrar, The Hughston Foundation, 6262 Veterans Pkwy, Columbus GA 31909; (706) 494-3322; fax (706) 494-3348; *lneistadt@hughston.com; www.bels.org*.
5–7 June	**Society for Scholarly Publishing annual meeting**. San Francisco CA. *www.sspnet.org*.
7–9 June	**Editors' Association of Canada annual meeting**. Halifax NS. *www.editors.ca*.
24–26 June	**Drug Information Association annual meeting**. Boston MA. *wwwdiahome.org*.
1–6 November	**Association of American Medical Colleges annual meeting**. Philadelphia PA. *www.aamc.org*.
6 November	**BELS (Board of Editors in the Life Sciences) examination**. Columbus OH. Registration deadline is 16 October. See preceding BELS listing for registration information.
7–9 November	**American Medical Writers Association annual meeting**. Columbus OH. *www.amwa.org*.

Information for Contributors

- *Science Editor* welcomes contributions on research on peer review, editorial processes, and ethics and other items of interest to the journal's readers.
- Please submit manuscripts as e-mail attachments and include the author's contact information.
- Submit material in the style recommended by *Scientific Style and Format*, with references in the order of citation.
- Submitted materials are subject to editing by the appropriate editors and copyeditor.

Send submissions and editorial inquiries to Patricia K Baskin, Editor-in-Chief, at *pkbaskin@gmail.com*.

In the Next Issue

- Technology for content distribution
- Preview of next edition of CSE style manual
- Photos from 2013 annual meeting

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