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"Open" or "half-open" Access?: Re-thinking Open Access Initiative (OAI) Policies

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Abstract

The goal of this paper is to review critically the concept of "open access" of the Open Access Initiative (OAI), and consequently their policies. Considering the technological and behavioral changes underway in society, we advocate a broader scope of the meaning of "open access". This includes looking at the issue of the intense public funding for research, the diverse forms of copying and dissemination (not just periodicals) and the need to include in the current agenda a broad reform of copyrights.

Keywords: open access, free access, scientific policy, royalties, public financing, free culture.

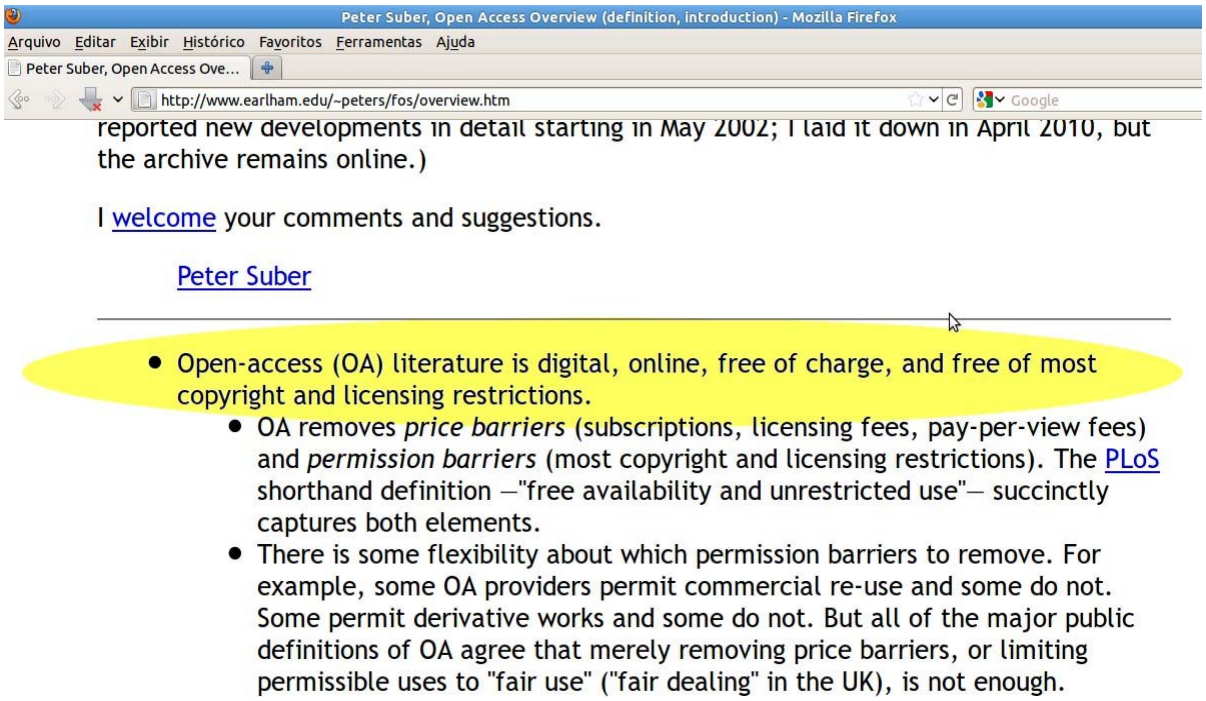
1. Introduction

The debate on the issue of open access to scientific publications has a milestone the 2002 *Budapest Open Access Initiative*, (BOAI), a document which laid the groundwork for the Open Access Initiative (OAI). According to "The Guide to the Open Access Movement" (Suber, 2013a), the aim of this initiative was to launch two strategies: first, incentive the self-archiving of papers; second, to launch of a new generation of journals committed to open access.

According the page "Open Access Overview", managed by the Open Access Project Director Peter Suber, open access can be defined as "digital, online, free of charge, and free of most copyright and licensing restrictions" (Suber, 2013b). The Budapest Declaration is the reference of that definition[1].

The following declarations of Bethesda and Berlin establishes that "for a work to be OA, the copyright holder must consent in advance to let users the 'copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship...'".

1"*By 'open access' to this literature, 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. 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."* (Budapest Declaration, 2001)



BOAI definition of open access

Through a look at the main documents and information provided by the movement, in this article we analyze the contradictions and limitations of the OAI concept of "open access" and– following from the former - their political consequences.

2. "Open access" in perspective.

The problem of access to scientific articles is not a new one. It involves the practice through which copyrights are transferred from authors to publishers. Publication of research results is just as important for the academy as is having access to the results of other researchers. This has gradually led to the constitution of a wide market which in the end has allowed publishers a monopoly, built on the basis of restricted access to contents that have been produced, to a large extent, through direct public financing. Intermediation has become unnecessary due to the ease in storing and disseminating information that the Internet has provided.

2.1 The emergence of the OAI

Together with the growing power of publishers through mergers and acquisitions that began in the 1990s and the absence of public policies for the clearly expanding arena of digital technologies, dependence on access to information sources to carry out quality research has led to new initiatives in favor of access to knowledge.

The first influential effort came from the group that, with the support of the Open Society Institute launched the Budapest Open Access Initiative in February, 2002. The core group of this movement was 16 academics[2]. Practically the same group have been elaborated the *Berlin Declaration* – an improved version of the former– launched in October, 2003. The goal of the Berlin Declaration is "the electronic distribution of peer-reviewed journals" (Berlin Declaration, 2003).

The OAI advocates access to scientific periodicals – rather than all types of publications - in electronic form. It accepts a series of limitations to what has been referred to as "open access". Thus, it has not included scientific publications that have come out in book format. Neither does it make reference to existing legal restrictions on reproduction and the need to reform copyright legislation. In the main documents there is no mention to open access to publicly-funded research[3].

For OAI, open access is provided primarily through the copyrights holder – the publisher or author. Availability is not directtally associated with sources of financing. Furthermore, the OAI accepts publishers charging authors for providing online access to their articles or disabling access for a period of time ('embargo') before making it available to the public. The OAI sees such situations as different modalities of "open access".

In addition to a focus that is restricted to the digital ambit, the OAI believes it is up to the author to decide whether to allow open access and how to go about it.

The OAI has also made its concept of open access more flexible. Accepting publishers' restrictions, it has created the terms "pale-green", "green", "gold" and "platinum", as shown in the table below.

2See http://www.soros.org/openaccess/read.shtml
3The first mention of it is in OECD Declaration on Access to Research Data From Public Funding (OECD, 2004).

Table 1 - "Modes" of open access

	Characteristics
Pale-Green	Article published in a periodical with restricted access yet allowing the author to make a copy available. However, this must be prior to the version ("pre-print") coming out in the journal.
Green	Article published in a periodical with restricted access, yet the author is allowed to make a copy available to the public. However, the copy that is supplied must be different from the version ("post-print") published in the journal.
Gold	Access is open, but the author may be charged by the publisher. The journal may establish an embargo of 6 months to one year before finally freeing up access.
Platinum	Open access with no fees involved. However, an embargo period may be included .

Sources: American Scientist Open Access Forum (2007), Suber (2007).

The flexibilization of OAI concepts has enabled many publishers to adopt the "open access" option. For example, regarding the "gold" mode, fees charged by Reed Elsevier, Sage, Kluwer and Blackwell – four of the largest publishers – amounted to US$ 3,000 for each available article.[4].

According to OAI's view, "the article charges to cover the costs of dissemination could be paid by the universities that employ the authors, the foundations that fund their research, or other possible sources." (Suber, 2013c)

The argument that fees are necessary may be challenged. Evidence for the latter is provided by the DOAJ, or Directory of Open Access to Journals[5], a site that provides access to journals largely free of cost. Costs, which are minimum – largely referring to time invested – are distributed over a network of collaborators.

It is worth emphasizing that publishers receive texts from an author in finished form; neither do they have to pay for peer review. A recent report written up by University of Cambridge researchers estimated that unpaid peer review amounted to US$ 31 billion (RIN, 2008).

4For more details see the table published by the Sherpa Project. (SHERPA, 2011).
5See: www.doaj.org .

2.2 Librarians

Librarians are guided by concepts that are different from those the OAI uses. In August of 2002, in between the two OAI declarations, , the IFLA disseminated its "Glasgow Declaration"[6]. Inspired in the terms of the Declaration of Human Rights, the document claims the defense of those 'human rights that are fundamental for access to information and freedom of expression". Much wider than the OAI view, this concept of open access includes access to information, ideas, and works of the human imagination through any media.

In June of 2003, a declaration entitled the "Bethesda Statement on Open Access Publishing" was released. Bringing specialists and representatives of university institutions and other agencies that finance research together, this declaration was the first to advocate a commitment to free access to the results of research financed through public resources or grants from foundations. Not limited to periodicals, the statement also makes reference to 'supplementary works or materials' that result from the support received by "university institutions, academia, government agencies or other established organizations that seek to promote open access, without distribution restrictions, inter-operatively and for long-term storage."

Defense of open access, when based on the human right doctrine adopted by the IFSA, considerably widens discussions on access rights[7], taking them way beyond the Berlin Declaration. The Bethesda Statement has the merit of fomenting debate on the necessary relationship between the public financing of science and right to access on the political agenda.

3. Restricted access and public financing.

Notwithstanding the horizon that the Internet has opened up, over the last fifteen years we have observed a frenetic concentration in the publishing sector, with numerous fusions and acquisitions. This has led to a situation in which a handful of publishing companies have acquired rights over thousands of titles. Reed Elsevier[8], for example, controls 12,500 scientific and technical journals, Thomson has 8,500 and Springer Verlag, 1,800 (Machado, 2008, p. 251).

Exercising an activity based on a monopoly of copyrights over hundreds or thousands of periodicals, publishers' bargaining power has grown over time.

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6 *The Glasgow Declaration on Libraries, Information Services and Intellectual Freedom* (2002).

7 One of the most interesting actions regarding the right to access to public funded research is from the Alliance for Taxpayer Access (http://www.taxpayeraccess.org/). The campaign is coordinated by the Scholarly Publishing & Academic Resources Coalition (SPARC), "an alliance of academic and research libraries and organizations committed to the promotion of systems that capitalize on the networked environment to disseminate research" (ATA, 2013).

8 Reed Elsevier is the largest lobbyist of the whole publishing sector in the US Congress. Between 1999 and 2008, its lobbying expenses amounted to more than US$26 million. (CRP, 2008).

In this way, clients are obliged to acquire big packages of hundreds of periodicals – including titles that they would really have little interest in subscribing to. Threatened with the possibility of having their access to state-of-the-art research cut off, public institutions have little choice but to accept to pay relatively high prices to access the results of their own research. The contracts that are drawn up oblige institutions to submit to harsh terms and to the use of closed platforms that impose maximum restrictions on users' rights to copy texts.

To get an idea of the volume of resources this mobilizes, Reed Elsevier's revenues in 2008 reached US$ 9,3 billion (Reed Elsevier, 2009), most of which came directly from payments made by government agencies and universities. In Great Britain alone, it is estimated that libraries have economized almost 1 billion per year, since open access was implemented (RIN, 2008, p. 20).

3.1 Great for private business, bad for the public interest.

Authors hand their copyright privileges over to scientific publishers. The latter thereby acquire copyright monopoly without having to spend a cent on research, pay authors or foot the costs of peer review. They then go on to block access to the very public that paid for the research to be carried out. Lastly, they force universities and research centers to pay again to have access to the results. For the publisher, this is good business; for public interest, a very bad one.

In the USA, according to data from the National Science Foundation (NSF), the public investment on Science accounts approximately 86,3 percent of the total of investments of all university and colleges (table 1). The table 2 provides an overview of public sector participation at its different levels as well as the participation of industry and others. The share of public funding could be even higher, if we consider the amount that came from foundations or organizations that uses tax exemption or other types of public subsidy.

Table 1.

Comparing public and private investments for research financing

In millions of US$ and percentages

	2009	**%**
Public Investment	47433	86,3
Private sector	3197	5,8
Other	4305	7,8
TOTAL	54935	100

Source: National Science Foundation, SRS Science Resources Statistics (NSF, 2011).

Table 1.

Investments in Science at Universities and Colleges in the USA

In millions of US$

Source of funds and character of work	2009
All R&D expenditures	54.935
Source of funds	
Federal government	32.588
State and local government	3.647
Industry	3.197
Institutional funds	11.198
Other	4.305

Source: *National Science Foundation, SRS Science Resources Statistics (NSF, 2011).*

The results are highly expressive, on contrary of any expectation, just only 7,1 percent of investments on science at universities and colleges came from private resources.

It is noteworthy that part of private sector resources have been obtained through governmental agencies, such as the Health and Human Services Department (which includes the National Institute of Health – NIH), Department of Defense, NASA and the Department of Agriculture (USDA).

According to a GAO (Government Accountability Office) study, between 1998 and 2005 67% of all North American firms did not pay taxes. The study covered 1.3 million firms, with sales amounting to US$ 2,5 trillions. This means that US$ 875 billion were not paid (GAO, 2008), a portion of which were turned into fiscal credits used for investment in research.

Data from the National Science Foundation and the GAO leave no doubt that it is society, through taxes that are levied, that finances scientific research[9] in the USA.

3.2 Factors that make Intermediaries' activities increasingly questionable.

Although publishers have had an important role in the past, several important factors have contributed to making their current function obsolete – at least insofar as a monopolistic practice, in the ways we list below:

9North American society finances million dollar research projects for firms that are then awarded exclusive rights to the results. Pharmaceutical products are notorious in this regard. For example, Bristol-Meyers Squibb holds exclusive rights over Taxol, developed through public financing from the National Institute of Health, in the vicinity of US$31 million. Federal organs such as NASA, the Department of Defense and the National Institute of Health concede rights over their discoveries to large firms.

1) the spread of a Worldwide Web,

2) linked to the above, the ease with which data are stored, transmitted and copied within the digital environment, and the low cost of the logistics that broadcasting information involves;

3) high levels of public financing of research;

4) shortening of interval between finalization and publishing of research;

5) the fact that academics do not publish for financial gain[10]. Publishing is simply a means and not an end for academic activity.

6) increased impact of results through Web dissemination;

7) public interest in promoting the circulation of knowledge to promote innovation and scientific development;

8) new possibilities for authors to retain copyrights rather than handing them over to publishers;

9) the negative impact that monopoly over "intellectual property" has on the dissemination of the results of scientific research;

10) a moral issue flowing from the fact that publishers do not invest in research yet are able to block access to results.

Some of the above-listed factors predate the Internet (3, 5, 7, 9 and 10). Yet it is the combination of all of them that creates the need to put an end to the way publishers are able to block access.

Organized around the power and influence conferred upon those who control the means for dissemination and scientific validation and structured on the bases of 'traditional' periodicals, systems of academic evaluation take on an important role in the maintenance of the current situation.

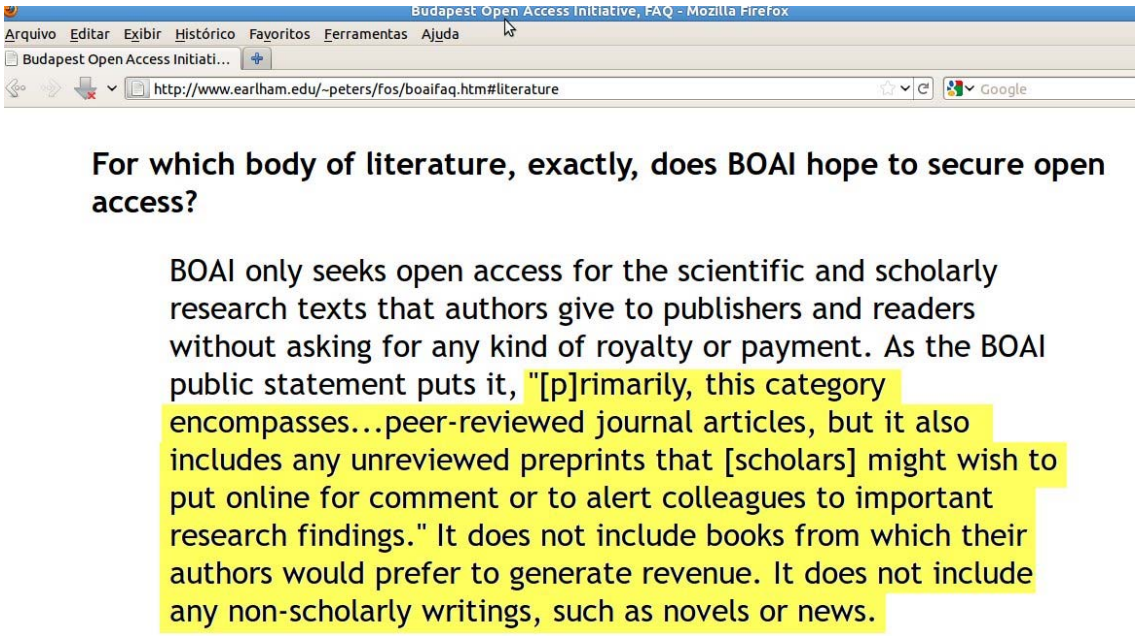
4. OAI contradictions and limitations.

Instead of discussing public financing of science or social interest in broader "open access" and more active participation in debates on copyrights, OAI discourse has been limited to – and has made many concessions regarding - the defense of making periodicals available on line. More wide –ranging debates on access to other educational and cultural goods such as music, art and audio-visuals have been deliberately ignored.

But the, the we can observe that OAI campaign has a start point a very modest concept of "open access". BOAI public statement puts it, "[p]rimarily, this category encompasses...peer-reviewed journal articles, but it also includes any unreviewed preprints that [scholars] might wish to put online for comment or to alert

10 Swan & Brown (2005)'s inquiry into reasons for publishing, using a sample of 1.296 scientists, noted that 60 percent of all researchers reported doing so in order to "disseminate research" done, 34 percent for purposes of career advancement and only 1 percent "for financial gain".

colleagues to important research findings" (Suber, 2013c). Books are excluded as well as any non-scholarly writings.



Focus of open access policies, according OAI's FAQ (Suber, 2013c).

We note that major OAI spokespersons have not published their books in open access. Through a brief look at *Amazon.com* and the Web, our readers will note that the majority of the 16 parties who have signed the Berlin Declaration do not even make their own books available through personal sites or other sources. It is worth noting that in 2006, some of the movement's main actors published the book *Open Access: Key Strategic, Technical and Economic Aspects* (2006). The book, whose objective was the defense of open access, came out under restricted access[11]. But it is not incoherent with the OAI's perspective of "open access".

4.1 Limitations (and undesirable consequences) of the OAI concept of "open access".

In a few words, we can summarize the main problems of the OAI conception of "open access" as follows:

[11]Individual texts, in accordance to each author's decision, may be found largely on the Web. Yet the book supposed to serve as a model for the open access cause is not available electronically.

1) Does not include reproduction rights (only digital copies)

2) Focuses only on periodicals.

3) Does not include books or monographs.

4) Does not include data bases nor primary sources of information.

5) Ignores the different media forms in which work can be stored.

8) Allows periodicals to charge authors for offering "open access", as well as an embargo from 6 months to one year, before making access available to non-subscribers

7) Low emphasis in public financing of research.

8) Upon accepting the embargo, discrimination according to financial resources or geographic origin of readers (rich or poor countries) is permitted.

9) Ignores new approaches to copyrights that technological advances have brought with them. Does not discuss changes in copyright laws.

10) Does not relate the problem of access to scientific contents to access to culture.

The merits of the OAI campaign must be recognized, insofar as it has placed the theme of open access to periodicals on university agendas, as well as forcing university and government administrators to discuss access policies and attempting to change scientists' behavior.

Nonetheless, there are a number of undesirable consequences that spring from the limitations inherent in the approach to "open access" that the OAI campaign has developed, as listed below:

1) Consents to publishers' incorrect forms of appropriation or blockage to access to knowledge produced with public resources; legitimates charging authors' exorbitant amounts or accepting embargo to make their articles available through "open access", in practice suggests only the flexibilization of existing models of business;

2) Its modest concept of open access undermines the legitimacy of raising the issue of free access to books, as well as that of other forms for making scientific production available that go beyond the scope of the OAI approach;

3) In giving scarce importance to public investment in scientific production and ignoring debates on the privatization of knowledge, the movement evades its responsibility for taking a stand on the issue;

4) As a frame of reference, the concept of "open access" OAI positions tend to weaken public policies that are more complete in terms to access to public funded contents (not just periodicals);

5) In treating a work´s availability as the author's option rather than a fundamental public right, it sustains a copyright system that is harmful to broad public interest;

6) Ratifies North-South inequalities in access to knowledge, through accepting the restrictions that publishers have imposed and which are more difficult for poor countries to deal with;

7) Human rights, such as access to culture and education and freedom of expression are not included as arguments. This weakens its inclusion on the policy agenda;

8) In considering a gradual system that is made up of a series of limited and restrictive options for open access", the movement tends to be hesitant and incoherent;

9) By diverging from librarians' and free culture activists' who advocate a wider concept of "open access", OAI limits the open access movement to merely the initiative of a specific pressure group. By avoiding broader political struggles together with other social movements affected by restrictions on copying and distribution – such as the music and audiovisual sectors –, the OAI contributes to fragmenting the opposition to the actual system of copyrights.

10) By not taking action against the copyright laws, contribute to legitimates that have been rendered obsolete by new digital technologies;

5. Conclusion: "Half-open" or truly open access?

Since their living depends on it, authors of scientific works have the greatest interest in disseminating their work, which in turn is measured by the number of times they have been cited. This is what enables them to obtain recognition and resources and build their careers, as well as to contribute to the development of a scientific area. As O'Reilly (2002) has reminded us, to remain obscure is an author's worst fear. Widespread circulation of knowledge, more than a commitment to the taxpayer and an advantage to an author, is necessary for the development of science and innovation.

Promoting and disseminating information, together with an author's acquired reputation, now depend on networks. Citizens' social practices and technological advancement are forcing a new approach to copyrights and access rights.

The OAI should bring its discourse up-to-date. In addition to the issue of intensive public financing of research, the de-criminalization of sharing, the relationship between access to contents and human rights – increasingly threatened by attempts to control information – and reforming copyright laws are themes that the OAI should include on its agenda.

The OAI's concept of open access should include any type of content or medium and the freedom to change the support - either conservation or more efficient distribution. Moreover, could include right to read contents with devices that ensure access to the blind – often hampered by copyrights restrictions. The OAI should also ban any author's charge.

If, *de facto,* access is not open, how then should we refer to it? As "half-open"? "Half-restricted"? What the OAI refers to as "open access" in practice includes the legitimation of a form of appropriation that makes it possible to block access to the very public that has financed the research itself.

The actual situation is incompatible with current technological development and social practice. A profound change in paradigm is underway, affecting the sciences, the arts and culture equally and leading to a need to revise values so that we are able to approach the question of access from a broader vantage point. Public interest should not submit to the political and economic interests of corporate lobbies that seek increasing control – and whose interests, at best, can hardly be defended without restricting individual freedoms. Then, we should decide what type of access to information and knowledge is more adequate for the society in which we live.

We must not forget that the construction of knowledge is a cumulative and collaborative process, and that any blockage in this chain can result in high costs for society and the loss of opportunities for development. Where the issue is science and technology, this relationship becomes extremely evident.

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