



Institutional open archives where are we now?

No one could claim that open archiving has taken off in UK universities. Initiatives by the research councils and others should prove a catalyst, but encouraging truly free, open access journals is the way forward, says **Tom Wilson**.

The open access movement employs a number of mechanisms: open access journals (funded by author charges); free journals, with no charge for either paper submission or access; and open archives. Open, digital archives function at a number of levels – the university, the university department or research institute, and the disciplinary archive. Here, I am concerned only with institution-wide archives.

The institutional open archive (IOA) movement has a number of strong advocates, most notably Steven Harnad, whose website¹ contains a fund of information on the subject and links to much more. Open institutional archives are proposed as a complementary mechanism to publication in journals (open access or otherwise), rather than as an alternative. Nor is the IOA seen as in conflict with departmental, research institute or disciplinary archives. Indeed, a single institution may be home to all of these and, at the same time, may be the publisher of an open access journal.

Trend is for growth

So, where are we with IOAs in the UK? Five years is certainly long enough to determine a trend, and it is clear that the trend is for growth. In search of the trend, I examined the sites of those universities in the UK with IOAs (26 in all), three of which collaborate in the White Rose repository (Leeds, Sheffield and York). I omitted two universities from my investigation: the University of Stirling, because the only entries there were for theses and dissertations; and the University of Cambridge because the vast majority of its more than 30,000 records were for primary research materials or grey literature – I found only 16 records for preprints of scientific papers. In other institutions, and where they could be readily identified, theses and dissertations were excluded from the count.

With the exclusion of Cambridge and Stirling, the growth curve for open archives for the period 1990 to 2004 is shown in Figure 1.

Two plots are shown, one for the cumulative growth and the other for the annual totals. The cumulative growth curve looks impressive, but the picture revealed by the annual number of items recorded suggests that, rather than growing rapidly, the curve has levelled out.

The source of the data is shown in Table 1, and may help to explain things.

In fact, the data shows a very patchy record for the 22 archives, and one institution, the University of Southampton, holds more than 50 per cent of all items recorded over the period. Had I included departmental archives, the prominence of Southampton would have been even greater, as the Department of Electronics and Computer Science has an archive of 9,342 items – more than the total in the institutional archive – and if these were included Southampton would hold more than 75 per cent of the new total of 19,168 items.

The dominance of Southampton in the IOA landscape is not surprising, since



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the e-Prints software was developed there and, no doubt, there has been a good deal of energy invested in gaining the collaboration of academic staff.

A further examination of some of the sites reveals more disciplinary biases: in general, the humanities and social sciences are less well represented in IOA than are science, medicine and engineering. For example, in the institutional archive at Southampton, more than 40 per cent of the items have been deposited by the Faculty of Engineering, Science and Mathematics and a further 40 per cent by the Southampton Oceanography Centre. Similar departmental biases are found elsewhere: for example, at the Open University, one third of the items have been deposited by the Systems Department. In the case of Edinburgh, more than 80 per cent of the items were deposited by just six Schools (Informatics, Biological Sciences, Chemistry, Geosciences, Mathematics and Medical & Veterinary Sciences).

This suggests that universities in the UK may be finding it very hard to get the message of IOA through to all their constituent departments. Intrigued by the data, I checked on the number of documents deposited by departments of History and Political Science in the institutions in the table and found only 24 items

for History and 26 for Political Science. Thus, in total, these subjects represent only half of one per cent of the total.

Early stage

By any measure it can hardly be claimed that the concept of open archiving has taken off in British universities and I don't think that any of its protagonists would claim otherwise. The movement is at an early stage, with something in the order of 12 per cent of UK universities involved and with a minuscule proportion of the total research output covered by the IOA. For 2004, a search of the Web of Science for papers by authors whose address included 'England' produced 58,710 items and, when we exclude the Scottish universities from the table (since Scottish addresses were not searched for), we find that fewer than 2,000 of these have been archived in institutional archives.

Those institutions that are involved appear to be having difficulty in getting academics to contribute, perhaps because they are putting insufficient effort into the process, but also, perhaps, because the whole idea of self-archiving in institutional archives is based upon false assumptions about the behaviour of academic authors.

Academics publish and the problem

with the concept of an archive is that it is generally perceived as a mode of preservation, not a mode of publishing. Archiving also depends on the voluntary depositing of already published, or about to be published, material, and some strategy is needed to ensure that academics collaborate.

A start has been made in the direction of motivating participation by the decision of the research councils to require the open archiving of all papers resulting from the research they fund.²

The key principle noted by the councils is:

'Ideas and knowledge derived from publicly-funded research must be made available and accessible for public use, interrogation, and scrutiny, as widely, rapidly and effectively as practicable.'

Inevitably, the publishers of scholarly journals have reacted against this proposal, Harnad and colleagues have set out a response³ to opposition from the Association of Learned and Professional Society Publishers (ALPSP) to the research councils' proposal, which is worth reading both for the fears expressed by ALPSP and for the cogency of the contradiction of those fears.

However, Les Carr of Southampton University has calculated that research council funding accounts for only half of the peer-reviewed journal publication in the UK⁴ so, clearly, other incentives are needed to ensure that researchers not funded by the councils also deposit their publications. How is that to be done? One other funder, the Wellcome Trust, has required those it supports to deposit the results of research in open archives, and these two initiatives together may spark further actions from other research funders.

Curiously, however, neither the research councils nor the funding councils appear to have paid any attention to true open access publishing as an alternative to the present structure. By 'true' open access, I mean publication without charge and access without charge. A significant number of the journals in the *Directory of Open Access Journals* are of this character, and universities, collectively, in any country, are strong enough to act as publishers; indeed, many of them do act as publishers.

Consequently, the opportunity for collective, open access publishing is now offered by the web. The scale of the effort needed, spread over more than 100 institutions, would be achievable for virtually any field of research, and their effort could be supported by the research councils, by expanding their new policy on open archives.

The possibility for national subsidies clearly exists, since Jisc is already providing grants to four publishers to encourage open access publishing: in three cases, the publishers will waive author charges, in the fourth UK authors will get a 50 per cent discount on such charges. However, I do not believe that author charging is truly 'open access', since it simply moves the charge from the purchase of the paper

Figure 1: Annual numbers and cumulative growth

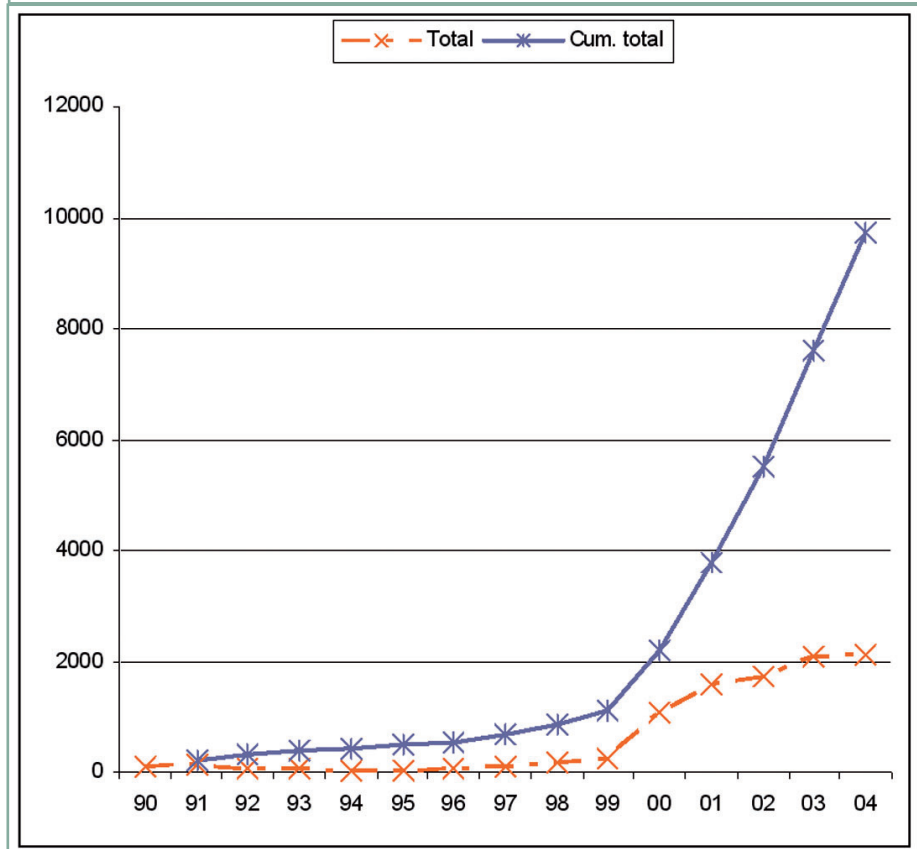


Table 1: Items archived – annual data

	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	Total
Birkbeck			1	1	1	1		3	5	4	6	9	5	14	26	76
Birmingham													2			2
Bristol														18	50	68
Cranfield	60	86	53	45	13	7	7	20	24	16	16	5	10	55	101	518
Edinburgh		3		3	4	4	1	6	19	10	22	55	38	81	19	265
Glasgow		2	3	3	7	8	10	20	21	51	182	275	213	271	314	1380
Imperial												2		1	4	7
Kings												1	3	7	20	31
LSE			2	2			1	5	5	6	9	14	21	26	17	108
Newcastle	1	1		1		1			1	12	47	39	34	39	56	232
Nottingham			1		1	2	1		5	12	10	16	4	7	13	72
Oxford	1				1			2	4	57	71	75	84	103	98	496
Royal Holloway								2	2	4	1	6	3	8	11	37
SOAS								1				3	2	5	11	22
St Andrews								1	1		1	4	4	2	1	14
The Open	1			1			2	1	2	1	3	4	5	9	6	35
U. Surrey	6	2	3	2	1	2	7	8	8	12	6	15	9	21	32	134
U. Coll. London		4	1	2	3	1	15	10	21	28	29	75	90	107	138	524
U. Durham			1			1	1	1		2	4	6	16	21	25	78
U. Southampton	28	28	24	18	11	11	14	31	36	38	637	897	1094	1191	1091	5149
White Rose	3	2		3	5	4	7	7	24	17	39	74	93	103	110	491
Total	100	128	89	81	47	42	66	118	178	270	1083	1575	1730	2089	2143	9739

to its submission. True open access requires free access and free submission.

For many other countries the publishing solution is even more appropriate than in the UK – in Central and Eastern Europe (CEE), for example, as well as in the Spanish-speaking world, it is common for universities and individual faculties to publish an annual or biannual journal issue.

Collaboration among universities could bring about national journals in research fields relatively easily, since resources are already being used to subsidise the print journals. The exchange of these journals between universities has been a significant means of building up journal collections, but open access, electronic publishing would make such exchange unnecessary because, by definition, the publications would be available to all.

Will authors submit to free, open access journals? In the case of the CEE and Hispanic countries, why wouldn't they? They already submit their papers to small-circulation, university-published journals;

what difference would it make for those journals to be electronic? Indeed, more and more, they are electronic journals. Increasing numbers of information science researchers are perfectly willing to submit to *Information Research*, so why not to others?

In any event, a Jisc survey associated with its open access policy has found that 92 per cent of all authors surveyed support the principle of open access for all readers. And, of authors who have experienced publication in an open access journal, 71 per cent are more likely to publish there again as a result of their experience.

The open access movement is seeing a number of partially conflicting models emerge – subsidised author charging, subsidised free journals, discipline archives and self-archiving. At present it seems that most effort is going into persuading publishers to adopt an open access strategy by subsidising submission charges, which leaves the system open to the same kind of abuse that we have seen over many years – outrageous levels of annual increase in

subscription charges. What is to prevent publishers from raising author charges to whatever levels they wish?

In my view, the only way to battle against this is to subsidise, support and promote the collaboratively published, genuinely open access, free journals. They fit author behaviour (publishing, rather than archiving) and it is not difficult to achieve: self-archiving, on the other hand, appears to be having problems. ☺

References

- 1 www.ecs.soton.ac.uk/~harnad/
- 2 See www.rcuk.ac.uk/access/index.asp
- 3 <http://threder.ecs.soton.ac.uk/lists/boaforum/608.html>
- 4 <http://listserver.sigmaxi.org/sc/wa.exe?A2=ind05&L=american-scientist-open-access-forum&O=A&F=l&P=41244>

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