

Open Access: national policy initiatives as an alternative to personal commitment

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Background

The Open Access debate has been running for well over a decade. Ten years ago at a major conference in Paris sponsored by UNESCO and ICSU, Joshua Lederberg, the eminent scientist and Nobel prize-winner talked of the impact of technology and said: *'Now what are some of the foreseeable consequences? I really have nothing to ask of the print publishers or of the "for profit" electronic purveyors. Unless they are very selective - and they sometimes will be - about their value added, they will fall of their own weight as scientists become empowered to manage their own communications without the benefit of intermediaries.'* [5]

A decade later we should be clear that, with the honourable exception of ArXiv in physics, this simply has not happened in mainstream science. Throughout the intervening years tireless proselytising by a host of John the Baptist like figures from Paul Ginsparg to Stevan Harnad and institutionally through SPARC has been unceasing, has won many battles, has nailed declarations to the doors of the publishing establishment from Budapest to Berlin, has eroded the edifice of traditional scholarly communication, has moved the debate from the fringes of discourse to the mainstream, has probably won the argument, but so far has not won the war. A recent survey [12] has shown how far repositories have spread in some thirteen countries. It also shows a very complex patchwork of data types, software platforms and a typically very low level of deposit. At the same time open access journals have grown in number. In December 2005, the Directory of Open Access Journals (DOAJ) lists almost 1900 open access journals.[2] But open access is still a long way from being at the heart of scholarly communication and is ranged against large commercial forces in the STM publishing area. Swan's recent major study [9] shows that self-archiving, open access and institutional repositories are now widely understood by academics. Her survey results showed that:

- 39% of respondents have self-archived "in one form or another"
- 2% have published in an OA journal
- 69% would deposit willingly, if mandated to do so by their employer or funder

However, these figures conceal a large number of worries, although admittedly the worries rest on largely anecdotal evidence. Firstly it is worrying that while 39% of respondents have self-archived "in one form or another" a trawl round any institutional website for personal archives might suggest that a significant proportion of this traffic rests on non-OAI compliant and unharvestable web-pages.

Secondly, any prolonged exposure to the relevant mailing lists demonstrates a continuing and worrying inability of many participants to distinguish between Open Access Journals and Institutional Repositories. Thirdly, there is clear worry and/or confusion amongst researchers over copyright, peer review and citation counting. It is as easy to interpret the fact that 69% would deposit willingly if mandated as an abdication of responsibility as an embracing of repositories.

In summary significant progress has been made in developing understanding and ambition but self-archiving remains a minority activity. Harnad estimates that 15% of the journal literature is placed in institutional repositories. And while he remains unswerving in his goal, it is worth remembering that the journal literature is itself a subset of peer-reviewed academic published outputs. The problem of bringing about true cultural and organisational change remains a major one. In order to address this issue a quite different approach is being explored in some countries. To follow a military analogy it is perhaps best seen as a second front than an alternative plan of attack. It also seems possible that this approach is particularly suited to small countries with limited indigenous publishing industries. Be that as it may, the problem of embedding cultural change in the scientific community may be as readily tackled at government level as at the personal scientist level.

1. Cultural and Organisational Change through Institutional Initiatives

One step above the ambition to influence personal culture has been the move to change practice through the intervention of the funding agencies. This has been led from the biomedical area where initiatives such as that by the Wellcome Trust to mandate open access have been widely welcomed but have been seen as intensely political acts. In the United Kingdom this has been followed by the equally politicised attempt by the major funding agencies in Research Councils UK (RCUK) to mandate deposit. This has elicited a fierce backlash from the publishing industry. The draft policy has been significantly delayed and has been treated with a posture somewhere between scorn and indifference by the relevant government minister. It is popularly supposed that a major lobbying effort by the large publishers is hampering progress on acceptance of the RCUK policy. Even the Royal Society, which has a substantial publishing arm, has issued an attack on the RCUK policy, which appears to be driven by its publishing needs rather than an examination of the future of scholarly communication. [8] While the position in the UK is described here, it is by no means exceptional. Moves by major grant awarding bodies in countries with major publishing industries lead at best to major battles with the publishing houses and at worst to misguided government interference on the grounds that a wealth generating industry is being threatened. The debate quickly degenerates into a battle in which the status quo is defended rather than the future defined.

2. Cultural and Organisational Change by alignment with government policy

Thus far the debate on open access has tended to lie within very large countries. It has been suggested however [6] that the information experience of countries varies according to size and geography. It is then worth exploring whether the problem of embedding cultural change can be tackled in a different way in smaller countries. Clearly countries are at very different levels in their understanding and practice of the issues. Perhaps the first stage is when a small country decides to adopt a national information strategy in order to achieve government goals. This usually involves some combination of preserving threatened cultural values and/or an aspiration to align the country in some way with moves towards a knowledge society. An excellent example of this might be New Zealand.

New Zealand

A draft Digital Strategy was released in June 2004 for public feedback and discussion. It is intended to be a five year plan and has budgetary support and proper monitoring and evaluation

components and links to longer term goals. The Digital Strategy intends to set New Zealand's direction for the next five years. It sets out key actions over the next few years where budgets have already been committed. It puts in place a structure against which to evaluate our progress and will ensure we meet our longer term goals. The Digital Strategy is closely linked to other government priorities, such as the Growth and Innovation Framework and the Sustainable Development plan. The website for the plan [7] claims to have "... consulted extensively with businesses and industry groups, community and voluntary groups, health professionals and educators, researchers, and individuals. We received nearly 200 written submissions...." Clearly based on UK experience of five years earlier it stresses the importance of content, connection, and confidence, and the need to develop all of them at the same rate. A substantial emphasis of the programme is the preservation of Maori culture. When the final strategy was launched in November 2005, a separate related event looked at institutional repositories and celebrated the launch of the first such repository in the country.

Australia

This may be contrasted with a programme of development in Australia, again a small country (in population terms) with a small publishing industry. Australian universities and in particular their libraries have been quick to see the merits of institutional repositories and have made steady progress since 2002 when the "Repository Agenda" was established, with several separate repository initiatives, including an e-prints collection and an archive of Asian material. Within a year DSpace had become a de facto standard and had emerged as an institutional framework for repositories but still on a developmental basis. By bringing together the repository work with the Australian National University's (ANU) ePress initiative for electronic publishing advocates had created the environment which led to a bid under the A\$250 million Systemic Infrastructure Initiative programme. This programme aims to: develop and document best practice; address strategic infrastructure issues; ensure solutions fit the Australian context; stimulate and share experiences. The purpose of the APSR project is to move repositories out of the development phase to become part of the research infrastructure. The bid for the Australian Partnership for Sustainable repositories (APSR) was successful and in 2004 it was awarded a contract, to focus on an open standards based, long term sustainable, national programme to develop a range of repository-based services and to assist with this the project created a temporary repository of 5,000 papers. Within a year ANU had moved to evolve the development work into an operational and supported university service based on DSpace. In the larger community DSpace repositories now contain some 40,000 items and the development unit has 6 staff.[1] This success story does appear to rest on the ability of open access advocates, not simply to win the argument, but to align open access with larger funded agendas, where they are then seen as part of the solution to a wider agenda. But even with central funding, the issue of advocacy remains very real. The 37 national repositories in Australia average just over 1000 articles each [12].

Netherlands

The Dutch experience is fully described in a recent article [10]. The Dutch research community, in this case championed by the IT community led by SURF, also developed a national strategy involving all thirteen universities and three major academic institutions, along with the national library. It has bid against and worked with the government's National Action Plan electronic highway. The focus has been on creating a consistent but not strait-jacketing infrastructure and aiming at coherence and interoperability, rather than completeness of deposit. The clear aim is to showcase research and the DARE Project appears to be very cleverly using academic vanity to encourage deposit, as well as having a large advocacy programme based on inclusiveness of stakeholders. The average number of articles in Dutch repositories is about 12,500 [12]. The project has been imaginatively extended by giving prominence to "more than 200 prominent

scholars” who have been invited to showcase their publications on the website in the so-called Cream of Science [11].

Scotland

Following this analysis of national initiatives, OA advocates concluded that the problem of embedding change should be tested at national level. Although politically part of the United Kingdom, recent changes in devolved government have allowed Scotland to explore its traditional values and to gain much more control over its own future. The overarching government agenda is to make the country a hub in the global knowledge economy. National traits, political and social culture are then helpful in developing an Open Access strategy in Scotland and map neatly on to many of the arguments which support open access. [4]

There is a reverence for education, innovation and research. The country is small, with a population of five million people, which means that all interested parties can be brought together in a culture where working together is the norm. There is a tradition of social democracy (for further information see <http://gdl.cdlr.strath.ac.uk/redclyde/>) and a strong sense of community. There is also a clear recognition that as a small country, investment has to be made shrewdly and the results of that investment maximised. As in almost all small countries, pragmatism is valued at least as highly as principle, but at the same time there is a strong anti-establishment streak, making the Open Access agenda a natural issue for Scotland to support

The Scottish government agendas are also highly relevant. As stated above government is trying to position the country at the heart of the knowledge economy (Smart Successful Scotland) based both on inward investment, on research and on lifelong learning. Each of these demands access to up-to-date research and information for sustainable competitive advantage. With the worst health and dietary record in Western Europe there are major concerns over both social inclusion and health. Much of the research in these fields is commissioned by government, which wishes to see the research outcomes widely and freely available. Like many other west European countries, Scotland has a declining population resulting from a fall in the birth rate and a brain drain of the best and the brightest talents to other larger countries. Great importance is then attached to publicising and making public research which will show those outside the country the quality of research, thereby encouraging inward investment and to using repositories as a shop window for local researchers, encouraging them to stay in Scotland by demonstrating that major research opportunities exist at home. Finally, government is investing heavily in a programme called Digital Scotland, which is seen as providing the infrastructure which can underpin the issues above by delivering seamless access to a range of e-services. It is then a relatively straightforward process to map the open access agenda on to Scottish government agendas and demonstrate a range of potential benefits which coincide with the Open Access agenda. Thus IR advocates and government have a common ambition to demonstrate:

- The distinctive nature of Scottish education and Scottish universities
- A desire to showcase an impressive research capacity – with 8% of the UK population Scotland wins 12% of the UK research awards
- Government awareness of the value of knowledge and access to it, with institutional repositories as the vehicle for marketing Scottish research
- The importance of a quality kite mark (peer review) and branding – research/knowledge products are branded as the output of the Scottish knowledge economy
- how to achieve “Best Value” – to modernise through e-government and broad use of e-service delivery
- the impact of Freedom Of Information legislation – moving towards a culture of access to information across a range of areas, especially in relation to public access to publicly funded research

In a small country politicians, government ministers and senior civil servants are accessible in a way that is not true of larger countries. It is hackneyed but true that everyone is related, or went to school or university together or supports the same football team. Promoting cultural change then becomes much more an outcome of personal persuasion than winning hearts and minds through logical argument. Individual Scottish institutions had been involved in open access research and experimentation for some time. Various initiatives have established repositories across a number of Scottish institutions, providing the framework for a distributed, yet nationally co-ordinated approach working through a number of projects: HaIRST, Daedalus, Electronic Theses, Theses Alive, Oaisis. But the collective journey towards open access in Scotland then began in October 2004 with the Scottish Open Access Declaration which was launched at an event at the Royal Society of Edinburgh attended by representatives of government, research funders, researchers, universities and librarians. The Declaration itself built on the growing number of declarations, particularly those of Budapest and Berlin and was quickly signed by all fifteen Higher Education institutions. Working with the government funded Scottish Library and Information Council, the research library community then focused around a project to develop a repository infrastructure. Beyond that project, advocacy continues at a personal level to have OA adopted as government policy.

3. IRIScotland: Institutional Repository Infrastructure for Scotland

The project has been set up with a view to addressing the issues of cultural change. It seeks to learn from experience in other small countries and to support the research agenda at both national and institutional level. The philosophy of research in Scotland is based on “pooled research”. That is to say that in a small country which could sustain perhaps only one truly world class university, it is better to bring together the best researchers in a discipline, irrespective of their parent body with the aim of creating world class research in a discipline rather than a single institution. The project then has three aims (JISC, 2005):

1. To explore ways of bringing about cultural and organisational change working with university senior managers and researchers to help in developing institutional research publication policies, procedures and mechanisms; to develop workflows to assist individual researchers which are conducive to the promotion of self-archiving in institutional repositories;
2. To develop a broad framework for a distributed institutional repository infrastructure for Scottish research and experiment with both a collective hosting repository, in particular for smaller institutions that may not wish to set up their own institutional repositories, and a cross-repository search facility capable of dealing with a wide range of research and research related digital objects;
3. To identify what can be more effectively done centrally – and whether this should be done at a national Scottish level or a national UK-wide level – or locally at institutional level, taking account of relevant international developments to ensure that the Scottish infrastructure is globally interoperable.

In essence this will establish a consistent and standardised national network of repositories, which meet interoperable metadata standards, including a repository in the national library which will allow small research institutes to participate without setting up their own. This in turn will allow federated searching of all public sector research conducted in the country and provide a national shop window. At the same time work continues to lobby the Scottish Executive to mandate OA publishing of all publicly funded research and the vital work of advocacy in encouraging and handholding researchers through to deposit continues

In sum, having examined the issues which have delayed the universal acceptance of Open Access, its proponents in Scotland have felt that to address advocacy to the individual or to organisational

structures does not address the problem of embedding cultural change. The proposed solution is then to attempt to map change on to national characteristics and government agendas. The nature of Scotland – its size and traditions – have been used to establish a national OA strategy, to be coordinated through the funded IRIS project. It also promises to further enhance the profile of Scottish research and thereby to deliver a number of crucial government agendas. Finally the use of international standards allows for interoperability and discovery

Conclusion

Small countries are the ones where information is on the agenda as a national priority. Where governments see or can be persuaded of the role of self-archiving through institutional repositories as a tool to leverage progress on other government agendas, notably skills retention and inward investment, there is a greater chance of piggybacking a repository programme as an element of larger infrastructural programmes, rather than arguing for them as a good thing in their own right. Governments also tend to be major funding agencies – or at least important ones – and so are more amenable to recognising the logic and benefits of mandating deposit. Such countries also tend not to have large publishing industries (pace the Netherlands), so there is less incentive for the publishing industry to intervene and therefore a greater chance to promote sensible debate on the future of scholarly communication and less on the attack or defence of vested interest.

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