

31 August 2005

Professor Ian Diamond
Chair, RCUK Executive Group
Councils UK Secretariat
Polaris House North Star Ave
Swindon SN2 1ET UK

Dear Ian,

The STM have written a response to the RCUK proposal in which they too, like the ALPSP a few weeks ago, adduce reasons for delaying and modifying the implementation of the RCUK self-archiving policy.

All the STM points are very readily rebutted: Most are based on rather profound (and surprising) but easily corrected misunderstandings about the policy itself, and its purpose. A few points are based on a perceived conflict of interest between what is demonstrably best for British research and the British public's investment in it and what STM sees as best for the STM publishing industry.

The principal substantive misunderstanding about the RCUK policy itself is that the STM is arguing as if RCUK were proposing to mandate a different publishing business model (Open Access [OA] Publishing) whereas RCUK is proposing to mandate no such thing: It is merely proposing to mandate that RCUK fundees self-archive the final author's drafts of journal articles resulting from RCUK-funded research in order to make their findings accessible to all potential users whose institutions cannot afford access to the published journal version – in order to maximise the uptake, usage and impact of British research output. As such, the author's free self-archived version is a supplement to, not a substitute for, the journal's paid version.

STM (like ALPSP) express concern that self-archiving may diminish their revenues. It is pointed out by way of reply (as was pointed out in the reply to ALPSP) that all evidence to date is in fact to the contrary. STM express concern that self-archiving will compromise peer review. It is pointed out that it is the author's peer-reviewed draft that is being self-archived. STM express concern that self-archiving the author's version will create confusion about versions: It is pointed out that for those would-be users who cannot afford the paid journal version, the author's version is incomparably better than no version at all, and indeed has been demonstrated to enhance citation impact by 50-250%. STM express concern about the costs of Institutional Repositories (IRs): It is pointed out that IRs are neither expensive nor intended as substitutes for journal publishing, so their costs are irrelevant to STM. STM then express concern that the OA publishing business model would cost more than the current subscription-based model: It is pointed out that the OA model is not what is being mandated by RCUK.

The point-by-point rebuttal follows. It is quite clear that the STM has no substantive case at all for delaying or modifying the RCUK policy proposal in any way.

I would close by suggesting that it would help clarify the RCUK policy if the abstract ideological points, which currently have no concrete implications in practice, were either eliminated or separated from the concrete policy recommendation (which is

to require self-archiving and perhaps to help fund OA publication costs). The "preservation" components are also misplaced, as the mandate is to self-archive the author's draft, not the publisher's version (which is the one with the preservation problem). It would also be good to remove the confusing mumbo-jumbo about "kite-marking" so that ALPSP and STM cannot argue that RCUK is proposing to tamper with peer review. And the less said about publishing models, the better, as that is not what RCUK is mandating.

Best wishes,

Stevan Harnad
Professor of Cognitive Sciences
Department of Electronic and Computer Science
University of Southampton
Southampton UK
SO17 1BJ

**Re.: ACCESS TO SCHOLARLY RESEARCH: AN STM
RESPONSE TO THE RCUK PROPOSAL**

STM: *business models must prove to be optimally of service to all constituencies and... decisions and choices [must be] made freely by those constituencies based on open evaluation, not ideology or belief, and without government intervention or mandates*

- (1) The RCUK access policy for the research it funds is not a *business* model, and hence not a *publishing* business model.
- (2) The only constituencies involved in setting the conditions on research funding are the British research community itself, plus the British public, which provides the research funds.
- (3) No government intervention is involved in research funding. Research funding is disbursed on the basis of peer review and the conditions on its disbursement are set by the research community, based on the interests of research and of the public that provides the research funds.
- (4) The decision to use the new medium (the Internet) to maximise the access to and the usage and impact of UK research, in order to maximise the return on the British public's investment in research is a natural one, and arises from the availability and potential of the new medium. The decision is not based on ideology or belief, but on objective data demonstrating the power of the online medium to enhance research potential.
- (5) The mandate to self-archive research in order to maximise its accessibility, usage and impact is no more nor less of a mandate than the mandate to publish research (or "perish": i.e., not to be further funded). That researchers should publish their research is presumably an interest of publishers. That researchers should wish to maximise their research's accessibility, usage and impact should also be a wish of publishers.
- (6) Even if it should happen to turn out to be the case that maximising research accessibility, usage and impact -- which is indisputably optimal for research,

researchers, research-funders and the British public that funds the funders and for whose benefit the research is being conducted – proves less than optimal for publishers (and there is no evidence that it will be) – then publishers will need to adapt to the new optimum, rather than intervene in the conduct of UK research, the disbursement of UK research funds, or the conditions on the disbursement.

STM: STM fully supports the [RCUK's first] fundamental principle: (1)... "public funding should lead to publicly available outputs"

The support is much appreciated, but it is based on a misunderstanding if "publicly available" is taken to mean merely "available for purchase by the general public," because most peer-reviewed research is not of direct interest to the general public. The British public's interest is in maximising the impact of the research that it funds, and for that the research must be accessible to the researcher-specialists who will use it, apply it, and build upon it.

Publishers are the providers of paid access to that funded research, for all those researchers and their institutions worldwide that can afford their product, and that is fine. It is fair that publishers should get free value from researchers' (freely given) output, because they add value to it -- by implementing the all-important peer review (which researchers themselves provide for free as referees, but publishers administer, funding the services of the expert editors who choose the referees and adjudicate the reviews and revisions) as well as providing the print product and distribution, and the enriched online product and distribution, with copy-editing, reference-linking, mark-up and many other valuable enhancements. It is only fair that publishers should be able to recover their costs and make a fair return on their investment in exchange for the value they add.

But researchers (and research) are also concerned with the potential usage and impact from those researchers whose institutions *cannot* afford their publishers' value-added product. A growing body of evidence across all fields is now demonstrating that those articles for which journal access to the publisher's value-added version is supplemented by a self-archived version of the author's own final draft have 50-250% greater citation impact than those for which only the paid version is accessible: <http://opcit.eprints.org/oacitation-biblio.html>

It is in order to close this 50-250% research impact gap that RCUK is mandating self-archiving for the research it funds; and it is in this way that the British public's interest in maximising the return on its research investment is best served. (We will return to this when we deal with STM's analogy to "public transport.")

STM: the RCUK conclusions are precipitous and lack scientific rigour

On the contrary. All the scientific evidence (see bibliography) supports the RCUK's conclusions, and the evidence is very strong: Self-archiving has been demonstrated to enhance research impact dramatically. What would be unscientific – indeed illogical – would be to imagine that the optimal conditions under which to fund research are somehow connected with publishers' business models (one way or the other). Publishers make a valuable contribution to research communication, but

research is not done in the interests of supporting the publishing business. Publishers are meant to be helping to increase the usage and impact of research, not to be trying to prevent it from being increased.

Nor are the conclusions precipitous. They have a long history, starting in the early 1990's, with various memorable milestones since, such as Harold Varmus's Ebiomed Proposal in [1999](#), the Public Library of Science Open Letter in [2001](#), and the UK Select Committee deliberations in [2003](#). All sides have been heard across these years, many times over, and the optimal path is already clear (and has already been embarked upon by about [15%](#) of the world research community): Self-archiving needs to be done to supplement paid access, so as to make research accessible to 100% of its would-be users world-wide. That is what the RCUK policy proposes to do for UK research output, and the policy is not precipitous but obvious, optimal, and long overdue.

STM: [RCUK] appear to presuppose that there are unsolvable problems in the current scholarly information system, without debate or analysis

Not at all: The problem (providing access to British research for those researchers *in the UK and worldwide* who cannot afford paid access, in order to maximise research impact and progress) is eminently *solvable*, and RCUK has proposed exactly the right solution. What there has been, exclusively, for too many years now is debate. The empirical and logical analysis has been done. The results are in. Self-archiving works, and it delivers what it promises to deliver: 50-250% greater research impact. And it does so within the "current scholarly information system," without any change in business models, just a few keystrokes from authors to deposit their final draft when it is accepted for publication.

STM: we think... the creation of a new more routinised publishing system through RCUK-mandated repositories and systems as proposed will [1] decrease diversity in journals and the peer review process... [2] threaten the value of investments made by STM publishers... [3] improve neither access nor quality for scholars... [4] exacerbate the... problem of differing versions of research papers... with researchers unsure... which... has been subject to peer review

First, there has been no proposal for a "new, more routinised publishing system." The RCUK is proposing a *supplement* to the current publishing system: self-archiving the author's version for those would-be users whose institutions cannot afford the publisher's value-added version.

- (1) This does not entail any change in either the diversity in journals or the peer review process. (Authors are to self-archive their own final drafts of articles that they continue to publish in the current peer-reviewed journals, leaving both their diversity and their peer review untouched.)
- (2) There is no evidence at all that self-archiving has any effect on the investments of STM publishers. Self-archiving has been practiced for nearly 15 years now, and in some subfields of [physics](#) has even reached 100%, yet

both of the major physics publishers (APS and IOPP) [report](#) that they can detect no cancellations associated with this growth.

- (3) There is now a great deal of incontestable [evidence](#) that self-archiving improves both access and impact for scholars. (No claims were made that it would improve research *quality* -- though that has not been tested: it may well be the case that enhanced access, usage and impact enhance research quality too!)
- (4) There is no "version problem," there is an *access problem*: Those researchers who cannot afford access to the publisher's version are not the ones raising the hue and cry about versions. Is STM proposing to speak for them, suggesting that they should rather do without than be subjected to access to the author's version?

STM: There is substantial and compelling evidence that the current publishing and licensing systems of STM publishers [have] created a vibrant research infrastructure in the UK in which all four RCUK principles are embodied and are functioning with enormous success. There is no evidence to the contrary, although there are concerns about appropriate budgeting to support ever-increasing research outputs

The RCUK policy to supplement paid access to the journal version with free access to the author's self-archived version for those would-be users who cannot afford the journal version does not imply that the journal version does not continue to be valuable, vibrant or successful. The evidence that we can still do much better comes from the 50-250% impact enhancement data.

STM: The Government itself, in its November 2004 response (the "UK Government Response") to the report of the Science and Technology Committee of the House of Commons called "Scientific Publications: Free for All?", noted that it did not see any "major problems in accessing scientific information", nor "any evidence of a significant problem in meeting the public's needs in respect of access to journals..."

The government evidently did not see (or perhaps understand) the growing body of access/impact [data](#). But the RCUK (being researchers) evidently did.

STM: [Even though] most STM member publishers permit authors to deposit their works in the authors' institutional repositories ("IR" or "IRs"), such repositories do not appear yet to have created a substantial archive of research material.

¹ See

[http://www.publishers.org.uk/paweb/paweb.nsf/0/460034df9bc9868b80256ffe003fddbf/\\$FILE/University%20Library%20Spending%20Update%202005.pdf](http://www.publishers.org.uk/paweb/paweb.nsf/0/460034df9bc9868b80256ffe003fddbf/$FILE/University%20Library%20Spending%20Update%202005.pdf)

² "How usage statistics can inform national negotiations and strategies", Bevan et al., *Serials* 18-2 (UKSG), July 2005.

³ See <http://www.ucl.ac.uk/ciber/documents>

⁴ See <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/1200/1200.pdf>

⁵ See the Romeo project on the Sherpa site, <http://www.sherpa.ac.uk/romeo.php?all=yes>

It is not clear exactly what STM mean here, but if they mean that there are not yet enough IRs in the UK and they do not yet archive most of their own institutional research output, STM are quite right, and that is one of the things the RCUK policy is intended to remedy.

STM: Only about a fifth of the CIBER survey respondents had deposited

That sounds right. Estimates of the current proportion of annual research article output that is currently being self-archived vary by field, but they all hover around 15%, as noted (though a recent [JISC survey](#) finds that 49% of authors report having self-archived at least once).

The purpose of the RCUK policy is to raise that 15% to 100% for UK research output.

STM: Institutional repositories do not seem to be able to provide improved access to verified research results

Now this observation, in contrast to the preceding one, is very far from correct! Author self-archiving (whether in IRs or anywhere else on the web) has been demonstrated in field after field to improving research citation impact by 50-250%. Since citing research results is rather *more* than just accessing them, we can safely conclude that self-archiving must be improving access by at least that much too.

What is certainly true is that providing [Institutional Repositories](#) for them is not enough to induce enough UK researchers to self-archive spontaneously: The same JISC survey that was cited above has also reported exactly what more is needed, and it was the authors who indicated what that was: an employer/funder *requirement* to self-archive. Of the over 1200 authors surveyed, 95% replied that they would comply with such a requirement – and the only two institutions that have already adopted such a requirement (University of Southampton's [ECS](#) Department and [CERN](#) Laboratory in Switzerland) both report over 90% compliance, exactly as predicted by the JISC survey.

(And, by way of a reminder: the author's final, refereed, accepted draft *is* the "verified research results.")

STM: the potential costs to improve such repositories to enable them to be successful have not been analysed properly to determine whether they are significantly less expensive than current publishing models.

It is very thoughtful of STM to worry about IR costs for the research community (just as it worried about the risks of exposure to the author's version) but STM will be reassured that the costs of creating and maintaining IRs are not only risibly small (amounting to pennies per paper), but they are irrelevant. Because what IRs need in order to be successful is not pennies but the RCUK policy itself (as the JISC study showed), requiring researchers to deposit their "verified research results."

In any case, the costs of self-archiving have nothing whatsoever to do with the costs of publishing, since self-archiving is not a *substitute* but a *supplement*, provided to those who cannot afford the costs of the published version. Self-archiving in IRs is not a competing business model for publishing, but a complement to the existing publishing system.

STM: 'public access' does not necessarily mean 'free access', in the same way as 'public transport' does not mean 'free transport', even though in this country tax payers seem to contribute as significantly to the latter as they do to scientific research.

"Public access" does not mean free access, but "open access" does. And open access is concerned with goods from which (unlike the products and services of the public transport industry) one of the two co-producers (and the primary one) seeks and receives no sales revenue whatsoever: The researchers give their writings to their publishers, without asking any royalties or fees, in exchange for the peer review and publication they receive, which in turn brings them a certain measure of research impact, which is what they really seek. But in the online age it turns out that researchers are losing 50-250% of their potential impact if they do not, in addition to giving away their research to their publishers for free, also give it away online for free.

Moreover, there is in a sense a third co-producer, or at least a co-investor in the "product," along with the researcher and the publisher, and that is the British public, the tax-payer who funds the research: Like the researcher and the researcher's institution, the public's interest is in maximising the degree to which its research investment is used, applied and built-up, in other words, maximising its impact, which in turn depends on maximising access to it.

The publisher is a co-producer, having added value, and is fully entitled to seek revenue for that contribution. (The publisher, after all, unlike the researcher, is not publishing merely for impact – although the publisher too co-benefits from enhanced impact.) But the researcher (and the third co-producer, the public) are just as entitled to supplement the impact their research received from the publisher's version with the potential impact from the self-archived supplement, provided for those who cannot afford access to the publisher's version (exactly as reprints were provided by authors to reprint-requesters in paper days).

(Now please find a counterpart for all that in the "public transport industry" analogy!)

STM: The concept of 'reasonable access' is probably more appropriate in this case.

What is reasonable is that when a new medium is invented that makes it possible to enhance research access and impact substantially, no one should try to restrict research impact simply because such a possibility had not existed in paper days. Or, more succinctly, it is not reasonable to expect research and researchers and the public that funds them to renounce potential research impact in the online era.

STM: Researchers report a high level of trust in existing peer-reviewed journals.

Indeed they do. And it is the articles published in those trusted peer-reviewed journals for which the author's versions are now to be self-archived in order to maximise their research impact, in accordance with the RCUK policy.

STM: Quality can always be improved, but it is difficult to imagine how author-pays business models or repositories will be more effective with respect to quality than existing publishing systems.

That may well be, but it is absolutely irrelevant to the matter at hand, since the RCUK is not proposing to mandate author-pays business models, but author self-archiving. And it is not mandating self-archiving primarily to improve quality but to improve impact. And in this respect the IRs are a means (to improve impact), not an end in themselves (although IRs have other institutional uses too).

STM: Mandating a centralised peer review system for repositories will not be an improvement on the current journal-based and highly diverse review procedures.

That is absolutely correct, and no one is proposing to mandate a centralised peer reviews system for repositories. RCUK is proposing to mandate the self-archiving of the author's version of peer-reviewed journal articles.

STM: the argument has often been made (and never successfully refuted) that the mixing of scientific and financial barriers to an author accessing the journal of his/her choice may lead to unintended consequences with respect to reviewing standards.

The argument may (or may not) be sound, but it is absolutely irrelevant to the matter at hand, since the RCUK is not proposing to mandate the mixing of scientific/financial values, nor to mandate the author's choice of journal. RCUK is proposing to mandate the self-archiving of the author's version of peer-reviewed journal articles.

STM: Many reports have now indicated that major research institutions would have to pay more for author-pays business models than in the traditional subscription models.

That may (or may not) be true, but it is absolutely irrelevant to the matter at hand, since the RCUK is not proposing to mandate author-pays business models, but self-archiving.

STM: The cost of maintaining a large number of independent repositories...is likely to be significantly higher and less cost-effective than current publisher-hosted systems.

It is again gratifying that STM is so concerned about RCUK and university IR costs, but let them be reassured that not only are those costs happily low, but IRs are not intended to be *substitutes* for publisher-hosted systems but *supplements* to them, for those researchers who cannot afford the publisher's version. Hence there is not even any point in comparing their costs, which are orthogonal.

STM: STM agrees that there are significant and important concerns about the ever-increasing gap between the relatively high level of research funding, resulting in ever-increasing output of research results, and the relatively static level of library funding. This issue deserves serious debate and consideration, but the RCUK proposals do not seriously address these issues, if at all.

That is correct. The RCUK policy is not intended to generate more revenue to pay for more paid access, but to supplement the existing paid access, such as it is, for those would-be users who cannot afford it, in order to maximise the impact of the research that the RCUK funds.

STM: The British Library maintains one of the most complete academic libraries in the world, and the university research library community is similarly focused on preservation. Many UK university libraries now have access to very large collections of STM journals... The cost of duplicating such archives in digital form on various e-repositories, as appears to be suggested by the RCUK, is daunting and unnecessary.

Journals are not to be duplicated, authors' drafts are to be self-archived, to maximise their impact. The costs, such as they are, are not pertinent to STM, so it is unnecessary for STM to be daunted by them.

STM: we welcome new publishers and new business models to our markets. We see nothing new in the RCUK proposal other than unfunded mandates that arbitrarily favour some models over others.

The RCUK proposal is not about new publishers or new business models, nor does it favour any model. It is about self-archiving RCUK-funded research in order to maximise UK research impact. (It is unfunded because IRs are keystrokes are distributed and cheap, and that's all that's needed.)

STM: STM submits that the research community, and the four RCUK principles, are well served by the many dynamic business models that are currently in existence and experimented with, as a result of competition and innovation, in the marketplace.

STM may well be right. But well-served as they are, the British research community would quite like to improve this excellent service with the 50-250% impact that the 85% of British research that is not yet self-archived is still currently losing, needlessly, daily, monthly, and yearly.

STM: In summary, STM believes that it would be in the interest of the research community and the broader community as a whole if STM and RCUK start a serious and systematic dialogue, based on the mutually agreed "four principles", by jointly assessing and evaluating areas where the research information infrastructure can be improved and working with both the publishing and research communities to achieve this, including by the development of mediation and investigative bodies for research ethics issues, the support of the development of technical standards to identify versions and forms of research papers, and the like. This way we can all avoid the trap of prematurely promoting solutions that are based on unproven assumptions.

It is an excellent idea for STM to confer and collaborate with RCUK on ways to improve things over and above the long-overdue self-help policy that the RCUK is already planning to adopt for British research output. Such collaboration would be very useful – but certainly not *instead of* implementing the self-archiving policy, as and when planned. None of the above misunderstandings about the nature and objectives of the policy, nor all the irrelevant points about alternative business models, add up to any sort of rationale for deferring or diverting the implementation of the policy in any way at all.