

Against the Grain

Volume 26 | Issue 1

Article 22

2014

Don's Conference Notes: Open Access to Published Research: Current Status and Future Directions: An NFAIS Workshop

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Recommended Citation

Hawkins, Donald T. (2014) "Don's Conference Notes: Open Access to Published Research: Current Status and Future Directions: An NFAIS Workshop," *Against the Grain*: Vol. 26: Iss. 1, Article 22.
DOI: <https://doi.org/10.7771/2380-176X.6665>

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Since 2008, **Colorado State University Libraries** have seen less budget dollars and less staff. To make the library more sustainable and relevant to our patrons, we have moved to a patron-driven acquisitions model for our monographic titles in print and electronic format. We have drastically reduced the number of monographs purchased since 2008. Also, there has been a reduction in the number of staff. We have instituted wherever possible a “cradle to grave” process and cataloging-at-receipt. With less budget dollars, less staff, and efficient workflow, we are doing less with less. 🌳

The Peripatetic Browser from page 37

Frederick Karl from the small discount rack. However, after some of the reviews I have seen on Amazon, I am having second thoughts about actually reading this colossal tome.

I dropped in very quickly to **The Iron Rail Book Collective** (no Website) which is, as one might expect, a small store largely focused on counter-cultural subjects. The French Quarter tour largely complete, I visited some stores in the rest of the city. **Maple Street Used and Rare Books**, <http://www.maplestreetbookshop.com/>, is two buildings, one of new and one of used books. Unfortunately, the used section was closed on this day. Next was **Blue Cypress Books**, <http://bluecypressbooks.blogspot.com/>, with a fairly standard selection of more modern used books. Finally, there was **McKeown's Books** (no Website). I did not make any purchases, and by now it was time to start home.

Overall New Orleans is a great city for book lovers. I highly recommend to anyone visiting that you request the book store map at the first store you visit. If you plan to do all the French Quarter stores in a day put on your walking shoes and have a rally point to drop books in case you get too ambitious in your purchases. Also stay focused. Depending on the time, there will be plenty of distractions in the way of Cajun food and cold beer that could prevent you from achieving your goal. If you have more than one day, well...Enjoy! 🌳

Book Reviews from page 36

archiving projects. This chapter effectively illustrates the advances being made in the field of personal digital archiving.

In the final chapter – “The Future of Personal Digital Archiving: Defining the Research Agendas” – **Clifford Lynch** of the **Coalition for Networked Information** brings the perspective of three decades of “trying to understand the ways in which information technology and ubiquitous computer communications networks are reshaping the scholarly and cultural record of our civilization.” He explores a dizzying assortment of possibilities for the future of personal digital archiving. 🌳

Against the Grain / February 2014

Don's Conference Notes

by **Donald T. Hawkins** <dthawkins@verizon.net>

Open Access To Published Research: Current Status and Future Directions: An NFAIS Workshop

Although many naysayers of open access (OA) exist, it is still important, and new directions are emerging. A workshop held by **NFAIS**, the **National Federation of Advanced Information Services**, in Philadelphia on November 22, 2013 entitled “Open Access to Published Research: Current Status and Future Directions” was very timely and appropriate. It drew an audience of 25 onsite and over 40 remote attendees.

Today's OA Landscape



Richard Huffine — Photo courtesy of Donald T. Hawkins.

Richard Huffine, Sr. Director, Federal Government Market, **ProQuest**, opened the workshop with a review of today's OA landscape. He began his presentation with a definition of OA from **Peter Suber**, co-founder of the Open Access Directory¹: “literature that is digital, online, and free-of-charge and most copyright and licensing restrictions.” This tag cloud shows some of the terms most frequently encountered in OA discussions.



Huffine reviewed the three generally accepted types of OA:

Gold: The cost barrier has been removed by journals with permission of the copyright holder. Gold OA includes journals dedicated to being open, articles in subscription journals, and supplemental data posted to an author-controlled site. Many gold publications are supported by Author Page Charges (APCs).

Green: The content is hosted on an institutional repository or is made available through “self-archiving” by the author or copyright holder. Publishers' agreements govern what the author may do and what can be deposited in a repository.

Clear (Libre): Public domain content where the cost and usage restrictions have been removed. The main rights management

model is a **Creative Commons (CC)** license. Because data cannot be copyrighted, but a collection of it can, there will continue to be grey areas around derivative works derived from data, and many policies are not clear.

Mandates — policies requiring researchers to make their results freely available — are a recent OA trend. The U.S. Government has tried to legislate OA with little success; many of its proposals have been viewed as efforts to protect publishers' investments. A recent memo from the **Office of Science and Technology Policy (OSTP)** directs agencies to develop plans supporting increased public access to research funded by the Federal government and requiring access to both the data and the publications.² Agencies were required to submit draft plans by August 2013 and begin collecting public input shortly thereafter, but the recent government shutdown severely delayed implementation of this mandate.

Huffine concluded that the ultimate outcome of today's OA issues may result in a variety of strategies depending on the research discipline and the willingness of researchers, institutional repositories, funders, and publishers to work together.

The Researcher's Perspective on OA

According to **Jean-Claude Bradley**, Associate Professor of Chemistry, **Drexel University**, openness in science is very field-specific because the amount of data to be shared varies significantly. The current research environment has created a selective bias towards which experiments are attempted because ambiguous or negative results are rarely reported in the literature. **Bradley** has created a “Chemical Rediscovery Survey”³ by doing a wide variety of experiments and making the data openly available for analysis. He has also assembled a database of data on over 20,000 chemical compounds, much of it donated by chemical companies.⁴ By making data openly available, many challenging chemistry questions can be answered more efficiently. **Bradley** was the first of several speakers who suggested that raw data should be made available before publication of a journal article, not afterwards as is now the case.

Government Responses to Researchers' Needs

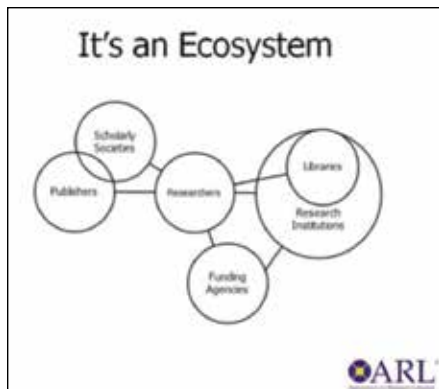
The **National Science Foundation (NSF)** funds basic research in a wide range of disciplines with a mission to protect our ability to educate the next generation of scientists. Researchers funded by **NSF** publish their results in a wide variety of journals and are encouraged to make their data available through OA. The **OSTP** memo is aligned with the goals of **NSF**, but trust is important to sustain agency policies. **NSF** has a history of data sharing and fosters Gold OA by permitting researchers to include the APCs in their grant applications.

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The Department of the Interior (DOI) manages the nation's public lands and minerals. High-quality science and scholarship are important in advancing its mission, and because it pays researchers to do its work, it functions like a university. Over 10,000 scientists are employed by the DOI, and its annual R&D budget is \$800 million, approximately 82% of which is allocated to the U.S. Geological Survey (USGS). A major USGS mission is to provide reliable scientific information the public; all of its data are freely available online. Over 41,000 scholarly publications on subjects such as earthquake hazards, invasive species, imaging of the earth's surface, and climate change have been published externally and are cataloged on the USGS Website, with links to the original published sources. Because of the volume and quality of its data, most journal publishers are eager to accept USGS articles on an OA basis. The USGS was therefore well positioned to respond to the OSTP memo and has developed technologies for managing massive open datasets. It also sees a need to urge researchers to make their data available before publication of an article about it and is committed to ensuring that DOI is compliant with the OSTP mandates.

Publisher and Library Perspectives on OA

Judy Ruttenberg, Program Director at the Association of Research Libraries (ARL), said that the current publishing environment is an ecosystem (first image, below) that is subject to periodic disturbances (second image), and because of the current pace of change, adaptations must be transformative, not just adaptive.



The open content movement will continue to challenge the commercial market, and libraries have an opportunity to play a variety of roles, especially as intellectual property rights advisors and managers.

The SHared Access Research Ecosystem (SHARE), a network of three university digital repositories, has issued joint statements and public comments, produced a development draft, formed a steering group, secured funding, and created four working groups to study technology, workflow, repositories, and communications.

Scott Delman, Director, Group Publishing, Association for Computing Machinery (ACM), described the Clearing House for the Open Research of the United States (CHORUS), a non-profit public-private partnership of publishers providing public access to the results of agency-sponsored research. Currently, CHORUS has 80 signatories and is growing. It offers an open technology platform to meet the public access needs of agencies, researchers, librarians, publishers, and the public. There is no cost to participate in CHORUS because it builds on the existing infrastructure of the scholarly community.

CHORUS and SHARE complement each other and are working jointly to create persistent identifiers and metrics for content. A pilot system with seven initial publishers is now available at chorusaccess.org.

The American Institute of Physics (AIP), has long been active in OA. In 2005, it introduced a voluntary hybrid author-pays model of OA, but only about 1% of its authors chose to use it. *AIP Advances*, a peer-reviewed and completely OA online journal with articles published under a CC license, has received a good reception in the community.

AIP is active in the Open Access Scholarly Publishers Association (OASPA)⁵ and has also created an OA "MegaJournal" covering a broad subject area, which selects articles only on the basis of "technical soundness" (everything that deserves to be published will be published) and which has a business model that allows each article to cover its own costs. This year, AIP has created two more OA journals: *APL Materials* and *Structural Dynamics*. It also requires datasets to be openly available with a link to them from the article abstract (not just from the body of the article), and it has a strict policy of not charging subscribers for OA content published in subscription journals.

Copyright Trends

Chuck Hemenway, Director, Business Development, the Copyright Clearance Center (CCC), summarized a CCC white paper entitled "5 Considerations For Publishers Developing OA Business Models"⁶:

1. OA does not necessarily mean making content available free-of-charge to everyone. CCC recommends that publishers get involved and start learning what OA licenses are available and what they mean.
2. OA opens diverse sources of revenue from content users and non-traditional sources.

3. OA increases the importance of professionally managing both pre- and post-publication transactions by providing a better author experience, scalable models, and the ability to adjust business rules.
4. OA provides an increased role for intermediaries because today's sophisticated business models require a heavy investment in technology, knowledge of scholarly publishing, and publishers working collectively.
5. It is necessary to measure and test the impact of price changes on sales, and the ability to change prices, even at an article level, is necessary. One price does not fit all. Publishers must focus on data and think about it as a tool that they must master to be independent and successful.

Perspective of the Public Library of Science (PLOS)

According to Helen Atkins, PLoS Director of Publishing, PLoS⁷ with 4,500 submissions a month, is now the world's largest not-for-profit OA publisher. PLoS believes that published research articles should be immediately and freely available online without restriction, for the benefit of scientists, science, and the greater public good.

PLoS began after 34,000 scientists signed the founders' open letter⁸ that stated:

"... beginning in September 2001, we will publish in ... only those scholarly and scientific journals that have agreed to grant **unrestricted free distribution to any and all original research reports that they have published ...**"

With the launch of *PLoS Biology* in 2003, PLoS became a publisher and today it publishes seven OA journals. It has been self-sustaining since late 2010 and is supported by a global network of thousands of academic reviewers, editors, and authors.

Recently, *PLOS ONE*,⁹ the world's first OA MegaJournal, was launched. The editorial criteria for publication are that the data must be scientifically rigorous, ethical, properly reported, and that conclusions of the article must be supported by the data. The editors do not ask about the importance of the work or the relevant audience, so the journal is not artificially limited in size. Initial fears that *PLOS ONE* would become a "dumping ground" for articles rejected elsewhere have not materialized. By July 2013, 50,000 articles had been published in *PLOS ONE*, and by the end of the year, the 100,000th article will have appeared.

PLoS has developed pioneering metrics at the article level to measure the impact of its journals and published articles.¹⁰ Article-level metrics have become important to researchers because they show the overall performance and reach of a published article in comparison with articles on the same subject in more detail than a simple citation count does.

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OA and Research Communication: Force11

Force11 (Future Of Research Communications and E-scholarship)¹¹ is a newly-established non-profit organization of scholars, librarians, activists, publishers, and research funders working together to accelerate the pace and nature of scholarly communications and e-scholarship through technology, education, and community. It was founded in 2011 in Dagstuhl, Germany (hence the "11" in the name), and its vision, founding principles, and research agenda were set out in the *Force11 Manifesto*.¹²

Maryann Mortone, Force11 Executive Director, noted that the former scholarly communication model of a single type of content with a single mode of distribution has radically changed. Scholars are now producing multiple types of research objects, each with its own distribution chain. Because there is little coordination between them, there is no way to track objects as they move through the distribution system and no way to incrementally add human expertise to them. Many of these objects exist only in digital form, which is an added complication. Scientific information and scholarly communication should therefore become part of the global network of knowledge, and OA is at the core of everything.

Force11 has 500 members from various stakeholder groups and is working towards a community platform to promote interoperability. It has held two **Beyond the PDF** conferences¹³ where all stakeholders came together to discuss the issues and address how they would change scholarly communication. (The next **Beyond the PDF** conference will be held in 2015.) Working groups are currently developing authoring tools, data citation principles, and unique identifiers for researchers. The Force11 vision is to develop the 21st-century equivalent of the library.

Closing Keynote: The Road to OA: Past, Present, and Future



*Tony Hey — Photo courtesy of
Donald T. Hawkins.*

Tony Hey, Vice President, **Microsoft Research Connections**, reviewed three significant milestones in OA's development:

- In 1961, **Paul Ginsparg**, a particle physicist working at **Los Alamos**

National Laboratory (LANL), established a repository of preprints of articles by the particle physics researchers called arXiv¹⁴ that currently receives submissions of over 7,000 preprints a month. Over 200,000 articles are downloaded each week. According to a detailed study¹⁵, articles deposited in the arXiv repository before formal publication in a journal enjoy a significant citation advantage over those not deposited. The repository is currently funded by **Cornell University Library**; its annual budget in 2010 was \$400,000.

- **Stephen Harnad** at **Southampton University** posted a "subversive proposal" on the Internet in 1994¹⁶ calling for "all authors of 'esoteric' writings...to be archived free online," which led to self-archiving (Green OA) and ultimately to the Budapest OA Initiative (OAI)¹⁷ and the Eprints software.¹⁸
- The **PubMed Central (PMC)**¹⁹ OA archive of biomedical and life sciences literature was launched and managed by the **National Center for Biotechnology Information (NCBI)** at the **National Library of Medicine (NLM)**. The **National Institutes of Health (NIH)** issued a mandate requiring scientists funded by NIH to deposit their articles in PMC upon acceptance by a journal for publication.²⁰ Compliance with this mandate shot up from 19% to 75% as soon as it was signed into law in 2007.

As Dean of Engineering at **Southampton University**, **Hey** was responsible for monitoring the output of over 200 faculty members plus 500 graduate students and staff. He found that the library was unable to afford to subscribe to all the journals where they published their work, and he therefore established an institutional repository in 2002, insisting that all staff and students deposit their articles in it. Other institutions followed, which led to the creation of the **Registry of OA Repositories (ROAR)** to track the growth of repositories in 2004.²¹ ROAR now lists over 300 repositories.

Science has become data-intensive, and scientists are overwhelmed with datasets from many different sources. We reached a tipping point with the **OSTP** memo — collaboration and sharing of data are expected, and the new model of scientific publishing is to publish the data before writing articles on it.

Data sharing policies like those at **NSF** are becoming common. They will require funded research data to be securely protected for at least ten years, which is causing much concern among universities. The **Global Research Council**,²² a global network of national research funders, has endorsed an Action Plan towards OA and is working with scholarly societies to transition their journals to OA. Even states are getting into the act; the California legislature has passed OA legislation.

For the future, **Hey** wondered what the role of the research library will be and said that librarians must reshape themselves to be relevant. One significant role for them will be to be the guardians of all the research output of an institution — not only the publications but the data. He recommended reading **Paul Ginsparg's** article entitled "As We May Read" as a view of the future of OA.²³

The full program of the workshop with links to the speakers' slides is available on the **NEAIS** Website at <http://nfais.org/event?eventID=534>. 🍌

*Donald T. Hawkins is an information industry freelance writer based in Pennsylvania. In addition to blogging and writing about conferences for **Against the Grain**, he blogs the **Computers in Libraries and Internet Librarian conferences for Information Today, Inc. (ITI)** and maintains the **Conference Calendar** on the ITI Website (<http://www.infoday.com/calendar.asp>). He recently contributed a chapter to the book **Special Libraries: A Survival Guide (ABC-Clio, 2013)** and is the Editor of **Personal Archiving: Preserving Our Digital Heritage (Information Today, 2013)**. He holds a Ph.D. degree from the **University of California, Berkeley**, and has worked in the online information industry for over 40 years.*

Endnotes

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