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Unpacking Open Access: A Theoretical Framework for Understanding Open Access Initiatives

Overview

When librarians discuss supporting open access and their reasons for doing so, what exactly are they saying? In this column, we attempt to provide a common ground for the discussion by proposing a theoretical framework for understanding the various rationales for supporting open access. Drawing upon existing open access literature and the Budapest Open Access Initiative, we propose a set of rationales for engaging in and supporting open access, with the hope that it will be of use in the conversation on open access initiatives.

What Is Open Access?

In order to discuss open access, we must first define open access. Broadly speaking, open access is an ecosystem of freely available ideas, research input, research outcomes, and publications. Digging further, we must examine the term *freely* more closely. *Free* in the context of open access can mean many things; one of the most salient definitions comes from the 2001 Budapest Open Access Initiative (BOAI), which states: "By 'open access' . . . we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself."[1] This definition of *free* is focused on the end user of research output, and it is significant in its commitment to the free and open sharing of research and ideas.

While the connection may not at first be obvious, this focus on free access to research input, research outcomes, and publications must necessarily take place in conversation with copyright law. Under copyright law, when an original work is created, copyright is immediately vested in either the author or the author's employer.[2] In the academic environment, university professors, like students everywhere, are deemed to hold copyright in the works they create.[3] In non-open access publishing, an author owning copyright assigns her copyright to a publisher, who then grants the author access to the publisher's editorial, distribution, and promotion infrastructure.[4] However, due to the rise of digital publishing, access to this infrastructure is, while still potentially important, less necessary; this change allows for authors to better manage their intellectual property, allowing full access to all users, some access to some users, or a traditional assignment of all copyright rights.[5] Thus, while not explicitly implicating copyright, the various types of open access necessarily are in conversation with copyright, and the presence of viable open access alternatives to traditional publishing has also impacted the copyright arrangement within traditional publishing.

The BOAI definition of open access does an excellent job of uniting several specific open access efforts into one broad conceptual category. It does not, however, provide much detail about the various types of open access that exist. For example, there is a significant difference between *gratis* and *libre* open access.[6] Additionally, both gold and green open access exist;[7] there is open data,[8] and many other shapes and forms of "open." When we say we support open access without engaging in a more specific analysis, we run the risk of miscommunication and of causing confusion about exactly what we are striving for.

Open access is big business; every year, Canadian libraries devote significant amounts of funding to open access initiatives, most commonly in the form of author processing charges (APCs), content repositories, and institutional memberships.[9] Institutional support for APCs, often referred to as authors' funds, is generally quite popular at the institutions that offer such support, which should come as no surprise as APCs provide applying authors with considerable financial support. Additionally, supporting APCs and institutional memberships allows libraries to clearly demonstrate their commitment to open access with a readily identifiable and reportable metric: dollars spent. However, not all open access advocates agree with this approach: some argue that supporting such models risks damaging the scholarly ecosystem, as the focus on dollars spent on open access allows the academy to ignore deeper and more systemic questions around limited access to scholarly outputs and whether enough effort is being spent on engaging with non-traditional research venues of marginalized groups.[10] These disagreements can become quite heated: money, time, and energy spent on one approach is money, time, and energy

not spent on other approaches, whether they be other forms of open access or more traditional publishing.

These disagreements highlight the fact that, despite the benefits of common forms of supporting open access and their popularity among researchers and libraries, it is not clear what are indeed the most effective or efficient uses of library funds, which could also be spent on outreach, education, or other types of publishing. Library resources are limited, and, even where budgets are not decreasing, money spent on one opportunity is another opportunity forgone. In order to ensure that librarians make the most efficient uses of their funds and energies, libraries need to examine the returns on investment of their efforts. To assist with this, we propose a theoretical framework for understanding open access efforts, one through which we hope to provide tools for understanding the various and diverse rationales for supporting open access. Hopefully, this framework will better inform our discussions and our decision-making as librarians.

Why Do We Support Open Access?

To begin, it seems necessary to examine exactly why librarians support open access at all. Open access is a relatively new phenomenon, and the ready adoption of all shapes and forms of open access as a self-evident good that is in the public interest bears analysis. We propose a theoretical model for understanding the rationales for supporting open access, and we hope this framework enables open access proponents to better engage in a discussion about why librarians should support open access and how they can best do so.

Based upon the literature on open access and the various types of activities in which libraries and other actors are engaging, we propose five open access rationales:

> Enlightened Self-Interest Rationale
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> Enlightened Group Interest Rationale
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> Neo-Marxist Rationale
>
> Taxpayer Rationale
>
> Social Justice Rationale

Enlightened Self-Interest

For most academic authors, the end goal of publication is recognition. That is, authors publish because they want their work to be read and disseminated widely.[11] Essentially, this rationale presumes that works with "free availability on the public internet"[12] are more likely to be read, and the authors of those works will thus have a wider audience for their ideas.[13] While recent research raises some questions about exactly how this effect is distributed across various types of scholarship[14] and tiers of publications,[15] there does appear to be plenty of evidence of a strong correlation between the free availability of scholarship and the likelihood of that scholarship being read.[16] Enlightened self-interest rationales for supporting open access therefore focus primarily on individual researchers,

with the purpose of maximizing the impact and dissemination of their work.

Enlightened Group Interest

Similar to enlightened self-interest, enlightened group interest presumes that open access publishing contributes to a greater scholarly goal, but has an impact broader than the efforts and concerns of any one researcher. Sometimes these concerns are manifested in a rejection of, or at least a challenge to, conventional methods of publishing or peer review.[17] For example, arXiv, a disciplinary repository in the "fields of physics, mathematics, computer science, quantitative biology, quantitative finance and statistics," serves as a vital resource for researchers in those disciplines, often serving as the primary scholarly focal point for disciplinary research and publication.[18] Enlightened group interest rationales for supporting open access incorporate the collective concerns of individual authors with a desire that the discipline of the entire group be itself supported and advanced. This is particularly relevant in an era when the current processes for academic advancement (tenure and progress through the ranks) still overwhelmingly value "traditional" publishing over new forms.[19]

Neo-Marxist Rationale

The neo-Marxist rationale for supporting open access is fundamentally concerned with the relationship between the creators of scholarly work and the ownership and distribution of those scholarly works. Essentially, under this analysis, researchers should own the means of production, and when this is not the case there is an element of essential injustice. Scholars are the workers, the scholarship is the production, and scholars should be thus entitled to disseminate their work as "scholars [who] give to the world without expectation of payment."[20] A key element of this rationale rests upon the idea that new technology continues to transform and democratize publishing, and that while old models required intense amounts of capital and copyright transfers from authors to publishers, new ones do not, and significant purchasing costs are rapidly becoming obsolete.[21] Additionally, the neo-Marxist rationale often incorporates elements of historical determinism into observations of the progression of open access, referring to it as "inevitable" or "essential."[22]

Taxpayer Rationale

Nearly all academic research is subsidized in some manner, either through public funding (whether federal or provincial) or through private funding such as student fees and tuition. The taxpayer rationale for supporting open access is based upon the idea that no one (neither non-student taxpayers, nor students, nor the institutions supported by taxpayers and students) should have to pay twice for the same research. When intellectual property rights are exercised in traditional ways, educational institutions pay up to three times for the use of works: first, they invest in the works that create the environment in which new creativity and knowledge can

be built through knowledge of existing work; then, they invest in the materials and salaries that are used to create new works, and then, again, they must invest to acquire the works created as the scholarly output of the new research and creativity, generally in the form of journal subscriptions, in order to access them.[23] Under traditional models, outputs of publicly funded scholarly research are often given away to publishers for free, and then purchased back by the scholars' institutions through journal subscription fees. This leads proponents of open access to employ this rationale to support open access, questioning whether the older private ownership structure can be supported through reasonable analysis of the public good.[24]

Social Justice Rationale

The social justice rationale for supporting open access is based on the idea that it is an injustice to keep knowledge from those who need it. According to this theory, open access is necessary because the privileged (e.g., the rich institutions of the developed world, or those with the capacity to produce high-quality open access textbooks) have a duty to share information with those who cannot afford either to produce it at all or to purchase it back at the prices demanded by publishers.[25] By supporting efforts to make the results of research available to the people of the world, within given societies but also those in societies located in the less wealthy parts of the world, social justice open access advocates hope to reduce global inequality and to empower libraries to provide access to knowledge even in the face of rising costs and large publisher profits.[26] Under this rationale, producing and distributing open access materials, especially in accessible formats (that is, formats that serve the economically disadvantaged,[27] users with perceptual disabilities, or users who do not traditionally have access to scholarly output) best serve the goals of open access.[28]

Conclusion

These five rationales and the motivations for supporting them are not necessarily mutually exclusive. However, while one can support open access for some or all of these reasons, these rationales do not always operate in concert, and supporting open access as it is manifested in certain shapes and forms may advance the objectives that underlie some of the rationales without advancing the objectives of other rationales.[29] For example, "gold open access" publishing in top-tier journals may serve the goals of enlightened self-interest, but when you see that the majority of the money spent on fees under that system of open access goes to the largest commercial publishers, it becomes apparent that it does less to serve the Neo-Marxist or Taxpayer Rationales, as the producers of the knowledge goods produced through "gold open access" are not in control of the means of distribution of them, and libraries are paying for the research to be both produced (in the form of salaries and research materials) and published (in the form of author processing charges).[30] Similarly, creating custom, handcrafted, Open Educational Resources for the developing world very much furthers the Social Justice Rationale for open access, but it does much less for

others. As an ecosystem, open access has room for a great degree of diversity: complementary, and even contradictory, goals can exist alongside one another so long as there is a balance between the various approaches and rationales and none of them come to completely dominate the landscape.

As such, this column by no means suggests that libraries and other open access advocates should only support some types of open access efforts at the expense of others; such an analysis is outside the scope of this effort. All of the above rationales for supporting open access can be found in the BOAI definition,[31] and all of them serve valid open access goals. Rather, we hope that by providing this theoretical framework we can help rationalize the discourse on open access priorities. It may very well be the case that some rationales for supporting open access, and the forms they engender, are better than others, or that some rationales provide a greater net societal benefit or a better return on investment for libraries, or are superior in some yet-to-be-determined metric. However, until librarians have a better vocabulary for discussing open access, it is possible that they will continue talking past each other, and, possibly more disturbingly, past their stakeholders, sponsors, and other sources of funding. By being able to carefully, critically, and thoughtfully elucidate the various approaches to and rationales behind supporting open access, librarians may be better able to justify current efforts and expand into new and innovative ways of supporting open access.

So long as librarians lend their support only to the broad concept of open access, it will be challenging to effectively understand the phenomenon: what opportunities it provides libraries, and whether certain forms of open access are in fact the best use of library resources and efforts. Our hope is that the theoretical model that we have proposed will help librarians engage in more targeted discussions and will provide librarians with a starting point for thinking about the various motivations and rationales that animate the complex phenomenon that open access constitutes. Without knowledge of the many differing rationales for open access, and without adequately taking them into account, it may be difficult for librarians to effectively move forward on open access initiatives together.

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1   "Read the Budapest Open Access Initiative," Budapest Open Access Initiative, accessed December 3, 2014, http://www.budapestopenaccessinitiative.org/read.

2   Copyright Act, RSC 1985, c C-42, ss. 13(1) and 13(3).

3   Professors are not considered employees of their universities for these purposes; see, for example, Dolmage v Erskine [2003] OJ No 161 (Ont SCJ). Teachers and public librarians, on the other hand, are considered employees of their boards. Students in all academic institutions own copyright in the works they create; see, for example, Boudreau v Lin (1997), 150 DLR(4th) 324 (Ont CJ(GenDiv)).

4   Margaret Ann Wilkinson, "Access to Digital Information: Gift or Right?," Chapter 14 in Knowledge Policy for the 21st Century: A Legal Perspective, ed. by Mark Perry and Brian Fitzgerald (Toronto: Irwin Law, 2011), at 314-315, accessible at http://www.irwinlaw.com/content_commons/knowledge_policy_for_the_21st_century.

5   Ibid.

6   Gratis open access removes price barriers to access, while libre open access removes at least some permission barriers. See Peter Suber, Open Access (Cambridge, Mass: MIT Press, 2012), 6.

7   Gold and green open access both refer to delivery mechanisms for open access materials. Gold open access pertains to delivery by journal publication (regardless of the journal's business model) and green open access refers to delivery through the use of a repository. Both terms were coined by Stevan Harnad. See Suber, Open Access, 53.

8   One definition of open data is provided by the Open Knowledge Foundation: "Open data is data that can be freely used, shared and built-on by anyone, anywhere, for any purpose." See Laura James, "Defining Open Data," Open Knowledge Foundation Blog, October 3, 2013, accessed February 5, 2015, http://blog.okfn.org/2013/10/03/defining-open-data/.

9   Leila Fernandez and Rajiv Nariani, "Open Access Funds: A Canadian Library Survey," Partnership: The Canadian Journal of Library and Information Practice and Research 6, no. 1 (2011).

10   Much of the debate about the relative merits of and problems with gold/green open access has been internal to the community, with vigorous debates taking place on open access e-mail lists and blogs. For a particularly interesting example of the community debate on this issue, see Daniel Allington, "On Open Access, and Why It's Not the Answer," Daniel Allington (blog), October 15, 2013, accessed February 5, 2015, http://www.danielallington.net/2013/10/open-access-why-not-answer/. For another examination of this issue, see also Stevan Harnad, "Cure Gold Fever With Green Deposits," April 29, 2007, accessed February 5, 2015, http://eprints.soton.ac.uk/263965/1/arch-goldfever.html.

11   For example, the Author's Alliance, an advocacy organization of authors, states that they "promote authorship for the public good by supporting authors who write to be read." See "About Us," Authors Alliance, accessed December 3, 2014, accessed February 5, 2015, http://www.authorsalliance.org/about/.

12   See note 1.

13   Early research on this phenomenon did see a correlation between downloads and citation impact. See Steve Lawrence, "Free Online Availability Substantially Increases a Paper's Impact," Nature 411, no. 6837 (2001). However, note that Lawrence conducted a comparison of online vs. offline articles (which is not the same as comparing open access with non-open access articles). For a comparison of open access and non-open access articles, see Gunther Eysenbach, "Citation Advantage of Open Access Articles," PLoS Biology 4, no. 5 (2006), accessed December 3, 2014, doi:10.1371/journal.pbio.0040157.

14   For example, in a study on the open access citation advantage of four different subjects (ecology, applied mathematics, sociology, and economics), it was found that the citation advantage for open access articles varied between disciplines. See Michael Norris, Charles Oppenheim, and Fytton Rowland, "The Citation Advantage of Open-Access Articles," Journal of the American Society for Information Science and Technology 59, no. 12 (2008).

15   In a study of science journals, it was found that there was a "superstar" effect, in the sense that the citation benefit of open access appears to be concentrated in higher-tier journals. See Mark J. McCabe and Christopher M. Snyder, "Identifying the Effect of Open Access on Citations Using a Panel of Science Journals," SSRN eLibrary, (last revised November 1, 2013), accessed December 3, 2014, http://ssrn.com/abstract=2269040.

16   For an excellent annotated bibliography covering research articles on the effect of open access on citations, see Steve Hitchcock, "The Effect of Open Access and Downloads ('Hits') on Citation Impact: A Bibliography of Studies," accessed December 10, 2014, http://opcit.eprints.org/oacitation-biblio.html.

17   See Paul Ginsparg, "Creating a Global Knowledge Network," 2001, accessed December 3, 2014, http://www.cs.cornell.edu/~ginsparg/physics/blurb/pg01unesco.html.

18   "arXiv Primer," Cornell University Library, accessed December 3, 2014, http://arxiv.org/help/primer.

19   Charles B. Lowry, "Scholarly Communication: A Lament and a Call for Change," portal: Libraries and the Academy 12, no. 3 (2012).

20   See note 1.

21   See Yochai Benkler, The Wealth of Networks: How Social Production Transforms Markets and Freedom (New Haven: Yale University Press, 2006).

and assist in identifying CPL's talent pool.

In the face of great change, it is incumbent upon the profession to adapt, innovate, and be clear in asking new and longstanding staff to take on new roles and develop the new skills required to meet the information needs of twenty-first-century customers. Filling the pipeline with talented librarians and developing strategies to keep it full will not be easy for Canadian libraries, but is a way to ensure its future success.

Cathy Freer-Leszczybski

Cathy believes in the transformative power of librarians to connect people with ideas. She is keenly interested in the special role libraries play in our communities and actively works to develop unique partnerships to achieve extraordinary results.

1   Brian Kenney, "So You Think You Want to Be a Librarian?" Publishers Weekly, May 3, 2013, accessed March 12, 2015, http://www.publishersweekly.com/pw/by-topic/industry-news/librar-ies/article/57090-so-you-think-you-want-to-be-a-librarian.html.

2   Steven J. Bell, "From Gatekeepers to Gate-Openers," American Libraries, August/September 2009.

3   Steve Matthews, "A Sixth Challenge Every Librarian Must Face," 21st Century Library Blog, August 19, 2013, accessed March 12, 2015, http://21stcenturylibrary.com/2013/08/19/a-sixth-challenge-every-librarian-must-face/.

4   Ken Haycock, "Organizational Structures," September 10, 2013, accessed March 12, 2015, http://kenhaycock.com/organization-al-structures/.

Copyright

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22   For example, see David W. Lewis, "The Inevitability of Open Access," College & Research Libraries 73, no. 5 (2012).

23   See Margaret Ann Wilkinson, "Copyright in the Context of Intellectual Property: A Survey of Canadian University Policies," [1999-2000] Intellectual Property Journal 141, especially Figure 5.

24   See Digital Canada, Require Open Access to Results of Research Funded by Canadian Taxpayers, available at https://www.ic.gc.ca/eic/site/028.nsf/eng/00352.html, last accessed December 3, 2014.

25   Ministry of Advanced Education, Innovation and Technology, "B.C. to Lead Canada in Offering Students Free, Open Textbooks", October 16, 2012, accessed February 19, 2015, http://www2.news.gov.bc.ca/news_releases_2009-2013/2012AEIT0010-001581.htm.

26   See Mark A. Mattiani, "Open Access Journals as a Justice Issue," Behavior and Social Issues 13, no.1, (2004).

27   This consideration is particularly important in certain parts of the developing world, where computing power, Internet access, and sometimes even access to stable and reliable electrical power is not a foregone conclusion.

28   An excellent example of social justice open access is the African Health OER Network, which has spent a substantial amount of time and effort on making high-quality open educational resources with a low infrastructure requirement. See "About Us," African Health OER Network, accessed January 9, 2015, http://www.oerafrica.org/african-health-oer-network/about-us.

29   In some cases, some rationales may even work at the expense of others; see note 10.

30   See "Three Different Traits of Open Access Publishers," Open Scholarship (blog), June 17, 2014, accessed February 19, 2015, http://libraryblogs.is.ed.ac.uk/openscholarship/2014/06/17/three-different-traits-of-open-access-publishers/.

31   See note 1.