Demystifying the Scholarly Publishing Landscape

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Demystifying the Scholarly Publishing Landscape

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Demystifying the Scholarly Publishing Landscape
The scholarly publishing landscape has grown exponentially in size, scope and complexity within the last decade. Since the number and type of publishing outlets have exploded, researchers now need to consider practical and ethical issues such as predatory journals, open access, preprints, publishing data and sponsor obligations when making publication decisions. Further, these issues may be compounded by interdisciplinary research collaborations. Presenters will provide an overview of the contemporary scholarly publishing landscape and the different components. They will also help researchers identify key questions to ask during different stages of the research process, highlight differences that may bear on interdisciplinary collaborative projects, and provide resources for more information and support.

In this workshop, participants will:
• Learn about the different components of the scholarly publishing landscape and their importance in decision-making about publication.
• Identify key issues and disciplinary differences for each component, and practical and ethical considerations for each.
• Learn about resources available to support researchers effectively and efficiently navigate the landscape.
Open Access is a response to a flawed publishing system and the assumed affordances of technology.

I'm going to begin by making some generalization about open access publishing, then get into some specific in a few minutes. The concept of open access publishing began to be defined about twenty years ago. The drivers were the increasing consolidation of publishing previously managed by scholarly societies and universities into large commercial publishing companies.

One of the initial assumptions of OA is the with widespread access to the internet after 1995 that distribution of scholarship should be getting less expensive, not more.
Number of journals changing from small to big publishers, and big to small publishers per year of change in the Natural and Medical Sciences and Social Sciences & Humanities.

- Orange bars: from big to small publisher (Natural & Medical Sciences)
- Blue bars: from small to big publisher (Social Sciences & Humanities)
- Red bars: from small to big publisher (Natural & Medical Sciences)


https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127562
Another concern was and is that labor model for publishing makes less sense in a commercial publishing setting than it once did. What once felt like service begins to feel like exploitation when huge profits are involved. So, we began to question a system in which scholars do the writing, reviewing, and editorial management of journals at no cost to the journal, and then give their content and copyrights to the journal to sell back to us via libraries at a profit. All of which is supported by tuition, taxpayer funding in the form of grants, and other streams of university funding.
Cumulative Inflation 2013-2018

Price increases of 4-6% each year drive the cost of scholarly journals upward far in excess of general consumer goods, as represented by the Consumer Price Index. This trajectory strains library and university budgets.

Journal inflation: +37.5%
CPI: +9.11%

Journal inflation from Library Journal Annual Periodicals Price Surveys (Table 9: Clarivate/ISI cost history).
it's easy to say what would be the ideal online resource for scholars and scientists: all papers in all fields, systematically interconnected, effortlessly accessible and rationally navigable, from any researcher's desk, worldwide for free.

- Stevan Harnad

Instead of the vision of easy access by all scholars, we get gated content and paywalls. (date of quote unknown)
Why does it cost millions to access publicly funded research papers? Blame the paywall

Canadian universities struggle to pay for access to their own research reports as publishers profit

Kelly Crowe · CBC News · Posted: Mar 09, 2019 9:00 AM ET | Last Updated: March 9
Open Access is part of a movement to increase the transparency and robustness of research, accelerate discovery and innovation, and democratize knowledge.
Intersecting and overlapping open concepts, starting in different domains, but with some goals in common. The first of these to develop was Open Source software.
This include all kinds of free access, some of which is not really “open” in that authors do retain the rights or access may be temporary.
Open Access is a concept, not a model. It can be achieved in many ways.
One assumption of OA is the given the ease creating distribution platforms for content, publishing should be getting less expensive, not more.
<table>
<thead>
<tr>
<th>Type</th>
<th>Method</th>
<th>Costs</th>
<th>Citation*</th>
<th>Features</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Repositories</td>
<td>Free to authors</td>
<td>+33%</td>
<td>Publish where you want. Deposit in a repository following publisher rules.</td>
<td>May be delayed. May not be the final version.</td>
</tr>
<tr>
<td>Gold</td>
<td>Fully OA journals</td>
<td>Free to moderate APC.</td>
<td>Mixed -17</td>
<td>Many options and models. Tiny stand-alone to mega journals.</td>
<td>Heterogenous mix of publishers. Fraud risks in unknown journals.</td>
</tr>
<tr>
<td>Hybrid</td>
<td>Mixed subscription and OA options</td>
<td>Moderate to very high APC</td>
<td>+31</td>
<td>Known subscription journals, cost tied to prestige (market value) and subscriptions.</td>
<td>High price barrier deepens inequities. Double dipping.</td>
</tr>
<tr>
<td>Bronze</td>
<td>Temporary access granted by journal.</td>
<td>Copyright transfer to publisher.</td>
<td>+22</td>
<td>Known journals. Funded by subscriptions.</td>
<td>Access granted and removed by publisher at will. No authors rights. Not really OA.</td>
</tr>
</tbody>
</table>

*Subscription only journals have a citation effect of -10. (Piwowar et al., 2018)

Bronze includes much of the free access to COVID research temporarily granted by publishers.
Preprints can refer to a primary method of publishing before journal submission or to self-archiving after article acceptance by a journal in compliance with that journal's policies. All of this content goes in repositories. Some of the confusion is around naming of versions and the use of “preprint” as a catch all term. Emily is going to talk more about preprints, so I'll leave that topic for now, except to say it makes sense to know the policies for the journals you are likely to publish in.

More than 80% of publishers allow one or more versions of an article to be posted in a repository.
Reliance on journal prestige as a proxy for quality is a barrier to the progress of Open Access.

When we use journal-based impact factors as a measure to evaluate individual contributions, we give journal prestige outsized importance.
In survey after survey what we hear from researchers is that they generally support the idealistic goals of open access, open science, and other movements, but reality of evaluation practices gets in their way.
The faculty need to be publishing in the very best journals which the library has quit subscribing to due to budget cuts. Luckily you can still read abstracts on the gated copies!

10:10 AM · Sep 21, 2019 · Twitter for iPhone

330 Retweets 1.8K Likes
Not only do you need to publish in a certain subset of journals, but you need to do it as frequently as possible.
This pressure to publish as much as possible creates opportunities for bad actors in the form of scams posing as open access journals who will take your money, promise to process your paper quickly, but do no real peer-review.
Vast majority of authors published in these journals are from Asia and Africa, as are the journal operations. Scam journals are used by both the complicit and completely unaware. Once a paper is published by one of these journals, it’s all but impossible to submit to a real journal.

“One of the main conditions to extend my university contract is to publish. I have to publish at least once a year, if I do not, I will get fired. Many journals take months to publish, but this journal only took a month to publish. That's why I published there, because it was fast.”
A link to this will be at the end, but it’s worth mentioning now that best way to avoid being caught up in a scam is to know what to look for. Think check submit is a website with information to help you evaluate journals options.
In your discipline, things may look different. How you experience OA publishing may be a matter of where you stand in relationship to publishing in general.
Recent meta review of articles on OA publishing. What follows is a brief summary of the findings.

https://doi.org/10.12688/f1000research.17326.2
Medical sciences

Authors: Support OA but prioritize journal reputation/impact factor and speed of publication. Authors from lower income countries over-represented in fraudulent journals.

Publishers: Initially were slow to move to OA models. Some offer self-archiving options, often with embargo. Rapid growth in OA journals since 2010.

Other factors: Funding is often available for APCs, so Gold tends to be the primary route to OA. Fewer repositories, except for Pub Med Central, which is connected to NIH funded public access mandates. This mandate has helped drive OA uptake.
Natural and technical sciences

Authors: Long tradition of preprints in physics, mathematics, astronomy, and information technology. Rapid publication, high visibility and large readership are most important in these fields. Biology preprints have taken off in last decade. Chemistry and engineering have low OA uptake and value journal publication more than other factors.

Publishers: Initially slow to move to OA models. Steady growth in Gold OA in non-pre-print fields.

Other factors: Grant funding, funder public access mandates, and global partnerships (SCOAP3) push OA along.
Social Sciences

Authors: Low awareness of OA overall, but some consider the practice a highly important in career advancement. Green self-archiving is predominant route to OA.

Publishers: OA models not prominent.

Other factors: While funder public access mandates are in place, less research is funded overall, so access to APC funding is low. Embargoes tend to be longer. Complexities around OA monograph models slows growth in this area and monographs are generally not included in funding mandates.
Humanities

Authors: Low uptake of OA overall. Opposition to OA based in concerns about quality and plagiarism. Green self-archiving is predominant route to OA, but Hybrid may also be important. Perception of publication outlet quality is based on a symbolic hierarchy rather than impact factors. Speed is not a primary factor.

Publishers: Slow to move to OA models because of sustainability, but there are open book publishing models developing that are supported in various ways.

Other factors: While some assume humanities are opposed to sharing, lots of sharing place takes place via wikis, blogs, and digital humanities. The high expense and time investment of book publishing and other long form works complicates OA.
Note that green is underrepresented here because it was counted only if it was the only form of OA.
Open Access initiatives that do not acknowledge differences in practice contribute to inequities.
Who has access to Open Access?

Access to Open Access publishing aligns with resources and job security. The likelihood of publishing OA increases when you are:

- Male
- In a STEM discipline
- Grant funded
- Employed by a prestigious institution
- Established in your career


The dominant models of OA in the US and Europe rely on Article Processing Changes, which prices out some researcher if they don't have access to grant funding. That's all tied up in the history of publishing in these parts of the world and our reluctance to disrupt commercial publishing outlets too much.
Our reliance on APC as a dominate model for journal publishing has global impact.
As we look forward together to what a new scholarly publishing landscape might look like, I’d like us to be thoughtful about the models we support, whose voices we amplify and who gets marginalized. My biggest fear is that we’ll develop a system in which only affluent institutions can contribute significantly to the scholarly record, and only affluent, plugged in individuals have full access to engage with scholarship. We should take care not to deepen existing inequalities or to construct new ones.
Open Access / Questions

What are the publishing norms of your discipline and organization?

Do you have sources of funding to pay fees? Do you have public access obligations?

How frequently do you publish?

Do you want impact based on the venue or impact from wider distribution?

What are the needs and wants of co-authors? Do you need to accommodate differences in practices between disciplines?
Open Access / Ethical considerations

Do researchers have an obligation to share widely in the service of the greater good?

Are you personally positioned to take publishing risks to accelerate changing publishing practices?

Given the many competing models, how do you determine which publishing and evaluation practices produce the best outcomes for society?

Which practices reproduce or intensify existing inequities, and can you avoid them?
Open Access / Resources

Think/Check/Submit: https://thinkchecksubmit.org/

Sherpa Romeo: https://v2.sherpa.ac.uk/romeo/

Directory of Open Access Journals: https://doaj.org/


UNH Scholars Repository: https://scholars.unh.edu/

Back in the day, preprints were circulated in paper by authors to colleagues and by research institutes to those on their mailing lists. Some institutes collected them. Eventually the SLAC Library (Stanford Linear Accelerator Center) began to provide online bibliographic access to its collection through the SPIRES-HEP database online (this became inSpire), so physicists around the world could better follow developments in high-energy physics and could request copies of preprints of interest.

It was 1991 when online submittal and distribution on the Web began, first in high-energy and mathematical physics.
The basic progression of terminology.

Note that preprints are usually a work in progress and may be a submitted journal version. Most preprint servers allow for revised manuscripts to be posted and provide, as well as catalog, all versions (there may be a limit on the number of versions that can be posted per day or per preprint!).

Linking to the ultimate journal article from the preprint record may be done by the posting author, or, with some servers, by the journal. Preprints are not expected to serve (in most cases) as publications of record so they are not subject to retraction in the way that journal articles are. Removal is extremely rare; the moderation step is expected to provide the barrier to off-topic and “crank” papers.

Beware: the occasional non-standard definition does conflate postprints with journal/formally-published versions. Usually, “postprint” means a manuscript version after acceptance, i.e. post-preprint, but not the final published version.
Preprints / Disciplinary perspectives

Disciplines that adopt preprints tend to have fast-moving research that can be openly shared. Preprint web access began in 1991 with physics on arXiv ...

Paul Ginsparg's innovation in 1991 was writing code and setting up a server where he worked (then Los Alamos National Laboratory) with open user interfaces for submission, storage, search, and display of author-submitted preprints (in the field of high-energy physics, HEP) over the Internet's WorldWide Web. This was at xxx.lanl.gov, known as arXiv then and now (with its iconic smiley-face/skull-and-bones logo that you can still see today on the browser tab when you go to www.arXiv.org)

Ginsparg has said that his main motivation was to make the distribution more egalitarian. As HEP is a field that with very quickly moving research, the new speed and simplicity of dissemination led to embrace of arXiv from the start. Note: the early submission interface was not easy to use but that does not seem to have deterred adoption by this particular group of users. The graph above suggests early saturation of the high-energy physics field (in blue).
Biology and medicine were slow to adopt preprints as a mode of dissemination due to concerns about how preliminary research results might be mis-used. The perceived need for speed and perhaps awareness of a need for transparency and openness in science, as well as the availability of funding and technology, has apparently propelled the adoption of preprint culture in health sciences despite concerns.

This banner on the medRxiv website exemplifies recommended practice for health sciences preprints but does not eliminate misuse.
Preprint servers, submissions, and use have expanded worldwide and among disciplines, particularly in the past decade. From social sciences to medieval studies, to national and regional groupings, from independent scholars to learned societies to large commercial publishers, many motivations are driving this adoption.
Preprints / Are they used?

Figure 3. Preprint use by discipline. Whether respondents had ever ‘viewed/downloaded a preprint’ (a) and whether they or a co-authors had ‘submitted a preprint’ (b), broken up by discipline. Respondents who did not answer the question or who answered ‘not sure’ are not included in the graphs.


4,346
The number of UNH.edu* downloads from arXiv.org in 2020
*via UNH All Traffic VPN or physically on campus
Preprints / Questions

1. Why post?
   - enforces pre-submission feedback directly to authors;
   - serves to inform your community of findings that are in revision but at a stage mature enough to share;
   - provides early insights that can advance the work of others in the field;
   - stakes a claim to priority
   - depending on the discipline, preprints may increase citation rates
   - may help to increase visibility of early-career authors
   - recent developments have enabled a posted preprint to be used for one-click submission to some journals or used as-is for overlay peer-review in some OA journals

2. Why not?
   - intellectual property considerations: apply for any related patents before publishing anywhere, including preprints as they are public disclosures
   - if all authors have not agreed to the posting, do not post
   - if the license terms of the preprint server are not in line with what you and your co-authors want (think, check, submit)
   - if your work has findings with strong potential for being misunderstood, manipulated, or sensationalized, the responsible approach may be to go through journal submission and peer review before publishing in any form.
   - although objections are fast-fading, some journals still only consider submissions
that have not appeared as preprints, or only from specific preprint servers (see Resources slide for journal policy comparisons)

• most preprint servers will not delete posted content; do not post unless you are happy with having your name on it, and it’s best if your posting author will be willing to post corrected versions if need be.
A "preprint" can rest its case without going further

Preprints have mostly preceded journal articles but some remain as preprint-only and may even become famous just as they are. Grisha (Grigori) Perelman published his papers regarding the proof of the Poincaré conjecture this way.

The entropy formula for the Ricci flow and its geometric applications
We present a monotonic expression for the Ricci flow, valid in all dimensions and without curvature assumptions. It is interpreted as an entropy for a certain canonical ensemble. Several geometric applications are given. In particular, (1) Ricci flow, considered on the ...

Just an example of a preprint that is a prominent (and final) publication in and of itself.

This used to be true occasionally with paper preprints, and those that became famous can be very difficult to find now. It is a researcher’s dream to be able to access them online! 😊
The ethical considerations mirror some of those in the “Why not post?” question, but there are also ethical reasons to share findings quickly, as we are seeing with Covid-19 research, especially if written so as to allow for reproducibility.

Plagiarism, or scooping, is one reason that some are uncomfortable with the idea of posting early versions of their research, but with the plagiarism spotting software that is currently being used by major journal publishers, it is unlikely that your work can be stolen for publication in a standard journal. Material in any stage of publication can be copied and published in a predatory or fly-by-night journal; if you have put it out in a preprint, that is proof that it was your work.

The duplication or ambiguity of citations is one reason that DOI’s were not initially made available to preprints by CrossRef (crossref.org), but that that policy changed a few years ago as preprints became more widely adopted, so you do see DOI’s and this helps to disambiguate versions of the paper that have the same title and authors, but different DOI’s and/or version numbers or statuses (such as Early View or Accepted Manuscript).
A highly selective list of recent publications!

Preprints / Readings


The first three resources are especially helpful as compilations of publisher and journal policies and practices with respect to preprints.

The COPE site is of interest insofar as authors may wish to be aware of the current perspective of major players in the publishing industry on the ethical use of preprints.
Most federal funding agencies have “public access” policies.

The policies mandate that research results from projects they have funded be made publicly available within a certain time frame.

In February 2013 the Office of Science and Technology Policy (OSTP) issued a call to federal agencies with budgets in excess of $100 million to provide plans for public access to research results from projects funded by them. By fall 2015, most, if not all, federal agencies falling under this requirement had issued their public access plans. (https://guides.libraries.psu.edu/ostp)

NIH had a policy as early as 2008.

“Public access” - phrase often used by federal funding agencies when mandating that peer-reviewed research articles from funded projects be made available in a publicly accessible repository within a certain time frame.

“Public access” is different from Open Access – however some funding agencies, such as the Bill & Melinda Gates Foundation have Open Access policies.
Public access policies from US federal funders

Each funding agency has different policies concerning public access to publications resulting from funded research.

Always check the policy – some tools for helping with this in the resource section!

Policies may have
- Different embargo period
- Different repository for deposit
- Different process
Larivière, V., & Sugimoto, C. R. (2018). Do authors comply when funders enforce open access to research? https://www.nature.com/articles/d41586-018-07101-w
Public access / Questions

1. Does my funding agency have a public access (or open access) mandate?

2. What manuscript version does my funder want?

3. How do I inform the journal about the public access mandate prior to publication?

4. When do my publications need to be made publicly available?

5. Where do I need to submit them for public access?
Public access / Ethical considerations

Authorship & Publication

Intellectual Property

Social Responsibility

“Before you sign a publication agreement or similar copyright transfer agreement, make sure that the agreement allows the paper to be posted to PubMed Central (PMC) in accordance with the NIH Public Access Policy. Final, peer-reviewed manuscripts must be submitted to the NIH Manuscript Submission System (NIHMS) upon acceptance for publication, and be made publicly available on PMC no later than 12 months after the official date of publication.”

(https://publicaccess.nih.gov/address-copyright.htm)
Public access / Reading and resources

- [OSTP Public Access Memo - Expanding Public Access to the Results of Federally Funded Research](https://www.whitehouse.gov/administration/budget/ostp/about-office-science-technolcommunties)
- [Browse SPARC Resource - Article Sharing Requirements by Federal Agency](https://sparc.arl.org/article-sharing)
- [Sherpa Juliet: Research Funders' Open Access Policies](https://sherpa.ac.uk/)
- [The Registry of Open Access Repository Mandates and Policies (ROARMAP)](https://roarmap.assistance.roam.net/)
- [Larivière, V., & Sugimoto, C. R. (2018). Do authors comply when funders enforce open access to research?](https://www.lariviere.com/articles/2018/01/04/do-authors-comply-when-funders-enforce-open-access-to-research)
Define as ---- submitting a dataset for access (public or restricted) to a repository for the purpose of discovery / re-use / citation

To publish data and code alongside articles or as stand-alone research outputs
To make your data available, accessible, and discoverable for reuse
To receive credit for your work if someone reuses your data
Publishing research data (and associated metadata)

- Enable others to replicate and verify results as part of the scholarly process
- Receive credit for data creation
- Meet the expectations of sponsors, funders, publishers, and institutions
- Reduce the costs of duplicating data collection
- Allow researchers to ask new questions and conduct new analyses, and improve research methods by combining datasets
- Create a more complete understanding of a research study by linking to research products like publications & presentations
Some Questions to consider about your data
1. Does your discipline recommend a specific repository or archive?
2. Does your publisher specify a location for the data supporting an article?
3. Does your funder identify a specific location or facility?
4. Does your data have any qualities that would require it to have restricted access?
5. Do you have funding to support the archiving of your data?
6. Does the format of your data need special considerations?

Some Questions to consider about the repository
1. Is the repository reputable?
2. Will the repository maintain appropriate metadata for reuse & discoverability of data?
3. Will the repository support analysis and track data usage?
4. How will users find your data?
5. Will the data be safe (e.g. licensing, access controls, preservation policies)
6. Will the repository take the data you want to deposit
Publishing data / Ethical considerations

Authorship & Publication
Data Management
Export Controls
Human Subjects

Intellectual Property
Rigor, Reproducibility & Replication
Social Responsibility
Publishing data / Reading and resources

- Browse SPARC Resource - Data Sharing Requirements by Federal Agency
- Registry of Research Data Repositories
- Publisher Data Availability Policies Index
- Data Repository Comparison Chart by MIT Libraries
- Data Catalog @ UNH Scholars' Repository. An inventory of data that UNH researchers have deposited into external repositories
- Contact Patti to discuss your options!
General Resources

[ Responsible Conduct of Research & Scholarly Activity LibGuide ]

[ UNH Data Management Toolkit ]
On the Horizon (or happening now!)

- More models for Open Access monographs
- The rise of alternative metrics
- Article based evaluation practices replace journal impact
- Move from author pays to institutional funding of OA via negotiated rates
- Subscribe to OA models
• Federated access/the decline of the journal concept
• Preprint-required-first journals (ex. SciPost, eLife)
• Soup to nuts OA publishing (watch for wrinkles)
• Open peer review through overlays
• Dedicated servers for non-Latin script language preprints
• Options for direct & indirect preprint indexing and distribution (ex. Dimensions, Google Scholar, OSF)
• Preregistration of research
• Publication of protocols
• Data and Source Code
Thank you!

Questions?

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