ADVOCACY FOR INSTITUTIONAL CHANGE MANAGEMENT: RESEARCHER PERCEPTIONS REGARDING THE UPTAKE OF OPEN ACCESS SCHOLARLY COMMUNICATION

ARIADNE CHLOE MARY FURNIVAL
Lecturer, Dept. Information Science - UFSCar
E-mail: chloe@ufscar.br

PEDRO OPRIME
Lecturer, Dept. Production Engineering - UFSCar
E-mail: pedro@dep.ufscar.br

Abstract

Since the enshrining of the concept of Open Access (hereafter, "OA") in the influential Budapest OA Initiative (2002), there has been a veritable proliferation of projects worldwide promoting OA as the future mode of scholarly communication. A substantial number of these have successfully promoted the setting up of institutional or discipline-based digital repositories into which researchers are encouraged to deposit their articles (so-called "green OA"), as well as publish in OA journals ("gold OA"). There is a consensus in the literature that the issues surrounding the technical infrastructure for OA have been surmounted, so that OA software and platforms around the world, like D-Space, Eprints, SCIElo, are undergoing continued upgrading. Latterly, OA proponents are increasingly recognising the need to tackle the equally formidable, but "softer" work of OA advocacy, which refers to the set of activities that have as their objective the promotion of OA modes of dissemination and the encouragement of researchers and other relevant stakeholders to embed such newer modes of dissemination and access into existing institutional workflows. This is because it is recognised that general uptake of OA forms for research outputs will require a change in the scientific community´s entrenched values and behaviour regarding current scientific publishing practices and their perceptions of OA channels. Such change may entail the need to establish academic incentives and prescriptive institutional procedures, possibly in the form of OA mandates, as already occurs, to differing degrees, around the world. Researcher-author resistance, apathy or mere ignorance regarding OA scholarly communication practises have been identified in research from Europe and the USA as constituting a substantive barrier to OA uptake. Our research underway takes as its point of departure the fact that the opinions and perceptions of OA practises held by members of the Brazilian research community, are, to date, unknown. Given that, our research aims to elicit the opinions (via an online and structured questionnaire) and thereby gauge the attitudes of a sample of researchers from several strands of the Brazilian research community, particularly located in public Higher Education Institutions (HEIs) and public research institutes, in an attempt to identify factors that affect their acceptance of, or resistance to, the adoption of OA publishing and dissemination channels. After presenting some aspects of the arguments in favour of OA, the discussion here presented focuses on relevant theoretical strands from the literature that underpin our empirical research; change management and organisational learning, as well as

that of OA advocacy, constitutes the theoretical framework for the analysis. Given the entrenched, and global, nature of academic norms that structure the scientific community, the goals of change cultivation in the context of HEIs, and particularly that tackling the question of research dissemination, faces particular challenges, which, it is hoped, can be debated in the presentation of the research.

Key words: scholarly communication; open access; scientific community; advocacy for open access; organisation change cultivation.

ADVOCACY FOR INSTITUTIONAL CHANGE MANAGEMENT: RESEARCHER PERCEPTIONS REGARDING THE UPTAKE OF OPEN ACCESS SCHOLARLY COMMUNICATION

Introduction

As well as being a well-recognized and considerably organized movement advocating substantial changes to the scholarly communication and publication system, Open Access (hereafter, "OA") is now also an established field of study, particularly in the areas of Information Science, Communication and in the fields of Science, Technology and Society (STS) and Science Policy. The OA movement is relatively recent, from when the term was enshrined in the Declarations of the Budapest OA Initiative (2002), the Bethesda Statement on Open Access Publishing (2003) and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003) – famously referred to as the "3 B's" by Peter Suber, an important advocate of the movement. The OA movement promotes Open Access as the future – and not distant future - mode of scholarly communication

Initially, the *modus operandi* of the OA movement has been to promote and support the setting up of institutional or discipline-based repositories into which researchers worldwide are encouraged to deposit their pre- and/or post-prints (the so-called "green route" to OA), and more recently, large-scale projects for data repositories, into which researchers are encouraged to deposit their raw data, are in great evidence. Among many such projects we can mention the EC's DRIVER and OpenAIRE infrastructures, the Irish Rian.ie research repository, the DEPOT in the UK.[1] Other projects have concentrated on promoting alternative publishing business models, including fully-fledged, born-digital OA journals ("gold OA")[2] or "hybrid, author-side payment" and albeit, controversial models.

It is indisputable that today, there exists a veritable worldwide network of OA repositories and a substantial number of reputable OA scholarly journals: anyone who has used the Google Scholar search engine is probably aware of the fact that a high proportion of the results returned is made up of scholarly articles hosted in one of the 2,200 OA repositories in the world registered in OpenDOAR (a directory of OA repositories) or one of the 8,152 OA journals registered in the Directory of Open Access Journals (DOAJ). That is to say, the technical aspects regarding the movement´s chief aim of making scholarly works open access have been, to a great extent, resolved, with the technical focus now being on mainly tweaking and improving technical platforms.

However, and very unfortunately, it is not equally true to say that the non-technical but equally formidable work of promoting the *uptake* of OA scholarly dissemination and publishing models, constitutes a battle won. This is because the widespread adoption of OA dissemination channels will require, above all, a change in researcher behaviour and publishing habits, which in turn, may require the anterior/preceding establishment of institutional incentives and the adoption of new normative institutional policies, such as OA

[1] DRIVER: http://www.driver-repository.eu/ ;OpenAIRE: http://www.openaire.eu/; Rian: http://rian.ie/; The Depot: http://depot.edina.ac.uk/; NECOBELAC: http://www.necobelac.eu/en/index.php; ARROW. Australian Research Repositories.http://search.arrow.edu.au/ ; CRC: http://crc.nottingham.ac.uk/; RSP: http://www.rsp.ac.uk/

[2] For more on the "Gold" and "Green" paths to OA, see Harnard et al. (2004). For a list of OA Journals, see the Directory of Open Access Journals (DOAJ) at: http://www.doaj.org/doaj?func=loadTempl&templ=080423.

mandates. This is because it is recognised that general uptake of OA forms for research outputs will require a change in the scientific community´s entrenched values and behaviour regarding current scientific publishing practices and their perceptions of OA channels. Such change may entail the need to establish academic incentives and prescriptive institutional procedures, possibly in the form of OA mandates, as already occurs, to differing degrees, around the world. We might say that this "softer" side to the OA movement is analogous to that of the environmental movement: we can have all the scientifically proven information regarding environmental change and highly sophisticated technical solutions to some issues, but one of the greatest remaining challenges will *still* be to get people to voluntarily change their consumption habits and behavior if true environmental sustainability is to be attained.

As with environmental issues, attaining the goals of open access will thereby depend greatly on the way the issues are communicated to stakeholder groups, one of the most important of these groups being publishing academic researchers. The set of activities that have as their objective the promotion of OA modes of dissemination and the encouragement of researchers and other relevant stakeholders to incorporate such modes into their existing workflows, is usually denominated "advocacy". OA advocacy work ultimately aims for a more seamless embedding of OA dissemination practices into existing academic workflows, and so it is work that also entails recruiting the support of university research managers and librarians. Hence, more recently, OA research projects have focussed on aspects pertaining to, *inter alia*, the economics of OA publishing, OA policies, research funder OA mandates and author attitudes to OA (see, for example, Houghton *et al*., 2009; Swan, 2006; Nicholas et al., 2005; Swan & Brown, 2005; Antelman, 2004).

Alterations to the structure of existing workflows evidently calls for some form of implementation of institutional change at one level or another and will very probably imply organizational learning. For reasons that we also discuss below, the open access discursive community is more consolidated and articulated in Europe and the United States, its constitution being much more recent in countries like Brazil. In the sections that follow, our remarks will draw on the now large pool of open access literature, our aim being to then contextualise the "softer" issues surrounding the open access debate with the aid of some concepts and issues found in strands of the organisational learning and change management literature. But before turning to these strands of the literature, we first briefly outline aspects of the open access movement, its potential advantages for researchers and institutions, and researcher responses to open access.

Features of open access and its potential advantages

In 2001, the Open Society Institute (OSI) organized a meeting in Budapest with the aim of "accelerating progress in the international effort to make research articles in all academic fields freely available on the web" (OSI, 2001). From this meeting, what is now the classic definition of Open Access emerged, namely:

"the free availability of literature 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."(OSI, 2001).

This declaration became known as the "Budapest Open Access Initiative" and to date, has five thousand plus signatories, among them associations, academics, universities, publishers, some of them from Brazil. The definition is intended to be far-reaching, although it should not be misconstrued as being a call to "bring down" commercial publishers. As Peter Suber from the Harvard Open Access Project has repeatedly argued, and one of the most renowned OA advocates, toll-access (i.e. requiring subscription) and open access scholarly literature can, and do, coexist, with many of the commercial publishers running their own open access titles as well as offering hybrid models of publication (e.g. the "author pays" model), but only time will tell as to how commercial publishers will internalize the reality of open access. Even so, because it is undeniable that one of the main catalysts of the open access movement was the fact that the prices of journal subscriptions have constantly risen four times faster than inflation since the mid-1980´s (Suber, 2004; 2012), it is usually assumed that the main goal of the movement is to put these costly journals out of business. But it is more true to say that open access naturally emerges from the combination of the age-old tradition of scientists and researchers naturally wishing to disseminate their results to advance progress in their respective fields and to lay the first claim to discovery and authorship, with the highly efficient technology of the internet for rapid dissemination (Suber, 2004; 2012). In this sense, the OA movement does not, in fact, constitute something radically new, but is in fact an unstoppable wave of what has always taken place in the scientific community.

It is true to say, however, that the benefits of open access for non-OA commercial publishers are probably fewer than those for researchers, readers (researchers, students, teachers) universities, libraries, funding agencies and governments, and members of the general public. Focussing here on the benefits for researchers in making their scientific output available in open access channels, there now exists a substantial body of evidence (based on scientometric and bibliometric research) that demonstrates that there is, indeed, an open access citation advantage (OACA). In 2001, an article was published in *Nature* in which data was presented comparing publicly available "online" articles with offline, subscription articles in Computer Science and related disciplines between 1989 and 2000. The results demonstrated that "the mean number of citations to offline articles is 2.74, and the mean number of citations to online articles is 7.03, an increase of 157%" (Lawrence, 2001).Overall, the OACA was around twofold. Another study (Antelman, 2004) found that the relative increase in citations for open access articles was of 45% in Philosophy, 51% in Electrical and Electronic Engineering, 86% in Political Science and 91% in Mathematics. Hajjem et al.'s (2005) results reveal that for 10 disciplines over 10 years, the OACA can be verified: for 1 citation there was a 16% OA advantage, for 4-7 citations a 22% OACA, and for 16+ citations, a 10% OA citation advantage. Swan (2010) reviewed 37 similar studies from recent years comparing OA with non-OA article citation impact in different academic disciplines, and only four studies demonstrated that there was no OACA. Some of these studies (in astronomy, for example) demonstrated that an OA boost to citation was obtained when articles were deposited to arXiv[3] *simultaneous to* submission to a high prestige journal, with one study showing that "Higher-impact journal articles not posted to arXiv are cited less often than those from lower-impact journals posted to arXiv" (Swan, 2010, p.5). Although on this point, it is possible that because lower impact journals may not be as widely available to authors

[3] arXiv is one of the most well-known and prestigious subject-based repositories to date, containing 621,695 e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance and Statistics.

through institutional subscriptions, they will be more likely to have a "greater relative research impact" when made accessible through OA (Antelman, 2004, p.374). Even so, this is evidence of what Swan refers to as the "general OA advantage", whereby articles that are citable become available, through OA, "to audiences that had not had access to them before" (2010, p.2). Another aspect of the OACA which Swan (2010, p.2-3) collates from the extensive literature on the subject is the "early advantage" by which the sooner articles are made openly accessible, the sooner their citation advantage will be evident. It has now also become consensual that open access channels for scholarly communication can revive interest and citations of older articles, published pre-digitally, but today digitally scanned and placed in an open access repository.

The relevance of the argument around the OACA is that in academia, the dictum "publish or perish" reigns, and so researchers like to know that their published research has made an impact on their peer community to potentially further progress in their respective fields. Article impact – that is, the number of times an article is cited – is of great interest to publishing academic researchers, chiefly because it is regarded as being a measure of the "impact factor" (IF) of a given piece of research. The term "impact factor" was coined by Eugene Garfield of the ISI in 1955, to refer to the formulation of a citation index that would "evaluate the significance of a particular work and its impact on the literature and thinking of the period" (Garfield, 1955, p.469). Today, the IF is commonly employed to rank *journals*, as if by default, this reflects research *quality*. More recently, prestigious open access journal-repositories like PLoS have resuscitated Garfield´s original meaning, highlighting the number of hits an individual article attains. Evens so, problematical aspects of the IF notwithstanding, it still has currency and even kudos in today's global scholarly communication system (e.g. CAPES´s Qualis), which is why the potential of the OACA is used as one convincing argument, among others, to promote open access amongst researchers.[4]

Apart from citation benefits at this more "individual" level of the researcher-author, other benefits of open access commonly identified in the literature point to OA´s contribution in boosting the visibility of a given institution´s research output, which will be especially the case for articles and other research output archived in academic institutional repositories (IRs) – the so-called "green route" to OA. As Swann and Carr observe (2008):

> Just about every institution with a repository cites this as a reason for having set it up according to our own small survey of European repositories (unpublished). Certainly, the repository is the ideal vehicle for making the work of the institution visible. Relying on pages on the institution's website is not satisfactory.

Internet traffic retrieving references and downloading papers and materials (e.g. via Google Scholar) stored in university institutional repositories can arguably have a positive impact on those universities´ visibility on the web, no trivial matter in a context in which the web ranking of universities worldwide is increasingly becoming the accepted measure of a university's visibility and potential impact (e.g. see the G-Factor International University Ranking[5] and the Webometrics Project[6]). Also at the institutional level of benefits, the IR can be explicitly used to automatically generate research output ("productivity") indicators,

[4]Even so, we should be wary of those who argue that if there is no discernible OACA, then OA itself has no value. OA is a growing tendency because it is seen as fair to make the results of research openly available in society: the OACA is just one advantage of OA among others. There has been enough continued interest in the OACA for Hitchcock (2010) to put together a bibliography of OA citation studies.

[5] http://universitymetrics.com/g-factor

[6]http://www.webometrics.info/about_rank.html

contributing to departmental annual report elaboration, and in some universities, they are being used as a strategic decision-making tool for career promotion procedures.[7]

Besides providing these "spin-off" advantages of OA, a university or research institute open access repository populated with its staff research and other output, also comprises the basic functions of storage and preservation of the host institution´s output, meaning by preservation:

> the act of physically and intellectually protecting and technically stabilizing the transmission of the content and context of electronic records across space and time, in order to produce copies of those records that people can reasonably judge to be authentic (Wilczek & Glick in Hitchcock et al., 2007).

In today´s all-encompassing digital "parallel worlds", preservation procedures are paramount, given the fact that many university libraries find themselves having to negotiate with commercial publishers to guarantee archival access to back issues of electronic journals they have subscribed to in the past, but for which subsequently, they may need to cancel the subscription (Watson, 2005). Copies of published papers available in a worldwide network of IRs will ameliorate the risk[8] inherent to such scenarios.

The other, arguably most obvious advantageof OA is that it makes high quality science publicly and freely available on the internet for all (who have access to the web, that is) to see, read and download. This facet of OA is what John Willinisky (2006) – another high-profile academic defender of OA (who developed the Public Knowledge Project and the Open Journal System) – refers to simply as "the access principle", which is "A commitment to the value andquality of research carries with it a responsibility to extend the circulation of such work as far as possible and ideally to all who are interestedin it and all who might profit by it." (Willinsky, 2006, p.xii). This, of course, refers to the practices of democratic circulation of and access to (often) publicly-funded scientific research which scientists in the scientific community have adhered to since the Scientific Revolution of the 17th century, cognizant of the reality then that science not "published" in the sense of being "put out there" in the public domain, was inexistent science; paraphrasing the pragmatist philosopher John Dewey, unless the results of accurate scientific investigation are read, they cannot affect in a serious way the thought and action of members of the public; science presupposes that something becomes known when discovered and understood…but that something is only entirely known when it is published, shared and socially accessible (DEWEY, 1956, p.177; p.183). That is not to say that the OA movement advocates the *evaluation* (or even peer review) of science by "lay members" of the public; as Willinsky (*op.cit*) has argued, the main issue around broadening access is not whether members of the public are interested in or have the ability to understand science: the public has the basic right to access it.

In a similar vein, the OA movement argues the case that the OA principle is fundamental so that access to high-quality research developed in richer countries might be accessible to researchers (as well as to member of the general public) in poorer countries. There are several global initiatives in this line, for example the WHO´s HINARI programme, the FAO´s AGORA, UNEP´s OARE programme and WIPO´s ARDI programme, which all seek to close the information gap between richer and poorer countries (Research4Life,

[7] "To further motivate compliance, Rentier (Rector of University of Liège) announced that depositing papers in the repository was henceforth the sole mechanism for submitting them to be considered when researchers underwent performance review." (Poynder, 2011)

[8] For example, negotiations may be worth little if the publisher later goes out of business, as was mentioned by some librarians interviewed for the JISC survey.(in Watson, 2008, p.203).

s/d).Even so, programmes like HINARI rely on GNP indicators to decide which countries are eligible for access, so it could be argued that it is not universal.

The (resistance to?) assimilation of Open Access principles in the scientific community

Despite concerted and integrated efforts in the promotion of OA in the scientific community worldwide, OA repositories are much emptier than had been anticipated, and many researchers and scientists remain sceptical about the quality of OA journals and their consequent potential to make an impact. As Bjork *et al.* (2008) and Hajjem et al. (2005) note, only about 15% of the 2.5 million articles published annually worldwide are being self-archived in repositories by their authors. In 2007, Davis and Connolly observed that despite great institutional investment, Cornell University's DSpace Repository was being considerably under-used by Cornell's faculty members, affirming that: "Although a university-wide structure exists, much of it remains in skeletal form, with many collections empty or meagerly populated.(...) There is little evidence to suggest that individual faculty are making significant contributions of regular scholarly output to the repository." Echoing that sorry picture, on recounting the experience of implementing and embedding the IR into the institutional culture at the University of Minho in Portugal, Ferreira et al. (2008) note that, despite the IR being launched in 2003 and being accompanied by an integrated advocacy programme (which included a financial incentive for the department of the depositing author),

> "(…) By the end of 2004, the number of documents in the repository reached about 630. It was felt that in spite of the various calls for deposit, the calls were not producing the expected results. The number of self-archived documents was still remarkably low. Of the 630 documents in the repository, only a mere 128 were archived by the authors themselves.

At the same time, there has been a steady growth in the number of IRs being set up worldwide. The directory of OA repositories, OpenDOAR, shows that the number of repositories (which includes digital libraries) has almost doubled between 2005 and 2010 (OpenDOAR, 2010). Given that the ostensive advantage of an IR is that it can constitute a potential institutional marketing "shop window", this situation can be construed as serious, as Swan and Carr (2008:32) emphasise:

> Except for a small number of institutions around the world that have big, growing repositories containing current research articles (rather than just, say, theses, grey literature or legacy literature from the past) most repositories are to all practical purposes empty. They are not only *not* enhancing their institution's online visibility, they are also actively projecting a very poor image of their institutions to the world. The shop window is empty.

Resistance or/and apathy in the scientific community to extending OA is still somewhat of a mystery today. Certainly, the overall ethos of the scientific community is not in consonance with restricting access to research outputs. The sociologist Robert Merton was the first to define the prescriptive (but usually tacit) norms constituting this scientific ethos as: universalism (that is, scholarly development should focus on the universal criteria of the object of study, and not on the particulars of the scholar making the claim, like reputation, nationality, institutional affiliation); "communism" (that any knowledge arising from the research endeavour should be made public, for the benefit of the whole scholarly community); disinterestedness (that the goal of the research endeavour is seeking out, and contribute to,

universal scientific truth, with no personal gain or interest for the researchers involved); organised scepticism (which means that knowledge claims advanced by researchers will be scrutinised and tested, before entering the shared body of scientific knowledge) (Merton, 1979). Related to the norm of disinterestedness is the fact that, as Suber reminds us, scientific authors give away their research results in the form of articles for free, since the scholarly journals "do not pay authors for their articles, and have not done so since the first journals were launched in London and Paris in 1665" (Suber, 2012).

Harnard (2006; 2010), Suber (2004-2012), *inter alia* analyse many of the arguments given by scientists to justify their mistrust of, or resistance to partake in, OA publishing practices, one of the most common being the assumption that OA publications have not undergone peer review (but OA publishing is a *supplement* to publishing in journals: the same, high-quality, peer-reviewed articles are made OA in a repository, not rejected papers). Alongside this concern is another misguided perception of self-archiving in an OA repository as being illegal, an infringement of the publishers´ copyright. But perhaps one of the best-kept secrets among nearly 90% of commercial publishers is that they permit author self-archiving simultaneous to the submission of the article to the journal, or after a 6-month embargo period. Authors have not been sued by publishers for self-archiving copies or versions (but usually not the publisher´s final pdf file) of their own articles, as the authors of the "three-quarter million self-archived computer science papersharvested in http://citeseer.ist.psu.edu/or the nearly half-million physics papersself-archived in http://arxiv.org/across the past decade and a half" attest. As Harnard(2006, p. 6) notes, "if the authors of all those articles had simply remained paralyzed about whether ornot they should self-archive, because publishers might object, computer scienceand physics would have had 1.25 million fewer articles freely accessed and usedacross the past 15 years".

The peer-review process is based on the norms of communism and organised scepticism, in that the extrinsic reward for the researcher is derived from peer recognition through contribution to the common stock of knowledge. Although it seeks to be as objective and fair as possible, the literature of the sociology of science, as well as the press, is replete with examples of subjectivity in the peer-review process. Merton himself recognised that recognition of scientific work by peers is very often "skewed in favour of established scientists" (Merton, 1988, p.607), a pattern that he called "the Mathew effect".[9] Merton and his peers built a reputable research agenda in the Sociology of Science studying this such "accumulation of advantage" based on the social stratification in science. One obvious result of accumulated advantage of reputation is that the citations of the works of the reputable scientist will be substantially greater: figures of 0.3% of publishing scientists being cited more than 100 times in a given timespan (of approxiately 20 years) compared to 2.7% being cited between 25 and 100 times, and around 58% being cited only once in the same period (Garfield in Merton, 1988, p.611-2).

Thus, the currency of the reward system in scholarly research is "public" recognition, in the sense of recognition of the ownership[10] of the research by peers of a given area. Based

[9]From the New Testament, the Gospel according to Matthew (13: 12 and 25:29): ""For unto everyone that hath shall be given, and he shall have abundance; but from him that hath not shall be taken away even that which he hath."

[10]For as Merton (1988, p.620) notes, "(...) it is only a seeming paradox that, in science, one's private property is established by giving it s substance away. For in a long-standing social reality, only when scientists have

on Beecher and Trowler's (2001) famous denomination of scientific disciplines as "tribes" operating within their "territories", Paasi (2005, p.773) observes that "peer recognition and freedom have by tradition been recognised as the primary forces in the economics of science, not money or security." And usually, it will be the prestigious journal titles of that area that researchers will choose as the most effective channel to obtain that recognition. In that sense, as one scientist makes clear (in Davis & Connolly, 2007), the repository will only be used if, "it is used by the rest of my community. If an institutional repository is not coming up regularly in a search, I would not put my papers there." This confirms the view that academics are highly attached to their discipline or subject and that "subject-based expertise and achievements constitute an important form of academic credibility" (Deem, 2010, p.39). Indeed, it has often been noted that academics and scholars usually have a stronger allegiance to their subject discipline – their "tribe" – that to their university.

It is because of this substantive independence that the scientific community has in determining where to publish, that leads some in the OA fields to reach the conclusion that the uptake of OA channels for research dissemination (in OA journals or repositories) will only come about through regulatory, policy action. There exists a broad OA "policy spectrum", spanning from broad statements of support and promotion of OA (e.g. the Budapest OA Initiative mentioned above, but there are many others[11]), to the other extreme consisting of prescriptive university or research-funder "mandates" which encourage or sometimes even oblige academics to deposit copies (known as self-archiving) of their published papers in the IR or a national or disciplinary repository. The former type of "policy statement" (i.e. the declarations) has the prime function of raising awareness within the academic community regarding the issues surrounding OA as a new form of scholarly communication, at the same time lending official, international and institutional credibility to the OA movement. Although they are not policies to be implemented as such, their great value resides in their synthesis of the main arguments in favour of OA, thereby constituting an initial foundation for more contextually-specific OA policies.Today, there exists a number of examples of this latter type of more "prescriptive" policy, the more forceful, executive arm of the "softer" support-type policy statements. For example, research-funder mandates may stipulate that researchers receiving funding from the funder should subsequently make their resulting research papers available via OA channels, either through publishing in OA journals or self-archiving in an institutional, subject or pan-national OA repository, or possibly pledge that the research funder will cover the costs of publishing in an OA journal with an "author-pays" business model.[12] Perhaps the best-known example of a funder mandate is that of the NIH in the USA.

At the institutional level, mandates encourage their academics to deposit refereed final drafts of papers in the IR or a subject-based repository. Importantly, Sale et al. (2010) argue that institutional mandates are more important than funder mandates, principally because not all research is funded, but all research is usually carried out in the context of a university or research institution. But institutional mandates that merely encourage their academic constituents to use OA scholarly communication channels often do not result in tangible

published their work and made it generally accessible, preferably in the public print of articles, onographs, and books that enter the archives, does it become legitimately established as more or less securely theirs.

[11]Bethesda, Berlin, United Nations and Association of College & Research Libraries (ACRL) manifestos, in 2003 (see http://www.soros.org/openaccess/initiatives.shtml for a breakdown of these OA initiatives

[12]Many examples of such research funder mandates are listed on the website of the JULIET database (http://www.sherpa.ac.uk/juliet) and on ROARMAP, http://www.eprints.org/openaccess/policysignup/

results, unless there existshigh level institutional support and facilitation for the setting up of an IR. Because there are relatively few institutional author-archiving mandates around the world, the evidence that they induce the growth of IR content is scarce. On the other hand, institutional mandates for the depositing of e-theses and dissertations into institutional digital collections have existed for longer, and have usually proved to be effective (Davis and Connolly, 2007). Sale (2006) and Harnard (2010) have noted that voluntary self-archiving does not usually manage to raise the deposition rate above a "baseline of 15%" of total institutional research output, but that mandates for self-archiving could perhaps, over time, raise that rate to, in the case of departmental mandates, 80-100%, and in the case of institution-wide mandates, around 80%. Sale observes that an institutional mandate will take at least three years to begin to be effective. Sale's research therefore confirms what Swan (2006) reported from her survey of researchers, which showed that 95% of researchers would self-archive only if *required* to do so by their institutions, 81% willingly and 14% reluctantly.

It is arguable that the prevalence of author reluctance for self-archiving has, indeed, led to the proliferation of OA mandates being issued by many research-funding bodies[13]including, *inter alia*, the Wellcome Trust and the Medical Research Council in the UK, the National Institute of Health in the USA, the European Research Council, and by some universities[14] worldwide, including Harvard, MIT, University of London, the University of Bremen. More recently (July, 2012), there has been much talk about the British government´s decision to oblige the results (publications) of all publicly-funded research to be disseminated in OA channels, a nationwide mandate that will come into effect by 2014. As the Science Minister, David Willetts argued:

> "Removing paywalls that surround taxpayer funded research will have real economic and social benefits. It will allow academics and businesses to develop and commercialise their research more easily and herald a new era of academic discovery. This development will provide exciting new opportunities and keep the UK at the forefront of global research to drive innovation and growth." (BIS, 2012).

Mandates evidently represent the "strong arm" of OA policies, but the "softer" work of OA advocacy will still be necessary in order to produce the arguably more sustainable, cultural shift required for non-mandated OA uptake, or for compliance with OA mandates. For such an organization cultural shift to take root, some change management will perhaps be called for, two concepts which we now go on to succinctly discuss in the next section.

Change Management in academia pro-OA: is it possible?

As Chan (2004) observed, "Cultural inertia is often cited by faculty members as the reason for the slow adoption of self-archiving", as well as the "Lack of trust in institutional commitment to the long-term maintenance of the repository" also being explaining academics´ slow OA uptake. These two points reveal aspects that are perhaps peculiar to the "academic culture" within the institution (university or research centre), namely, that academics are usually too busy to be actively engaged in implementation projects and so can lay the blame at the door of "cultural inertia" when the project´s success is limited, but that when/if the new system is, indeed, implemented, they (the academics) experience the freedom

[13]See the database Juliet for a list of *research-funder* OA mandates: http://www.sherpa.ac.uk/juliet/index.php
[14]See ROARMAP for a list of *institutional* OA mandates: http://www.eprints.org/openaccess/policysignup/

to ignore it (especially if they "mistrust" it or its designers). It is well-recognised fact that worldwide, university researchers and lecturers still have a substantial amount of autonomy regarding the way they structure their work routines and their choices within that routine, which is often reflected in semi-autonomous departmental administrative units and practices. Deem (2010) observed that several of her university-based interviewees reiterated the pervasive belief that to "control" academics is akin to attempting to "herd cats":

> (…) trying to manage anything involving academics is like trying to herd cats …It means that you've got this whole group of people who are all independent thinkers and will do things if they think it will suit them …but you know, they won't do it just because you say so" (senior administrator, Pathside University[15]).

Organisational culture is made up of norms, values, philosophy, feelings and routine behaviour (Hellriegel *et al.*, and Smit & Cronje in Martins & Terblanche, 2003). In universities, there are cultures within the overall university organisational culture, most obviously the academic-teaching culture alongside the administrative-managerial one (1998; 2010). McNay (1995) systematises the factors characteristic of "collegiate" and "bureaucratic (manageralist)" organisation cultures that coexist in universities, and thereby useful for any discussion regarding the cultivation of change in a university.

Factor	**Collegiate**	**Bureaucratic**
Dominant value	Freedom	Equity
Role of central authorities	Permissive	Regulatory
Handy'sorganisational culture	Person	Role
Dominant unit	Department/individual	Faculty/committees
Decision arenas	Informal groups networks	Committees and administrative briefings
Management style	Consensual	Formal/'rational'
Timeframe	Long	Cyclic
Environmental fit	Evolution	Stability
Nature of change	Organic innovation	Reactive adaptation
External referents	Invisible college	Regulatory bodies
Internal referents	The discipline	The rules
Basis for evaluation	Peer assessment	Audit of procedures
Student status	Apprentice academic	Statistic
Administrator roles: servant of...	The community	The committee

Adapted from McNay (1995) cited by JISC Advance (2012)

It is our belief that, particularly in public Brazilian universities, these two cultures co-exist, sometimes exhibiting points of tension. In further research, we intend to analyse more closely how these factors affect, for example, the implementation of information systems like IRs. But it is clear that initiatives to cultivate change will need to consider these cultural

[15] Fictitious name given by Deem (2010).

facets of the organisational types, alongside the organisational structure, work processes, and IT/infrastructure (Worren et al., 1999).

Evidently, the movement towards change is not simply a whimsical decision taken by the top of the organisation´s hierarchy, but will be catalysed largely by external "environmental conditions". Some aspects of the scenario recounted by Parker (2002) regarding Australian universities are familiar to those of Brazil, particularly the pressure (from government) to expand supply in the form of larger student intakes and the offer of duplicated programmes in several geographical locations, the contracting of more part-time lecturers and researchers, the growth of the virtual dimension of the organisation, particularly related to distance learning. Consequently, the organisational structure expands to encompass matrix and network configurations, often also manifest in the incorporation of geographically distant areas into the single university organisation, the multi-campi university. The academics´ response has "attempted both rebuttal of change (in order to avoid any effect on their core activities) and reorientation (taking on board some processual changes while attempting to avoid any change in core values" (Dillard in Parker, op.cit, p.613).

We may thus perceive the embedding of OA scholarly communication practices into existing publishing habits and practises as the attempt to adopt processual changes that exert an impact on the core values of academia, on the one hand promoting continued mertonian "communalism" but on the other, potentially undermining the scientists´ autonomy to publish where it best suits them.

How can this change be smoothly implemented and embedded into existing practises, without demanding more from scientists-researchers? Following Handy (1999, p.XX), "change management" is probably a misnomer, since change cannot and should not be managed, but cultivated. Here, we might say that the actual work of planning, experimenting, implementing change, will be carried out by the "newstreams", as distinct from the organisation´s "mainstream" (Moss Kanter *apud* Handy, op.cit), which will be groups or teams that will be given the freedom (and resources!) to experiment, and sometimes even fail, in the implementation of new systems and procedures. But these newstreams will also crucially need include actors that will embrace the "softer" work of advocacy, our argument here being that advocacy initiatives in the organisation are essential for the effective cultivation of change.

As previously mentioned, it has been frequently observed that many scientists, worldwide, "resist" archiving in the institutional repository. Such "resistance"does not take the form of vociferous opposition to it; rather, it is the quiet continuation of previous, well-established publishing habits, and sometimes ignorance of OA objectives. Advocates of OA in academia need to regard such "resistance" in a positive light, even as a source of innovation for the change implementation being proposed; it can act as a driver for focussing and refining their arguments in favour of OA. As Waddell and Sohal (1998, p.545) note:

> Where resistance is at play, there is a need to examine more closely the problems that exist and consider more deeply the changes proposed. (…) (R)esistance also encourages the search for alternative methods and outcomes in order to synthesisethe conflicting opinions that may exist. Thus resistance becomes a critical source of innovation in a change process as more possibilities are considered and evaluated.

Unpacking the dimensions of advocacy

In the common-sense use of the term in the English language, advocacy means to espouse, recommend and plead for a certain position, argument or stakeholder group, usually acting on behalf of that group. A broader approach to advocacy regards it as a set of activities that will encompass networking, community development and lobbying. Advocacy participants seek to reframe issues, reconfigure current discourse, introduce new ideas, and in so doing, "attract attention and encourage action" (Keck and Sikkink, 1998, p. 217).

On one level, advocacy activities can focus primarily on drawing attention to, explaining, clarifying and clearing up doubts about the new dissemination practices to be adopted by publishing researchers. Such advocacy initiatives are "downstream" (or "bottom-up") in the sense that they target individuals on a cognitive level, regarding them above all, as rational decision-makers operating in a context in which they can freely and individually take decisions, almost as if in isolation from their working context. Information campaigns usually operate at this level. However, the mere provision of information to the target stakeholder group is not necessarily enough to guarantee their engagement and identification with the issues being communicated, even if they do seem to agree with the basic values being communicated. That is, there is no identifiable linear cause-effect relation between communicating effectively a message, and inducing behavioural change in its receptor audience. Research in environmental and health campaigns has identified this tendency among "receptors" of the messages: they are often unable or unwilling to act on the message, despite intuitively agreeing with it (Macnaghten et al, 1995; Dervin, YEAR).$$

Verplanken and Wood (2006) assert that "performance contexts and social structural factors that maintain habits" (*ibid*, 2006, p.91) must be considered in order to bring about behavioural change, and not a mere "mind change". These authors point out that the effectiveness of individual-centred, informational campaigns is reduced even further when aimed at audiences who have "strong habits", meaning automated and repeated habit performance that are "cued" and rewarded by the environment which nurtures and encourages that habit. The individual is almost impervious to new information because it clashes with the expectations produced by the strong habit, and so new information would in turn, hinder the usual automated decision-making process. As the authors note:

> These expectations lead to a kind of tunnel vision that is evident in the following: People with strong habits expect prior experiences to repeat, and as a result, they do not easily detect minor changes in the performance environment. They also search less extensively for information about behavioural alternatives and for information about the performance context itself. In addition, their search tends to be biased toward confirming the habitual option. (...) When the target behaviour is habitual, people's intentions, desires, and judgments do not easily overcome the practiced response that is cued automatically by the environment." (Verplanken &Wood, 2006, p. 92).

Mapping this onto the university context, we can envisage a scenario in which scientists and researchers – imbued in their pressurised work routines and driven by the "publish or perish" reward system in science – would barely notice their being exhorted to change their publishing habits to OA publishing and self-archiving in OA repositories, especially if their organisational culture does not provide them with the appropriate procedural cues and incentives to facilitate such a change.

Habit change and "upstream" advocacy activities

If the institutional environment and demands together induce, facilitate and even "fossilise" certain habits and practices, then it is possible, according to Verplanken and Wood (2006), that changes to that environment, to the "habit performance context", might also drive change in the established habit behaviour. In that sense, "upstream" advocacy will be more effective. This type of advocacy intervention focuses

> (...) on the larger structural conditions in which people's behaviours are embedded. Thus, upstream interventions may consist of economic incentives, legislation, or structural changes in the performance environment. These interventions aim to provide contexts and societal structures that promote and sustain desired behaviour (*ibid*, p.95-6).

The importance given to changing the context to bring about behavioural change was also noted by Beer et al. (1990) when analysing organisational change. These authors noted that there is a fallacy underpinning many change programmes which is that knowledge and attitudes in individuals need to be changed first, which will lead to a change in behaviour which in turn, will bring about wider change. They note that reversing these assumptions will more likely encourage a change in behaviour: "The most effective way to change behavior is to put people into a new organizational context, which imposes new roles, responsibilities and relationships on them. This creates a situation that, in a sense, 'forces' new attitudes and behaviors on people" (Beer et al., 1990, p.159).Again, the relevance of this scenario to advocacy in OA and repositories is evident: it has been heuristically observed that information leaflets and campaigns on their own donot bring about the desired effect, no matter how flashy they are. Advocacy work of the political networking and lobbying type – with the significant key players like university administrators, grant-awarding agency representatives, politicians – which aims to achieve more long-term and deep-seated structural changes institutionally and inter-institutionally, is increasingly regarded as the way forward in the OA publishing and repositories domain.

Verplanken and Wood's (2006, p.96) schema of downstream and upstream advocacy interventions in relation to their efficacy in changing weak and strong habits (Table 2) summarises the main points. It could be argued that researcher-authors at the beginning of their academic careers have "weaker" publishing habits and will therefore be more "open" to downstream, campaign-type information interventions introducing new ideas, whereas more established researcher-authors have strong publishing habits in the "old mode". So we can assert that there is a place for both types of advocacy strategies.

Table 2. Effective policy interventions to change weak versus strong habits

Behaviour to be changed	Interventions **Downstream** of the Behaviour	Interventions **Upstream** of the Behaviour
Weakly or not habitual	**Information/education to:** • increase self-efficacy • change beliefs/intentions • motivate self-control • form implementation intentions	**Education** Economic incentives Legislation & regulation Environmental design Technology development Normative approaches
Strongly habitual	Downstream-plus-context-change	Economic incentives Legislation & regulation Environmental design Technology development Normative approaches

Source: Verplanken & Wood (2006)

It is not being claimed here that target audiences are impervious to "downstream" advocacy initiatives, but that given the context in which researcher-authors work, and that the institutional *status quo* can constitute a formidable barrier to change in that it facilitates and even encourages the continuation of old habits, such downstream initiatives on their own, despite being informative, will have limited impact. For Verplanken and Wood (2006), upstream advocacy programmes that have as their goal institutional context-changing actions will arguably be more efficacious in bringing about the desired "disruption" to strong and deep-seated publication habits, precisely because such programmes would seek to alter the institutional context "cues" that perpetuate old, or foster and support new, habit formation. Downstream advocacy initiatives still have a place to inform and motivate individuals, who can then also potentially become "champions" for the cause, but the ultimate aim is for such initiatives to be expanded, with the aid of key decision-makers, into broader, more long-term upstream initiatives that cultivate organisational change.

At all levels, the cultivation of change in the direction of adopting OA scholarly communication will need to consider and make explicit the benefits and impacts of OA communication practises on the various stakeholder groups involved. For this, a "stakeholder analysis" should be carried out, which would start by identifying the various stakeholder groups affected, incentives and disincentives for their complying with and supporting change, the resources that each group can mobilise that will affect the outcome of resulting policy implementation, and their position in relation to their support (or not) for the policy (Crosby, 1991). As is also widely documented in the literature, stakeholder participation in the choice of change interventions is ideal, in order to guarantee the robustness and sustainability of the proposed changes (Saunders, 2005; Van Schoor, 2003).

In many universities around the world, stakeholder groups will be mainly limited to groups within the institution (researchers-scientists, librarians, students, university presses, administrators), as well as research funders. In Brazil, where much current access to published, subscription research is subsidised by the government via the platform Capes Periódicos, CAPES becomes a relevant stakeholder, that may have to mediate and negotiate potentially radical changes with the multinational publishers that sell their journal bundles to Capes. Research-funders like FAPESP and CNPq are other relevant stakeholders, and in fact, they are potentially highly influential advocates for OA. Small and medium enterprises (SMEs, or "PMEs" in Portuguese) are also relevant stakeholders beyond the university boundaries, particularly given that they do not have the automatic benefit of freely accessing high quality research through subsidised research platforms. Research carried out in the UK revealed that 73% of SMEs there experience difficulty in accessing articles published in subscription journals that they deemed would be useful to their work, and 71% access OA articles, and 42% actively use institutional repositories (Ware, 2009). This is relevant, given that cutting-edge techno-scientific information constitutes an important input into the innovation process.

Final considerations

The effective implementation of policies to promote wider OA – be it on an institutional, regional, national or international scale – will need to count on top-down political support as well as bottom-up support and publishing behaviour habit change from author-researchers. Examples of the former would be a research-funder issuing a mandate, or a university cultivating changes in institutional cues to encourage their researcher stakeholders to use the institutional repository. The latter would thus include author self-archiving in IRs ("green" OA), authors opting to publish in OA journals ("gold" OA) instead of toll-access ones, researchers convincing their peers to go "open" and end-users using and citing OA and IR-deposited full-texts.

It is important to note that the implementation of an OA policy is not the end of a linear policy reform procedure, but will very often be the *beginning* of an interactive *process* of organisational change cultivation with stakeholder groups, who very often become more engaged in policy reform at the more advanced, implementation stage, simply because "The effects of change become more visible as implementation proceeds and there are likely to be more challenges to the original conception of the reform" (Thomas & Grindle, 1990, p.1166). That is, those in charge of OA policy implementation should accept the fact early on that this is an on-going and dialogical process of culture change within their organisation or country, which should not threaten the creative autonomy that is the lifeblood of the academic community.

References

Antelman, K. (2004). "Do Open-Access articles have a greater research impact?" Available at: http://web.lib.ncsu.edu/staff/kaantelm/do_open_access_CRL.pdf

Beecher, T.; Trowler, P.R. (2001) *Academic tribes and territories.*Open University Press, Buckingham, UK, 2Ed.

Beer, M., Eisenstat, R. A., & Spector, B. (1990). Why change programs don't produce change. *Harvard Business Review*, *68*, 158-166.

Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003) Available at: http://oa.mpg.de/openaccess-berlin/berlindeclaration.html
BIS (Department for Business, Innovation and Skills). "Government to open up publicly funded research". Avaliable at: http://news.bis.gov.uk/Press-Releases/Government-to-open-up-publicly-funded-research-67d1d.aspx
Budapest OA Initiative (2002). http://www.soros.org/openaccess/read.shtml
Chan, L. (2004). Supporting and Enhancing Scholarship in the Digital Age: The Role of Open-Access Institutional Repositories. *Canadian Journal of Communication*.v.29, no. 3. Available at: http://www.cjc-online.ca/index.php/journal/article/viewArticle/1455/1579.
Crosby, B. (1991) "Stakeholder Analysis: A Vital Tool for Strategic Managers". *A publication of USAID's Implementing Policy Change Project.* Available at:
Davis, P.; Connolly, M. (2007)."Evaluating the Reasons for Non-use of Cornell University's Installation of DSpace."*D-Lib Magazine*.v.13, n.3/4.Avaliable at: http://www.dlib.org/dlib/march07/davis/03davis.html
Deem, R. (2010). "Herding the academic cats."*Perspectives: Policy and Practice in Higher Education*, v.14, n. 2, pp.37- 43.
Deem, R. (1998). "'New Managerialism' and Higher Education: the management of performances and cultures in universities in the United Kingdom." *International Studies in Sociology of Education*, v. 8, n.1, pp.47-70.
The Depot.http://depot.edina.ac.uk/
Dewey, J. (1956). The public and its problems. Athens: Swallow Press.
DRIVER.http://www.driver-community.eu/ and http://www.driver-repository.eu/
Ferreira, M; Rodrigues, E; Baptista, A; Saraiva, R. (2008). "Carrots and Sticks: Some Ideas on How to Create a Successful Institutional Repository." *D-Lib Magazine*.v.14, n.1/2.http://www.dlib.org/dlib/january08/ferreira/01ferreira.html
Garfield, E. (1955)."Citation indexes to science: a new dimension in documentation through association of ideas."*Science* 1955 122:108–11; Reprinted in *Essays of an Information Scientist*, v.6, p.468-471, 1983. Available at: http://garfield.library.upenn.edu/essays/v6p468y1983.pdf
Hajjem, C; Gingras, Y; Brody, T; Carr,L; Harnad, S. (2005). "Open Access to research increases citation impact." Technical Report ,Institut des sciences cognitives, Université du Québec à Montréal. (Submitted). Available at: http://eprints.ecs.soton.ac.uk/11687.
Handy, C. (1999). *Understanding organizations.* London: Penguin.
Harnad, S., Brody, T., Vallieres, F., Carr, L., Hitchcock, S., Gingras, Y., Oppenheim, C., Stamerjohanns, H.; Hilf, E. (2004). "The green and the gold roads to Open Access."*Nature Web Focus*. Available at: http://eprints.ecs.soton.ac.uk/9940/
Harnard, S. (2010). "Open Access to research: changing researcher behaviour through university and funder mandates." EDem 2010, *4th International Conference on eDemocracy 2010*, Danube University, Krems, Austria 6-7 May 2010. Available at: http://eprints.ecs.soton.ac.uk/21003/
Harnad, S. (2006) Opening Access by Overcoming Zeno's Paralysis. In: Jacobs, N., (Ed) *Open Access: Key Strategic, Technical and Economic Aspects*. Chandos Publishing (Oxford) Limited, Chapter 8.
Hitchcock, S.; Brody, T.; Hey, J.; Carr, L. (2007). "Digital preservation service provider models for institutional repositories. Towards distributed services."*D-Lib Magazine*v.13, n.5/6. Available at: http://eprints.ecs.soton.ac.uk/14306/1/05hitchcock.html

Hitchcock, S. (2010, regularly updated). "The effect of open access and downloads ('hits') on citation impact: a bibliography of studies." Available at: http://opcit.eprints.org/oacitation-biblio.html
Houghton J, Rasmussen B, Sheehan P, Oppenheim C, Morris A, et al. (2009) Economic implications of alternative scholarly publishing models: Exploring the costs and benefits. Project Report, http://ie-repository.jisc.ac.uk/278/
JISC Advance.Organisational Cultures. Available at: http://www.jiscinfonet.ac.uk/infokits/change-management/culture/organisational-cultures;
Keck, M; Sikkink, K. (1998) "Activists beyond borders." p.217-228.Available at: http://www.law.kyushu-u.ac.jp/programsinenglish/materials/spring2009/internationallawintodaysworld/topic4-2.pdf
Lawrence, S. (2001). "Free online availability substantially increases a paper's impact". Available at: http://www.nature.com/nature/debates/e-access/Articles/lawrence.html
Martins, E.; Terblanche, F. (2003). "Building organisational culture that stimulates creativity and innovation." *European Journal of Innovation Management*, v.6, n.1. pp.64-74.
McNay, I. (1995) From the collegial academy to the corporate enterprise: the changing cultures of universities in Schuller, T. (ed) The Changing University? Buckingham, SRHE and the Open University press.
Merton, R.K. (1979). "The Normative Structure of Science" In: R.K. Merton, *The Sociology of Science: Theoretical and Empirical Investigations* University of Chicago Press (1979), 267-278.
Merton, R. (1988). The Mathew Effect in Science II.Cumulative Advantage and the Symbolism of Intellectual Property. ISIS, 79 : 606-623
Nicholas, D.; Huntington, P.; Rowlands, I. (2005) "Open access journal publishing: the views of some of the world's senior authors". Available at: http://www.publishing.ucl.ac.uk/papers/2005aNicholas_etal.pdf
OpenAIRE.http://www.openaire.eu/
OpenDOARDirectory of Open Access Repositorieshttp://www.opendoar.org/countrylist.php
OSI, 2001 – www.soros.org/openaccess
Paasi, A (2005). Globalisation, academic capitalism, and the uneven geographies of international journal publishing spaces. *Environment and Planning A*, v.37, p.769-789.
Parker, L. (2002). It's been a pleasure doing business with you: a strategic analysis and critique of university change management. *Critical perspectives on Accounting.* 13, 603-619.
Poynder, R. (2011). The OA Interviews: Bernard Rentier, Rector of the University of Liège. Available at: http://poynder.blogspot.com.br/2011/06/oa-interviews-bernard-rentier-rector-of.html
The Repository Support Project - RSP.http://www.rsp.ac.uk/
Research4Life (s/d) Available at: http://www.research4life.org/Documents/R4L_Making_a_difference_final_LR.pdf
Rian.ie – Irish research respository. http://www.rian.ie/
RoMEO.http://www.sherpa.ac.uk/romeo/
Rosak, T. *The cult of information.*A neo-luddite treatise on high-tech, artificial intelligence, and the true art of thinking. Berkeley: University of California Press, 1994.
Sale (2006) The acquisition of open access research articles. *First Monday*, 11(9), October 2006. http://eprints.utas.edu.au/388/

Sale, A; Couture, M.; Rodrigues, E.;Carr, L.; Harnard, S. (2010). "Open Access Mandates and the 'Fair Dealing' Button". Available at: http://arxiv.org/PS_cache/arxiv/pdf/1002/1002.3074v1.pdf; accessed: June 2nd, 2010.
Sale, A. The acquisition of open access research articles. *First Monday*, Available at: http://eprints.utas.edu.au/388/1/FirstMondayOct06.pdf
Saunders, M. (2005). Opinion piece in *Academy Exchange*, 2, Autumn 2005, p.23.
SHERPA.http://www.sherpa.ac.uk/
Suber, P. (2004; updated 2012). Open Access Overview. Available at: http://bit.ly/oa-overview
Swan, A. (2006) The culture of Open Access: researchers' views and responses. In : Jacobs, N., Eds. Open Access: Key Strategic, Technical and Economic Aspects. Oxford: Chandos/ 52-59, 2006 http://eprints.ecs.soton.ac.uk/12428
Swan, A; Brown, S. (2005). JISC/OSI Journal Authors Survey Report. Available at:http://www.jisc.ac.uk/uploaded_documents/JISCOAreport1.pdf
Swan, A.; Brown, S. (2004). Authors and open access publishing. Available at: http://eprints.ecs.soton.ac.uk/11003/1/Authors_and_open_access_publishing.pdf
Swan, A.; Carr, L. (2008)."Institutions, their repositories and the web." *Serials Review*, v.34, n.1, pp.31-35.
Swan, A. (2010) The Open Access citation advantage: Studies and results to date. Technical Report , School of Electronics & Computer Science, University of Southampton. Available at: http://eprints.ecs.soton.ac.uk/18516/.
Thomas, W.; Grindle, M.S. (1990). "After the Decision: Implementing Policy Reforms in Developing Countries". *World Development*, v.18, n.8, pp. 1163-I 181.
Van Schoor, A. (2003) Learning to overcome resistance to change in higher education: the role of Transformational Intelligence in the process. Available at: http://www.herdsa.org.au/wp-content/uploads/conference/2003/PDF/HERDSA16.pdf
Van Westrienen, G.; Lynch, C. (2005). Academic Institutional Repositories. Deployment Status in 13 Nations as of mid 2005. *D-Lib Magazine*.V.11, n.9. Available at: http://dlib.org/dlib/september05/westrienen/09westrienen.html
Verplanken, B.; Wood, W. (2006).Interventions to Break and Create Consumer Habits. *Journal of public policy and marketing*.v.25, n.1, 90-103.
Waddell, D; Sohal, A. (1998). Resistance: a constructive tool for change management. *Management Decision*. v.36, n.8, p.543–548. Available at: http://www.icti.ie/articles/Resistance%20a%20constructive%20tool%20for%20change%20management.pdf
Watson, C. (2005). "You get what you pay for? Archival access to electronic journals." *Serials Review*, v.31, n.3, pp. 200-205.
Willinsky, J. (2006). The access principle: The Case for Open Access to Research and Scholarship. Available at: http://mitpress.mit.edu/books/willinsky/theaccessprinciple_theMITpress_0262232421.pdf
Worren, N; Ruddle, K; Moore, K. (1999). From Organizational Development to Change Management: The Emergence of a New Profession. *Journal of Applied Behavioral Science*, 35, n.3, pp.273-286.


C R S