Peer Reviewed Journals and the Challenges of Open Publishing: A Portuguese Case Study

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Abstract

Open Access can be understood as free, unrestricted access to scientific publications, (Bailey: 2010; Bjork and Peteau: 2012; Suber: 2012) and poses specific questions such as the status of such knowledge, production, dissemination, and quality control. Hence, the purpose of this paper is to review the concepts that are fueling the debate OA versus traditional, paid content journals, and that are connected with questions such as peer reviewing processes, business model (for even OA demands means for its production), ethical challenges, information management, publication indexing, and data retrieving, among others.

This work examines OA development in Portugal from the standpoint of the public policies taken to implement it, and surveys the case study of Labcom, a research unit from a geographically peripheral Portuguese university that pioneered OA publishing, hosting Gold and Green OA ventures that boosted its international presence, visibility and impact, mainly in the Portuguese and Spanish speaking world.

Key Words:

Corresponding Author:
Scientific journals appeared in the 17th century, out of the information overload printed books were laying on academic communities. The massification of science, and the appearance of the first scientific societies allowed for the appearance of these first journals, which were mainly digests of books.1 Over time, and mostly in hard sciences, publication cultures shifted from books to scientific journals - that turned from digests to presenting new scientific discoveries - and, as a way to ensure relevance and quality, to peer reviewed publications, maintained by societies or academics themselves.

Solla Price’s law which states that the growth of science is exponential, and that the sheer volume of science, measured either in manpower or publications, doubles every 10 to 15 years, means that again, over time, the proliferation of scientific journals placed new strains on information management.2 From a system based on renowned academic publishers which offered printed paid versions of scientific articles, by the early nineties of the 20th century the world wide web brought into play the concept of Open Access (OA), and challenged traditional publishers business model.

Digital technologies are as revolutionary for publishing as the discovery of the movable type printing was some six hundred years ago, placing us, in the last few decades, on the verge of “the fourth revolution in the history of human thought”, access revolution in the post-Gutemberg galaxy (Hanard: 1991).

**Key Concepts in Open Access Practice**

In 2002, the Budapest Open Access Initiative (BOAI) issued a declaration to promote and strength free access to scholarly literature, defining OA as “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. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited” (BOAI: 2002).

Open Access means free, unrestricted access to published content, as also defined in the Berlin Declaration. In this public statement, signed by 19 endorsers in 2003, and that is a result of the “Conference on Open Access to Knowledge in the Sciences and Humanities” organized by the Max Planck Society in Berlin, the post-Gutemberg revolution is considered “able to significantly modify the nature of scientific publishing as well as the existing system of quality assurance”. With the compromise of encouraging “the transition to the Electronic Open Access Paradigm” and “find solutions that support further development of the existing legal and financial frameworks in

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1Solla Price, John D., Little Science, Big Science, 1963, Columbia University Press, USA.
2*Idem*. Exponential growth, even if it can be maintained for long periods of time, will eventually stop, as Price recognizes.
order to facilitate optimal use and access”, signatories agreed OA implied at least two things: that users are granted “free, worldwide right of access to, and a license to copy, use, distribute, transmit and display the work publicly (...) subject to proper attribution of authorship”, and that a version of the work in digital format is to be published in an online repository, maintained by a suitable institution, able to provide “interoperability and long term archiving”.

Ten years later, in 2012, the Budapest Initiative, “no longer at the beginning of this worldwide campaign, and not yet at the end” reaffirmed its prior commitments and issued recommendations on policy, licensing and reuse, infrastructure and sustainability that should help shape the field for the next ten years. Originally subscribed by 16 signatories, 5731 individuals and 654 organizations presently sign BOAI.¹

Some key concepts in OA jargon, systematized by Suber (2012) include the distinctions between Gratis OA, meaning the inexistence of price barriers for readers to access the existing literature, a characteristic that is common to all OA literature; and Libre OA, which implies the removal of some or all copyright barriers. Libre OA is a variety a step beyond Gratis OA, and authors now have simplified means of stating which copyright barriers, if any, they wish to waive for their OA productions, for instance through the several Creative Commons licenses available, which are, themselves, free of charge (gratis).²

The opposite of Gratis OA is toll access literature, provided by journals from conventional publishers, and whose main business model is charging subscriptions to libraries or individual readers, while authors take no part in the financial burden.

As to the delivery mode, Open Access is said to be Gold OA when implemented through peer review scholarly journals; and Green OA when established through self-archiving in institutional repositories.

Some Questions concerning Open Access

Open Access isn’t limited to scholarly literature, it can be applied to other objects such as software, databases, patents, literature, music, or cinema; yet, this seems to be the field where it works best and is most advanced. The reason is quite simple. Scholarly literature is produced with the aim of publicizing and making known to the community the results of scientific investigation, mostly funded by grants, universities or other sponsors; and generally scientists don’t rely on royalties to make a living: their work is offered freely to publishers, which in turn charge libraries and individuals for access.

¹The original BOAI can be signed by individual or organizations at: http://www.opensocietyfoundations.org/openaccess/sign
Viewed for the last time in April 2012.
²Any author can apply to a Creative Commons license to protect its work in http://creativecommons.org/
Toll-access publications restrain accessibility to scientific results, thus harming the potential auditorium and impact of such results. This might explain why open access to scholarly literature became so popular among scientists and policy makers. As Björk and Paeteu put it, «scientific knowledge is a public good produced mainly with public funding and the authors who produce scientific information usually do not get any monetary rewards in the form of sales royalties» making them interested in «as wide a dissemination of the articles as possible».

Of course, producing printed or electronic journals isn’t free. Editors must rely on some kind of business model, either volunteer work and indirect support from institutions hosting OA journals, universities or research centers, for instance; or charge fees to authors for publication, ensuring the results are freely available. And if this latter seems to be the model with which traditional publishers are experimenting in their OA ventures, there are a lot of journals who don’t charge fees at all.¹

There is some moral hazard involved when the results of research performed with community resources are given back to society at a price, and that cost doesn’t belong to those who produced or financed it, but to intermediaries which, at best, peer-reviewed² and edited it.

One of the consequences of this business model is that it slows down science, especially in developing countries where libraries have feeble budgets and access to literature, hence to mainstream science, is severely restrained, if not absent. Several studies on OA deal with the question of science publishing business models, and they range from a wide variety of opinions (Prosser:2003; Willinsky:2007, 2009; Bernius: 2009; King:2010), but one thing is certain, as Suber (2012) argues: there are innumerous journals surviving on different OA arrangements, and some are on the top of their fields, showing it is no longer possible to maintain OA isn’t sustainable.

Benefits for authors include wider dissemination of their work, and possibly augmented impact, as OA journals have been acquiring rising respectability: Web of Science and Scopus have started indexing OA journals, and existing evidence suggests top open access journals are as good as toll access journals, with possibly slight advantage on quotation and immediacy index (McVeigh:2004; Harnad:2004; Antelman:2004; Moed:2007; Nowick:2008; Poor:2009; Giglia:2010).

Also, open access journals register a steady growth since the eighties, as shown in DOAJ – Directory of Open Access Journals, which presently indexes 8940 journals on scientific and scholarly subjects, 4548 of those searchable at article level, from 120 countries³. Journals included in DOAJ must exercise “quality control on submitted papers through an editor, editorial board and/or a peer-review system”, should have an ISSN assigned, and maintain a periodical publication rate.

¹DOAJ offers instant information on the fee/no fee journals.
²The peer-review process might imply costs to organize, but the process itself is free. In general, scientists aren’t paid for reviewing other’s work.
³Figures accessed in doaj.org, in April 2013.
Presently it is common knowledge in academic communities that open access doesn't do away with any of the scientific process checks and balances, including peer review in all its forms (editor or editorial board peer review, blind or double blind peer evaluation), it simply does away with access barriers. The subject has passionate audiences, and fuelling pro and con activism, but, has it gets to integrate "normal science" processes (Kuhn) and become mainstream, it is expectable that quality and impact worries among prospective authors will lessen.

**Open Access in Europe**

Open access is free for readers, but it isn’t free to produce, and it might rely on several business models, including volunteer work, support from its housing institution, research grants, or "author-side" processing fees. Policy makers in Europe have understood the benefits and potential of OA to promote the unrestrained development of science, and sympathize with the idea of implementing open access mandates in Europe.

A report from OpenAire project issued in 2012 presents the state of the art concerning OA repositories in Europe. The project aimed to develop “a network of open repositories providing free online access to knowledge produced by researchers receiving grants from the European Commission (EC) or the European Research Council (ERC)”, and was funded by the European Union’s Seventh Framework Program.

Besides supporting the creation of structures for researchers depositing funded research publications, its goals were also establish and operate an electronic infrastructure for handling peer-reviewed articles, pre-prints and conference publications; and to “work with subject communities to explore the requirements, practices, incentives, workflows, data models and technologies for depositing, accessing and otherwise managing research data sets in their various forms” (Schmidt and Kuchma: 2012).

Other European open access related projects are PEER¹ (Publishing and the Ecology of European Research), that investigated the potential effects of large-scale, systematic depositing of authors final peer-reviewed manuscripts on reader access, author visibility and journal viability; OAPEN² (Open Access Publishing in European Networks), aiming at develop and implement a sustainable open access publication model for academic books in the humanities and social sciences, an Open Library that, charging a fee, aggregates peer-reviewed open access publications from across Europe; SOAP³ (Study on Open Access Publishing), a research project that “surveyed researchers on their experiences with open access publishing and scenarios for the future”; SHERPA/RoMEO⁴, a publisher and journal’s copyright and self-

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¹http://www.peerproject.eu/
²http://www.oapen.org/
³http://project-soap.eu/
⁴http://www.sherpa.ac.uk/romeo/
archiving policies database that can be used by authors to check whether a certain journal allows articles to be deposited into repositories; and, related to Sherpa, Open DOAR\(^1\), an “authoritative directory of academic open access repositories” with over 2,200 listings. (Schmidt and Kuchma: 2012).

Open Access Mandates in Portugal

Schmidt and Kuchma report that Portugal’s open access repository activities “currently have considerable momentum, a reflection of the growing interest and involvement of the Portuguese academic and scientific community in questions related to open access to scientific literature”.

Portuguese OA activities are concentrated mainly in universities, and had their kick-start in 2006 when CRUP (Conference of Rectors of the Portuguese Universities) released a declaration recommending that Portuguese universities established institutional repositories and define OA mandates that call on members to place their publications in those repositories.

Two years later RCAAP (Repositório Científico de Acesso Aberto de Portugal) was established, with the goal to “increase the visibility, accessibility and dissemination of Portuguese research outputs”.

Saraiva (2012) in a report that describes Portugal’s situation concerning open access in scientific publishing tells the first Portuguese initiative in this field was the opening of the portal from the Portuguese section of the SciELO\(^2\), in 2005. Scientific Electronic Library Online - SciELO is an electronic library of scholarly journals launched by FAPESP - Fundação de Amparo à Pesquisa do Estado de São Paulo, in Brasil, and with collections from Spain, South Africa, Argentina, Brasil, Chile, Colombia, Costa Rica, Cuba, Mexico and Venezuela. Its funds amount to 1,051 scholarly peer-reviewed journals, 29,156 journal editions and 427,327 articles; and currently indexes 43 Portuguese journals (26 current, 17 discontinued).

According to Saraiva (2012) “there are in Portugal 16 scientific open access repositories in a production stage. Altogether, the running IR’s, collect almost 25,000 scientific documents” for after CRUP’s declaration on OA “the leaderships on most of the Portuguese universities have take action on this matter” resulting that “almost all Portuguese universities with significant research output have already or are creating their own institutional repository”. A healthy landscape, with good prospects, as Schmidt recognizes.

Also, Saraiva considers that “the number of Portuguese scientific journals is low” and that “the number of OA journals is also low”, coming mostly from Social Sciences and Humanities, something he explains for in most science and technology areas “a big percentage of the Portuguese scientific output is published in international journals”.

\(^1\)http://www.opendoar.org/
\(^2\)www.scielo.org
Yet, according to DOAJ - Directory of Open Access Journals, there are currently 70 Portuguese OA Journals indexed, with Portugal occupying the 16th place among OECD countries, and the 28th place among the 120 countries with publications listed in the directory, as shown in the following chart.¹

<table>
<thead>
<tr>
<th>#</th>
<th>OECD Countries</th>
<th>Total number of journals in DOAJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>United Kingdom</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Spain</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Germany</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Canada</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Italy</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Turkey</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>France</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
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<tr>
<td>16</td>
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</tr>
<tr>
<td>104</td>
<td>Luxembourg</td>
<td>0</td>
</tr>
</tbody>
</table>

¹Data retrieved from DOAJ in April 2013.
Starting from zero in 2003, being the 16th in rank in 2013 among OECD countries seems a pretty good score.

![OECD journals in DOAJ - 2013](chart)

Also, Brazil occupies second place, right behind USA, with 833 journals indexed in DOAJ, granting Portuguese-speaking journals a high profile place in the Gold Open Access route and, as far as Portugal is concerned, with encouraging development prospects and an evolution similar to the other OECD countries:

![Graph](chart)

**Labcom: Pioneering OA since the Nineties**

Portuguese institutions have shown undeniable interest, and in some cases great enthusiasm, in OA potential. The latter is certainly the case of LabCom –
Online Communication Laboratory\textsuperscript{1}, a research facility on Communication Sciences funded by FCT (Portuguese Science and Technology Foundation), and belonging to the Faculty of Arts and Letters of Beira Interior University, that pioneered experimenting with the concept, and today hosts respected Gold and Green OA ventures, and an Open Access Press for academic books.

As early as 1999 Labcom started its Communication Sciences repository/archive, a thematic green OA project composed mainly by academic publications. According to its director BOCC – Biblioteca Online de Ciências da Comunicação (Online Communication Sciences Library) took on the fact that the discipline “had a late start in Portugal as an academic field of research and teaching, and therefore the bibliographical resources were very few, and still are. It seemed to us that it would make all the sense to share online the resources we had with all the circa 30 under graduation programs that were created in the last half of the nineties in the Portuguese universities and polytechnic schools” (Fidalgo:2003).

With financial aid from the government, in 2000, two trainees were hired and a computer server was bought. In a very short time “BOCC became a reference site for the Communication Sciences not just in Portugal, but also in Brazil” and most of its contributors and visitors still come from Brazil.

BOCC differs from other repositories in the sense that it is a library, guaranteeing minimum quality products through editor selection, which ensures published materials are scholarly essays, but without formal peer review, and stating authorship and affiliation of all published authors. So it is

\textsuperscript{1}www.labcom.ubi.pt
not a repository in the traditional sense of author-self archiving repository, and the term it best describes it, as it was baptized in 1999, is "library".

With four mirrors, two in Brasil (Universidade Federal Fluminense and Universidade dos Sinos), one in Spain (Universidad Rey Juan Carlos) and one in Universidade Fernando Pessoa (Portugal), BOCC is divided in 30 sections, ranging from Cyberculture, to classical subjects like Aesthetics, Epistemology or Philosophy, to Radio, PR or Webjournalism. The library is searchable by subject, author, title, school or publication year, and possesses an internal search engine, all of which very necessary since presently BOCC hosts 2616 texts, from 1413 different authors, and received in the last year, in the Labcom server, an average of 1615 visitors a day, and 4988 daily downloads.

The chart illustrates the latest BOCC’s usage statistics, and must be read considering the other four mirrors, which aren’t included in this counter:

Due to its pioneer character, BOCC is a reference in Communication Sciences, and attracted many authors from Brazil and Spain, from young scholars to the most prestigious academics writing in the field. It helped enlarge and consolidate Labcom, which hosted it with the prospect of “creating an effective tool for research and teaching in Communication Sciences (…). BOCC has enjoyed a sustained and continuous growth since its beginning, and presently is an important bibliographical fund among scholars. The library has had an unexpectedly fast development, and is now, along with DocList, LabCom’s ex libris abroad” (Fidalgo:2003).

Bear in mind official policies to develop and structure Open Access at an institutional level in Portugal only started by 2006 (Schmidt:2012; Saraiva:2012). By that time BOCC was already an international reference in Communication Sciences to the Portuguese speaking and Latin American world, and Labcom was preparing to enter the Gold OA route.

Recensio, a review and culture magazine created in 2000, aimed to complement BOCC in its goal to offer the Communication Sciences community a coherent and complete resource of publications on the area.
Recensio allows users to be aware of publications in their field, as well as to access reviews and synopsis of books on Communication and Culture.

In 2006 Doc-Online – Digital Journal on Documentary Cinema launched its first issue. The journal has two editions a year and results from a partnership between Beira Interior University and State the University of Campinas (Brazil). Its main goal is to “divulge research in the scope of the documentary cinema, with special emphasis on multidisciplinary approaches”.

Publishes articles in four languages - Portuguese, Spanish, English and French. Doc-OnLine has all its content freely available to users. Presently in its 13th edition, publishes a thematic dossier, articles, reviews, analysis and film criticism, interviews and dissertations.

**Figure.** *Printed edition and online version of Doc-OnLine, n° 13*

In 2007 Estudos em Comunicação/Communication Studies, an online peer-reviewed journal publishing in four languages, and also with a print-on-
A demand format was launched. The journal is published twice a year, including essays in English, French, Portuguese, and Spanish, of original, previously unpublished and complete contributions on Communication Sciences. Preferred subjects are "citizenship and participation, understood from a communicational point of view, involving processes and devices of knowledge circulation and opinion formation in the political field in general, and in specific areas of public policy such as health, education, science culture, public opinion, gender and identity". The journal is open to various approaches, methodologies and lines of research, defining itself as a publication with an interdisciplinary profile and open to a plurality of research methods.

**Figure. Printed edition and online version of Estudos em Comunicação, nº 13**

Both magazines have attracted wide international participations, due to the periodical call for papers divulged in the most important mailing lists existing in the scientific area.

Labcom Books¹, an open access university press, was founded in 2010, and has published, so far, 92 books, freely available for download in pdf format, or for print-on-demand. This publishing project intends to explore "new territories of publication and availability of scientific works". Books are mainly in Portuguese, reflecting the huge participation of Portuguese and Brazilian authors, and each book is subject to a double peer review from specialists in the field, to ensure books meet high quality standards.

¹http://www.livroslabcom.ubi.pt/index.php
Labcom Books has five different collections: “States of the Art”, “Communication Theories”, “Communication Research”, “Journalism”, “Cinema and Multimedia”. In the last 12 months the site registered an average of 300 hundred individual visitors a day, or between 7 to 8 thousand individual visitors a month.

With the implementation, in the last decade, of Green and Gold OA in these three flavors: repository, journals, books; Labcom, pioneering since 1999, has collected massive benefits from the new trends, namely international recognition in the field of Communication Sciences, where it constitutes a reference player in Portugal and abroad. In the past ten years, Labcom helped, accelerated, and liberated the development of its scientific domain, and all this simply by making freely available on the web thousands of quality research outputs.

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