Open Access publishing as a catalyst for change in scholarly communication: Principles of Library and Information science are essential to its ideology

Open Access (OA) initiatives, movements and policies have had a large impact on scholarly communication publishing and dissemination. This is of particular interest to Library and Information Science, through implementation, ethics and how libraries and librarians engage with the process.

Library and Information Science principally concerns itself with the organisation and sharing of information and knowledge. Bhaskar Mukherjee (2010, p. 1) outlines that ‘knowledge generated through research is a critical national resource.’ and libraries have throughout history taken care of knowledge, helping research works to be curated and shared. Upon the advent of OA publishing Peter Suber (2012, p. 6) identifies that ‘OA makes work more useful in both ways, by making it available to more people who can put it to use, and by freeing those people to use and reuse it’.

Scholarly communication is any published peer reviewed research or more generally, any publications of work shared within the academic scholarly community (Mukherjee, 2010, p. 2). A large proportion of this work is produced in books or journals, with journals moving largely from print bound journals to individual digital article dissemination (Mukherjee, 2010, p. 13) and books still popular as print monographs but also as e-books.

The Open Access movement has been gaining momentum since the Budapest Open Access Initiative in 2002 (Chan et al., 2002) and has drastically changed the scope of the academic world’s methods of scholarly communication. The shift to OA has implemented a change at the publishing stage, seeing new funding models brought in to finance this change in point of access, therefore affecting the whole process and industry of publication (Eve, 2014, p. 60) which comes with ethical implications and concerns for librarians regarding access points, finances and policy.

There are two distinct identified types of OA: Green Open Access and Gold Open Access (Harnad et al., 2004). Gold OA describes works made freely available by the publisher at source (Laakso et al., 2011, p. 1). Whereas Green OA is where an article is not OA at the initial point of publication but has been at some point self archived (Laakso et al., 2011, p. 2). Institution’s own repositories are therefore considered green OA. While there are examples of institutions asking scholars to prioritise green OA (University of Westminster, 2019), as a route it has gathered criticism from the wider scholarly community for lacking the quality of access of gold OA. This is because institutional repositories have come to be known to archive many publisher sanctioned preprints or suffer delays due to publishing embargos (Eve, 2014, p. 10). These are ethical
concerns that LIS scholars and librarians need to consider when interrogating OA as a subject, publishing themselves or implementing OA in a library setting.

**LIS principles on open information dissemination**

As Libraries and wider information services intend to serve universal access to information and knowledge it is important that a LIS-informed OA movement considers founding philosophies of the discipline.

Influential ideas and ethics of library and information science come from scholars such as S.R. Ranganathan, which underpin LIS as having strong principles and ethics around information sharing. Contemporary LIS scholars and librarians can establish how these principles align with considerations that need to be made regarding information dissemination in the digital era.

Ranganathan’s founding five laws of library science:

- Books are for use
- Every reader his book
- Every book its reader
- Save the time of the reader
- The library is a growing organism.‘

(Ranganathan, 1963)

According to David McMenemy (2007, p. 100) Ranganathan’s five laws ‘continue to give us a blueprint for our professional values’ in the 21st century. The fifth rule; ‘The library as a growing organism’ is seen by McMenemy to embody the growing digital library as an identifiable growing part of the overall library organism. Doug Way (2010, pp. 307-308) reads Ranganathan’s five laws as a call ‘upon libraries to make information widely available and easily accessible to all people. While Ranganathan’s work referred to books, these principles hold true regardless of the format of the information and can be seen in the field’s support of the OA movement’. Way’s sentiments exemplify an argument for OA practitioners to consider LIS as a crucial aspect of the movement.

**Open Access as a discipline - where does it sit?**

While some analysis of OA sees the movement as spanning disciplines (Johnson, 2007, p. 17) it is useful to focus on how LIS can have a foundational impact on the OA movement. Natasha Suri’s literature review on open access in an academic library context found that ‘according to the literature, university libraries are at the forefront of Open Access provision’ providing practical support, pre-existing experience with negotiating large journal packages from publishers as well as being the university’s core support for research and information services (Suri, 2018, p. 9).
Open Access in Library Services

Open access has been a term used in libraries since the late 19th Century. Lawson (2019, p. 60) points out how fitting the expression is, as open access in libraries has historically referred to books being made available on publicly accessible shelves as opposed to behind desks or restricted areas only accessible to librarians. Initially introduced to the UK in 1894 by librarian James Duff Brown after a visit to the USA ‘where free access to reference books was almost universal’ (Kelly, 1973, p. 177-178). Ranganathan (1963, p. 300) champions open access libraries in this context, calling it a ‘powerful system’ for discoverability. The idea of open access as this initial revolution in the library, of opening up collections, evoking an idea of the knowledge previously kept behind librarian control being that much freer by being accessed somewhat more freely by a library user browsing the collection. This idea has a legacy in the new era of open access scholarly publishing, where the founding principles and most idealistic agendas of OA want to see these resources made as freely open as possible (Way, 2010, p. 307).

A librarian’s skills and purpose also lends themselves to the development of Open Access within an organisation. Cryer & Collins (2011, p. 103) outline that Librarians’ ‘professional strengths in education, outreach, collection development, acquisitions and data management’ can lend themselves to championing and developing an institution’s open access provision. Suber (2012, p. x) identifies libraries as a stakeholder institution interested in OA along with universities, publishers, scholarly societies.

OA Publishing implications for libraries

Access has continued to be controlled by publishers and institutions in the transition from print to digital journals. Entirely print journals were subscribed to by institutional libraries (university, or private organisation) and issues were first raised in the 1990s around the expense of both publishing and libraries subscriptions, as well as ease of dissemination which eventually led to the scholarly community making the preference to begin to adopt electronic journals (Mukherjee, 2010, p. 6-7). With the online e-journal costs being significantly lower than print journals and ethical concerns over publicly funded research being locked away from the public who fund it, criticisms continued. It was generally felt that journals and wider academic research outputs should be made more openly available (Laakso et al., 2011, p.1). The coalition of funders and organisations now behind Plan S identify that work behind paywalls is inaccessible to much of the potential international research community and the general public (Schiltz, 2018). Suber (2012, p. 6) defines work behind paywalls as Toll Access. Large publishing bodies such as Elsevier earn a large profit and dominate the research field with toll access, this has been a catalyst for objections to the company within the open access movement (Eve, 2014, p. 34). Open access APC fees and subscription charges from Elsevier have recently led to increasing number of academic libraries cancelling contracts with the publisher (McKenzie, 2019).
Metrics and markets in the library

The Open Access movement and subsequent policies have brought more market driven agendas into library infrastructures. Policies such as HEFCE’s REF OA mandate and institutions’ subsequent look at metrics informing financial choices bring up ethical concerns of market driven OA policy (Lawson, 2019, p. 235). Dempsey (2014, p. 238) argues that libraries should find metrics almost entirely irrelevant when valuing of collections. When incorporating what this may look like for a repository collection, it could reflect a librarian’s careful curation of a traditional print collection. Kaja Marczewska (2018, pp. 12-13) has concerns about this metricisation, along with big contract packages and argues for a refocusing on OA as praxis. Maczewska argues that the institution’s interpretation of and integration into existing capitalist platforms and contracts is detached from OA’s initial radical intention to ‘participate collectively and ethically in the process of making public the work of scholarship’. Lawson (2019, p. 239) similarly claims that contemporary implemented OA policy is influenced heavily by neoliberal market driven ideologies, and that a truer OA approach needs to establish scholarly communication as a commons, akin again to OA’s founding objective. As identifiable stakeholders (Suber, 2012, p. x), libraries and associated LIS scholars can have a voice in shaping decisions and resisting a marketisation of their readers choices.

Institutional Repositories

To comply with the Research Excellency Framework (REF) all university research outputs published after April 2016 need to be available as open access via an institutional repository (IR) (HEFCE, 2016, p.4). Therefore universities, if they had not already, set up in-house repository systems. For implementation there would need to be the software set up and integrated within the institution’s website, as well as staff designated to work on and manage it. Dempsey (2014, p. 26) foresaw open access repositories as a platform which would require expertise outside of the field of libraries, envisioning an organisational framework that would have to buy in expertise from third parties. Subsequently institutions have bought in IR platforms such Eprints, Dspace, Bepress (Registry of Open Access Repositories, 2019) and Pure Portal delivered by Elsevier (Elsevier, 2019).

Librarians have been identified to be likely to have a relevant skill set adaptable to managing the needs of a IR (Cryer & Collins, 2011, p. 103). This has been exemplified by IR being managed by universities’ library departments or sometimes made into unique positions placed independently so that they cross over between academics, librarians, administrators and technical staff (Johnson, 2007, p. 17).

In policies built to comply with the REF, institutions ask scholars to again submit research to a platform run by multinational Elsevier, even if work is already available as gold OA (Marczewska, 2018, p. 7). It seems unhelpful and unnecessarily time consuming for the institution to disregard scholars gold OA work, whilst awarding a software contract to Elsevier, a company increasing at odds with open scholarship. If library services were able to index
scholars existing archived work at gold OA standard or build an in house or open source repository contracts and re-archiving of already available work could be avoided.

Library & information science research available as open access

Doug Way (2010, pp. 302-309) examined the OA availability of research literature in LIS, finding that although librarians have been at the forefront of OA advocacy, much LIS research is not found freely as open access full text online. Way finds only 253 articles out of 922 (27.4%) in top LIS journals are available OA, in either a repository, OA journal or personal website. Chilimo & Onyancha’s later study covering major LIS literature in the period 2003-2013 found an improved 37% of articles available online as gold OA (Chilimo & Onyancha, 2018, p. 17). Both of these studies took place or covered periods earlier than 2014. This being prior to further proliferation of OA promotion and compulsory policy (such as the REF open access policy in 2014) which could likely be factors that may increase or change the percentage of LIS research available as OA today.

Gold OA in LIS

Gold OA journals work on various funding models such as the APC model, journals and scholars may contribute funds, or may be sponsored by charities, or depend on outside bodies or new models of library subscription fees. Open Library of Humanities use a library partnership model as part of their core funding, therefore avoiding APC fees (Open Library of Humanities, 2019) and could be adapted for LIS specific repositories. The Directory of Open Access Journals (DOAJ) is seen as the most comprehensive OA database (Mukherjee, 2010, p. 39) and has currently 140 LIS journals listed (Directory of Open Access Journals, 2019). As fully OA journals at the point of publication this would categorise them as gold OA, although a variety of funding models are likely.

Methods of self archiving for LIS scholars

Scholars self archive either in an institutional repository due to an OA mandate (Chilimo & Onyancha, 2018, p. 16) or a subject repository in their field (Laakso et al., 2011, p. 2) with an interest in attracting relevant readership. Self archiving is generally seen to fall under green OA, as it implies that the work has not been made OA at the source (journal or otherwise). However for now, scholars’ self archiving works contributes to the overall higher percentages of LIS literature to be available as OA as found in the studies by Way (2010) and Chilimo & Onyancha (2018).

Chilimo & Onyancha (2018, p. 17) observe that as with any domain, LIS scholars take interest in self-archiving in the place where their work will make the most meaningful impact on their domain. It is worth considering, due to metrics, whether this is impact due to reads or citations
or a genuine contribution to the field. Scholars such as Moore (2018) and Lawson (2019) who argue for scholarly communication to take on an OA commons, suggest that work across fields should be given a more egalitarian merit in a shared co-operative environment.

Chilimo & Onyancha (2018, p. 17) observe that there is a high expectancy that LIS scholars should lead the way in publishing OA given the field’s relevance. Particularly if LIS researchers wish for the field to progress there needs to be consideration for those outside of the institution to learn from and engage with research.

**OA LIS research to reach LIS practitioners outside of the institution**

The CILIP workforce mapping study (Hall et al., 2015, p. 34) found that 21.6% of the LIS workforce work in higher education. Other sectors include public libraries, archives, government and national libraries and other levels of education. It is likely that most library sectors other than higher education do not pay for toll access resources. Therefore the increase in OA research open up possibilities for the rest of the LIS sector to engage with in order to improve practice. Continuing to improve a more integrated communication between research and practice undoubtedly would build a better knowledge base for the LIS field.

**Information literacy for predatory journals**

One funding model for OA publishing are article processing charges (APCs), seen as contributing to a market driven scholarly community (Eve, 2014, p. 60). Academics increasingly receive unsolicited invitations from journals with promises to publish research in exchange for an APC fee. Ernesto Carafoli (2015, p. 374) points out major concerns with this system by looking at a number of academics including Mark Shrime (2014) Peter Vamplew (2005) who submitted a fake articles to these requests, Shrime receiving 17 offers to publish it in exchange for a $500 APC fee.

These journals have subsequently been described as predatory journals. These are therefore highly likely to be unreliable misinformation, which librarians and LIS scholars, principally using theories of information literacy, can interrogate. Reggie Raju, Lena Nyahodza, & Jill Claassen (2018, p. 23-24) call on librarians to lead on ‘publishing literacy’ as part of a wider information literacy, to help authors and researchers to distinguish tell-tale signs of continuous submission solicitations, offers of unrealistic turnarounds and articles accepted without amendment suggestions.

**OA Indexing and Library Discovery**

The digital-era library catalogue is accessed via the library website and is known as an OPAC (Open Public Access Catalogue), which can act as a discovery search for a variety of formats.
Institutions’ OPACs can give search results including the library’s print copies as well as journals and e-books which can be accessed remotely (Dempsey, 2014, p. 81-82). Open access literature has widely already been integrated into OPACs using libraries’ subscribed databases. Journals are indexed by databases, such as LISTA (Library, Information Science & Technology Abstracts) which include gold OA LIS journals (Chilimo & Onyancha, 2018, p. 12). Library departments are further able to now integrate the IR into the library catalogue OPAC (Makula, 2018) being a method for librarians to increase the discoverability of OA works relevant to a search.

**Copyright and shadow libraries**

Shadow libraries, which archive and provide copyrighted works for open access are controversial in the library community but ultimately need to be understood by practitioners. Evidence that research works are particularly popular on shadow library sites such as SciHub in the global south, have led scholars to presume this is due to a lack of legal OA or local institutions providing toll access works (González-Solar & Fernández-Marcial, 2019, p. 4). It can be an ethical dilemma for librarians or LIS practitioners to observe copyright rules at the heart of the LIS profession whilst recognising this need and desire for knowledge across the world where not all institutions can afford toll access journal packages.

**Conclusion**

It is clear that LIS can have a holistic approach to OA. Impact and metrics are felt to be important by institutions and some scholars reflect on this also, but it would be truer to idealistic reasoning behind OA to adhere to LIS’ principles of the sharing and curation of information for all to use, in a horizontal fashion where possible. When Ranganathan (1963, p. 299) says to ‘every book its reader’, we can consider the breadth of the collection appealing to many different disciplines and interests and that therefore measuring impact is by just which books gain the most issues or papers the most downloads or citations unhelpful. Gold OA is clearly the better avenue for discoverability and librarians can work on interoperability of institutional repositories’ works to be accessible on the institutional library catalogues and other discovery tools to help with the sharing of ideas. There are unanswered questions on OA funding models, particularly if the movement is to move towards the desired gold OA, but librarians and LIS scholars as main stakeholders should have an active part in this discussion.

Fundamentally, librarians should consider the needs evident from the use of shadow libraries, information sharing beyond the academy across the wider field of LIS that together we should be backing and working on an Open Access future.
References


