

bernard rentier **view from the top**

Institutional repositories: it's a matter of sticks and carrots

In May 2007, the University of Liège, where I was rector, passed a regulation that the full text of all articles published by its researchers since 2002 must be deposited in its open-access institutional repository, nicknamed ORBi for Open Repository of Bibliography. For publications under a publisher's embargo, only metadata would be accessible, with full text available from authors on request. Depositing books, book chapters, and other types of publications as well as articles published before 2002 was recommended.

Many other universities have repositories, along with mandates that their researchers use them. They are the bedrock of green open access, where articles in subscription publications are made freely accessible elsewhere.

For institutions, repositories are a vital tool for keeping track of their researchers' output. For researchers and the public, they offer rapid and universal access to knowledge generated with public funds. Last but not least, they help authors reach a vastly wider readership.

Compliance rates, however, are typically only 5 to 30 per cent. A partly filled repository is partly useless. They succeed only if they contain all an institution's outputs, with searchable full text. ORBi now contains 90 per cent of the papers produced by Liège's researchers.

Liège owes this exceptional level of compliance—far and away the highest of any institutional repository—in large part to a policy of only allowing publications from ORBi for consideration in internal assessment procedures, such as promotions, grant proposals and applications for human resources. As the Belgian university system is decentralised, with much of the power residing in institutions, this is a significant incentive.

As well as the link to assessment procedures (the stick) ORBi's success stems from researchers' increasing awareness of the advantages of green open access (the carrots). The repository provides authors with user-friendly tools showing many statistics and classical or alternative metrics, including downloads and citations. It can supply a beautifully typeset and ordered list of publications; and it provides a direct link to the publications on the university directory.

As rector, I felt I was uniquely placed to embed the repository in university life, and I did everything I could in that regard. The tireless efforts of head librarian, Paul Thirion, and his team, were also crucial to its success.

The biggest challenge in setting up ORBi turned out

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to be winning over authors. We felt that the best way to maintain and develop the repository was for researchers to take responsibility for, and ownership of, its contents. At first, this meant persuading them to deposit a large number of documents, although uploading subsequent publications is almost effortless. We also had to reassure authors—and sometimes the university's legal office—that they were not infringing the law, and refute myths such as the idea that open access endangers patents, bypasses peer review, gives competitors an advantage and other such nonsense.

Other tasks included resisting publishers' efforts to intimidate researchers into withholding their publications, convincing assessment panels to apply the ORBi-only rule, and reminding authors to make their publications fully open when embargoes expire—which, when in-house and self downloads are excluded, increased the download rate 30 times.

Open-access publishing offers universities a way out of the trap created by an ever-expanding scholarly literature and journal subscriptions that are increasing far faster than institutional budgets. Thanks to both grass-roots advocacy and political decisions in the European Union, United States and many other countries, it is becoming the world standard for scholarly publishing.

Gold open access, where publishers make articles freely accessible in exchange for payment from authors, is now offered by most publishers and favoured by many funders. Cost remains an issue, however, with some publishers beginning to raise article processing charges.

There are other dangers: the pay-to-publish model creates obvious conflicts of interest and makes research less democratic. There are suggestions for a 'fair gold' model, but a new fight lies ahead if costs are to be kept down.

As long as scientists continue to use journal prestige as a proxy for research quality and give away all their rights to publishers, the situation will remain locked. Publishers have resisted change, and researchers and their institutions can be surprisingly conservative, but with technology transforming research communication, sooner or later a shift is inevitable.

We can only hope these changes will occur in an orderly manner. In ensuring that they do, it has become clear that widespread green open access, particularly via institutional repositories such as ORBi, is a necessary transitional stage.

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