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An Institutional Repository for Leeds Metropolitan University: Promoting Open Access to Research

“Open Access (OA) means immediate, free and unrestricted access to digital scholarly material.”

“OA was made possible by the advent of the internet.”

Peter Suber

Introduction

The scientific journal as we know it today can be traced back to Henry Oldenburg who created the Philosophical Transactions of the Royal Society of London (Phil Trans) in 1665 and

“understood that if only he could attract the majority of Europe’s significant scientific authors to register their discoveries in the Phil Trans, his innovative use of print technology would become a defining moment of the European scientific movement.” (Guédon, 2001)

So was born a paradigm that lasted for more than 300 years. Modern scholarly journals, like their venerable forbear, do not pay authors for their articles and the majority of scholars publish their research in peer-reviewed journals not for financial, but for professional gain (Yiotis, 2005).

Kristin Yiotis (2005) gives a functional appraisal of “the system of scholarly communication that has existed for hundreds of years” breaking it down into six parts, emphasising where the responsibility and activity associated with each stage lies – creation (scholars); quality control (scholars); production (publishers); distribution (libraries, publishers); consumption (scholars, students, nonscholars); support (universities, governments, granting institutions, taxpayers).

The system described by Yiotis evolved in the age of print at a time when scholarly output was relatively small. As the number of universities and associated research output increased, first in the 19th and ever more dramatically in the 20th century, and as the free market economies of America and Western Europe were consolidated after the Second World War, commercial publishers became interested in a market with an established creative source and pattern of consumption. Consequently, in the 1970’s prices began to rise faster than inflation, becoming extortionate by the mid 1980’s and having a negative impact on libraries’ serials collections who could afford to subscribe to fewer and fewer of the expensive journals; in effect, publishers were making money selling scholarly work back to institutions whose authors had given it away in the first place.

The unsustainable price rises of traditionally published journals coincided with the emergence of the internet and in 1990 Stevan Harnad introduced *Psycoloquy*, the first peer-reviewed scientific journal on the internet, which paved the way for free academic publishing on the world wide web after 1993; Open Access, which had been “physically and economically impossible in the age of print, even if the copyright holder wanted it” (Suber) was now viable.

Some arguments for Open Access:

- Increased research impact

There is considerable evidence that OA articles are cited both more often and earlier than non-OA. In a seminal article of 2001 Steve Lawrence presents an “analysis of 119,924 conference articles in computer science and related disciplines” illustrating that “More highly cited articles, and more recent articles, are substantially more likely to be freely available on the web.”

Although Lawrence’s analysis focuses on conference articles in a narrow subset of disciplines, there have been more recent studies that suggest these findings also apply to journal articles in a broader set of disciplines (eg. Harnad and Brody, 2004a; Eysenbach, 2006)

- The unsustainable price rises of traditionally published journals

A fully realised system of OA publishing benefits universities, their libraries and research communities whether they are rich or poor; even affluent libraries can afford to subscribe to a relatively small subset of published research.

- Publicly funded research should be publicly available

The public has a right to the research that their taxes have helped to fund and it is increasingly common for funding bodies to mandate that the research they commission is made available in an OA repository; the Wellcome Trust is the best known example in the UK while in 2005 the NIH (National Institute for Health) introduced a similar mandate in the United States.

- The democratisation of knowledge

The Budapest Open Access Initiative (2002) signed by Harnad and several others detailed the “unprecedented public good” that OA could do:

“Removing access barriers”...“will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge.”

Kristin Yiotis (2005) describes how making scholarly material available in this way to “scholars in wealthy, first world nations, in developing ex-communist, second-world nations, and in underdeveloped third world nations” signifies the “the democratization (sic) of knowledge” which, as emphasised by Chan et al (2005), is in the interests of the first as well as the developing world because “research generated in these regions is 'missing' to the international knowledge base”...“leading to incomplete pictures of global science in general, and global health, environmental and development issues in particular.”

Routes to Open Access

There are two distinct models of Open Access, commonly referred to as the Gold and Green routes.

The Gold route means publishing a research article in an Open Access Journal; the Green route means publishing in a non-Open Access journal but also *self-archiving* the article in an OA archive.

An OA journal, by definition, requires an alternative cost recovery model to subscription, for example, by charging author-institutions to actually submit their articles in the first place. Stevan Harnad (2004) cites “the riskiness and untestedness of this gold journal cost-recovery model” as the main reason for the still relatively small number of OA journals; the Directory of Open Access Journals currently lists 2873 journals, a fraction of the total number of peer-reviewed journals.

It is the Green route, however, that represents the academic community’s most innovative response to the scholarly publishing crisis and has arguably precipitated the biggest shift in the industry since Oldenburg. There are several ways that an individual academic may choose to self archive depending, to some extent, on their technical ability. There are those who believe, for example, that the long term future of self archiving is likely to be in the form of personal web pages, however, at this time scholars still need “the tools and assistance to deposit their refereed journal articles in open electronic archives” (BOAI, 2002) and the model that is being increasingly adopted is the Institutional Repository, an institutionally maintained web-accessible and fully searchable repository. The technology also means that metadata (title, author, year of publication) can be retrieved by Internet search engines including Google.

Copyright conditions and permission to self-archive

Sustained lobbying by Open Access activists has succeeded in raising the profile of OA at national and international level with publishers increasingly adopting a formal position on self-archiving. The University of Nottingham SHERPA project maintains the RoMEO database which gives a summary of permissions that are normally given as part of each publisher's copyright transfer agreement. At the time of writing the database incorporates 386 publishers and covers 8,000-9,000 individual journals; not all grant their permission but overall the vast majority of titles of interest to UK researchers will allow some form of self-archiving (SHERPA RoMEO, 2008)

An Institutional Repository for Leeds Metropolitan University

Institutional repositories are “digital collections capturing and preserving the intellectual output of a single or multi-university community” (SPARC, 2002) and as such are not limited to research output; they can also be used to store Learning Objects; PhD Theses; digital images of heritage collections; indeed, any of the disparate digital assets generated by a modern university. The Directory of Open Access Repositories (openDOAR) currently lists 122 repositories in the UK. The majority (92) are institutional repositories with every major Higher Education institution in the country either already

hosting or in the process of developing one and most of these are primarily (not exclusively) Open Access archives of research.

Leeds Metropolitan University has secured funding to develop a repository which will serve a prioritised set of needs, initially drawing on experience from the sector in establishing an OA archive of university research output though it will eventually fulfil a range of diverse institutional needs. The early focus of the project, now that the software has been implemented, is to secure a representative body of content which, during the start up phase, means published, peer reviewed output. The project team will carry out much of this early work, identifying relevant copyright permissions for research submitted for the RAE for example and uploading it to the repository but the ultimate goal is to establish efficient processes for academic staff to self-archive their own papers and articles. This goal will be facilitated by two related repository projects: Streamline which is looking at the work flow associated with the use of learning object repositories and developing a suite of tools and practices that will reduce the administrative impact of this on teaching and research staff and PERSoNA (Personal Engagement with Repositories through Social Networking Applications) which will be embedding social networking tools which allow chat, tagging and book-marking (amongst other things) within the repository, and encouraging users to comment on their use of our repository and discuss recommendations amongst each other leading to the onward discovery of further resources.

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