

Comment

# Academic publishers have become the enemies of science

The US Research Works Act would allow publishers to line their pockets by locking publicly funded research behind paywalls

Mike Taylor

guardian.co.uk, Monday 16 January 2012 12.13 GMT

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The free dissemination of lifesaving medical research around the world would be prevented under the Research Works Act. Photograph: LJSphotography/Alamy

This is the moment [academic publishers gave up all pretence of being on the side of scientists](#). Their rhetoric has traditionally been of partnering with scientists, but the truth is that for some time now scientific publishers have been anti-science and anti-publication. [The Research Works Act](#), introduced in the [US Congress](#) on 16 December, amounts to a declaration of war by the publishers.

The USA's main funding agency for health-related research is the National Institutes of Health, with a \$30bn annual budget. [The NIH has a public access policy](#) that says taxpayer-funded research must be freely accessible online. This means that members of the public, having paid once to have the research done, don't have to pay for it again when they read it – a wholly reasonable policy, and one with enormous humanitarian implications because it means the results of medical research are made freely available around the world.

[A similar policy is now being adopted in the UK](#). On page 76 of the policy document [Innovation and Research Strategy for Growth](#) the government states that it is "committed to ensuring that publicly funded research should be accessible free of charge". All of this is great for the progress of science, which has always been based on the free flow of ideas, the sharing of data, and standing on the shoulders of giants.

But what's good for science isn't necessarily good for science publishers, whose interests have drifted far out of alignment with ours. Under the old model, publishers become the owners of the papers they publish, holding the copyright and selling copies around the world – a useful service in pre-internet days. But now that it's a trivial undertaking to make a paper globally available, there is no reason why scientists need yield copyright to publishers.

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The contribution that publishers make – coordinating editors, formatting, and posting on websites – is now a service that authors can pay for, rather than a bargaining chip that could be worth yielding copyright for. So authors making their work available as open access pay publishers a fee to do so, and the publisher does not own the resulting work.

Open-access publishers such as the [Public Library of Science](#) are able to make a modest profit on a publication fee of \$1,350 (£880). But traditional publishers have become used to making much more than this, and so resist the inevitable conversion to open access. Early in the process, they did this by [pouring scorn on PLoS](#), predicting that it would never take off. But now that [PLoS ONE is the world's largest academic journal](#), that attack can hardly be maintained. Instead, publishers have turned to the approach that uncompetitive corporations have always used in America: lobbying for legislation to protect their unsustainable model.

If passed, the Research Works Act (RWA) would prohibit the NIH's public access policy and anything similar enacted by other federal agencies, locking publicly funded research behind paywalls. The result would be an ethical disaster: [preventable deaths](#) in developing countries, and an incalculable loss for science in the USA and worldwide. The only winners would be publishing corporations such as Elsevier ([£724m profits on revenues of £2b in 2010](#) – an astounding 36% of revenue taken as profit).

Since Elsevier's obscene additional profits would be drained from America to the company's base in the Netherlands if this bill were enacted, what kind of American politician would support it? The RWA is co-sponsored by Darrell Issa (Republican, California) and Carolyn B. Maloney (Democrat, New York). In the 2012 election cycle, Elsevier and its senior executives made [31 donations to representatives](#): of these, two went to Issa and 12 to Maloney, including the largest individual contribution.

For all their talk of partnering with scientists, Elsevier's true agenda is nothing nobler than to line their pockets at the expense of scientists worldwide and everyone with a preventable or treatable disease.

It's hardly surprising that publishers would fight dirty to hang on to a business model where scientists do research that is largely publicly funded, and write manuscripts and prepare figures at no cost to the journal; [other scientists perform peer-review for free](#); and other scientists handle the editorial tasks for free or for token stipends. The result of all this free and far-below-minimum-wage professional work is journal articles in which the publisher, which has done almost nothing, owns the copyright and is able to sell copies back to libraries at monopolistic costs, and to individuals at \$30 or more per view.

What is surprising is how complicit scientists are in perpetuating this feudal system. The RWA is [noisily supported by the Association of American Publishers](#), which has as members more than 50 scholarly societies – including, ironically, the American Association for the Advancement of Science, which by its implicit support of the RWA is making itself an association for the *retardation* of science.

What can we do to prevent the RWA from passing? US citizens should write to their representatives explaining what a disaster it would create, and how unfair and unnecessary it is. And every working scientist should check their professional memberships to see whether their dues are being forwarded to an association that promotes sending science back into walled gardens. If so we should pressure our professional societies to withdraw from the Association of American Publishers, or at least to [publicly state their opposition to the RWA](#).

The bottom line for scientists is that many [publishers have now made themselves our enemies](#) instead of the allies they once were. Elsevier's business does not make money by publishing our work, but by doing the exact opposite: restricting access to it. We must not be complicit in their newest attempt to cripple the progress of science.

*Dr Michael P. Taylor is a computer programmer with [Index Data](#) and a research associate at the department of earth sciences, University of Bristol*

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 **Comments on this page are now closed.**[Latest](#) [1](#) [2](#) [Next](#) [All](#)**palfreyman**

16 January 2012 12:40PM

Wow. Is there another side to this story? It all sounds awfully cupiditous...

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16 January 2012 12:47PM

How about this - send off your work to a prestigious, peer-review journal which has paywalls. Have your article peer-reviewed and accepted for publication. Withdraw it from the journal, and post it online yourself along with the acceptance letter. That way you get free dissemination of your work along with a rubber-stamp saying it has been peer-reviewed. You could also publish it on Kindle if you want, and sell it for 49p a go - proceeds to e.g. charity?

[Recommend \(52\)](#)[Responses \(2\)](#)[Report](#)[Share](#)**Telescopier**

16 January 2012 1:00PM

This has been said before, by many people [including myself](#).

The current system of academic publishing is simply a racket: academics put in all the work of doing the research and writing the papers; they receive no fee from the publishers, and sometimes even have to pay page charges for the privilege of seeing their work in a journal; then the journal sells the product back to academia at an extortionately high price.

As a business model - obtain the product for free and then sell it back to the supplier at an inflated price - this can't fail, but as a means of disseminating scientific discoveries it is terrible. All research funded by the public should be openly available. In the digital age it is only the rapacious vested interests (i.e. companies like Elsevier) who want to maintain the status quo. It's a disgraceful situation.

[Recommend \(105\)](#)[Responses \(0\)](#)[Report](#)[Share](#)**Suilevalliv**

16 January 2012 1:34PM

"What is surprising is how complicit scientists are in perpetuating this feudal system."

Open Access publishing is obviously a good solution, but why isn't a [system along the lines of ArXiv](#) discussed more widely?

[Recommend \(21\)](#)[Responses \(0\)](#)[Report](#)[Share](#)**Salto**

16 January 2012 1:37PM

I can't see public outrage happening anytime soon. You normally need a degree in the subject to at least understand what is going in a paper and I'm sure there's a good proportion of the public who don't even realise that their money is going towards funding the research.

[Recommend \(8\)](#)[Responses \(0\)](#)[Report](#)[Share](#)**basthagen**

16 January 2012 1:43PM

Response to [palfreyman](#), 16 January 2012 12:40PM

I am afraid the other side is not really worth hearing and I doubt that that side is able to make a defensible defense - let's see if they try !!?

[Recommend \(16\)](#)[Responses \(1\)](#)[Report](#)[Share](#)**basthagen**

16 January 2012 1:48PM

Also, it is usually, or always, public publishing cost money (NIH, MRC etc.) that is talked about in terms of 'need to protect'. What about charities, that fund an awful lot of the work that many of us do. They really need protecting as well, but because they are often small and with limited resources and clout they are forgotten and ignored and as a consequence roundly ripped off by the publishers which is an equal or

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worse disgrace.



**MikeTaylor**

16 January 2012 2:00PM

Thanks to all for comments so far.

palfreman asks "Is there another side to this story?". Well. Elsevier and other scholarly publishers will tell you that they "add value" to the research and that is why they deserve to own the result. They do add value -- by formatting research articles nicely. Whether that contribution outweighs the research, the experiments, the writing, the figure preparation, the editing and the reviewing, I leave you to judge.

Telescopier rightly points out that "This has been said before". It needs saying as often and as loudly as possible, until academics and the public recognise just how badly they're being ripped off. My article is only one in a sequence that have made similar points -- see for example the much-cited George Monbiot article that is the first link from mine). I hope there will be many more.

Suilevalliv asks why there isn't more discussion of a system like the fine pre-print archive arXiv that is used by physicists. I don't know why. That would be a pretty good solution. It may just be that there is not enough money sloshing around in other sciences to build such a service.

Salto says "I can't see public outrage happening anytime soon ... I'm sure there's a good proportion of the public who don't even realise that their money is going towards funding the research." That is true: which exactly why articles like this one are so necessary. The public whose taxes fund medical research need to know, for example, that their GPs don't have free access to that research.

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**oharar**

16 January 2012 2:02PM

It's not just commercial publishers who are supporting this bill - the Ecological Society of America is as well ([pdf](#)).

TBH, I'm not sure how much this will damage science. Very few papers are read by people outside science, and if you're a scientist you know how to get hold of papers (emailing friends or authors, or asking on twitter).

There is a legitimate concern about how open access will affect the commercial viability of scientific publishing: the PLoS One model does have a downside: it removes the status of publishing in "good" journals, which is a major way that merit is measured in science (for better or worse), without giving a simple replacement. This is important in practice: job applications is one area that springs to mind (I don't have time to read the main publications of 10 or 20 applicants: I want a quicker way of filtering some of them out, so that I only have to read papers by perhaps 3 or 4).

The author pays model also favours the rich: it costs about €1000 to publish a paper in PLoS One. That money has to come from somewhere, so the more science one does the more one has to scramble around to find the money. The only way I'll be able to make everything I publish this year open access is if I don't travel to any meetings.

Having written all that, I think the problems I raise will be solved, one way or another. But it's going to mean changes in publishing and other areas of the scientific society. I guess one could argue that the government shouldn't interfere with the process: let's wait 5 or 10 years and see where we are and then think about legislation. OTOH, funding agencies are major stakeholders, so we shouldn't restrict their abilities to innovate and experiment.

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**MikeTaylor**

16 January 2012 2:20PM

[Sorry to be so verbose in commenting on my own post!]

oharar says "It's not just commercial publishers who are supporting this bill - the Ecological Society of America is as well ([pdf](#))." But as the linked PDF explicitly states, the Ecological Society of America *is* a commercial publisher: "ESA publishes four of the world's most highly cited journals in ecology and environmental science." I am afraid their submission is pure self-interest (and I bet that it does not represent the views of actual members).

But gharar also raises a much more important point (which I would have liked to address in the article had word-count not made that impossible): "TBH, I'm not sure how much this will damage science. Very few papers are read by people outside science." This is a very widespread misapprehension, which Peter Murray-Rust has discussed in some detail in his series of posts on what he terms "the scholarly poor": groups of people such as [Dentists](#), [Industry](#), [The Climate Code Foundation](#), [Patient groups](#), and [many more](#). The issue here is whether or not a person reads the technical literature, other people do (when it's available) on her behalf. Got cancer? Want your GP to be able to give up to date advice? Sorry, she can't! Because Elsevier own the relevant papers.

"The PLoS One model does have a downside: it removes the status of publishing in "good" journals, which is a major way that merit is measured in science (for better or worse), without giving a simple replacement". I hardly know where to start with this! First, PLoS ONE is itself a "good journal" with a healthy impact factor of 4.411. But pretty much everyone now agrees that judging the quality of research by the company that it keeps is [NOTE TO SELF: think of a polite way to say "stupid"]. If only

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PLoS and its brethren *could* "remove the status of publishing in "good" journals", that would be another factor in their favour!

"The author pays model also favours the rich: it costs about €1000 to publish a paper in PLoS One." Yes, PLoS ONE charges US\$ 1350. But it also offers a no-questions-asked 100% fee waiver for authors without funds to support open-access publishing; and it maintains a Chinese wall between accounting and academic, so that editors and reviewers can't be influenced in their work by knowledge of whether or not the author is paying. (PLoS is not unique in this -- some, though not all, other open-access publishers do the same.) So there is *no* financial reason to avoid publishing your work as open access.



**IReadTheArticle**

16 January 2012 2:22PM

Response to [ClickYourHeels](#), 16 January 2012 12:47PM

"Have your article peer-reviewed and accepted for publication.  
Withdraw it from the journal, and post it online. . ."

You'll do that exactly once before you become *persona non grata* and never get any funding ever again. Scientists have always trodden a fine line between their natural desire to share their work and their need to acquire resources to do that work. Unfortunately, they have very little power to rebel.

The privatisation of scientific research has been increasing for some time, as the article points out. Good luck getting at the basic research done by Big Pharma. Or Big Oil.

Incidentally, I notice the Guardian also has a piece today by Ian Rankin arguing for a better deal for writers, before they too become dust under the commercial publishing heel. So much for all these sharing benefits the internet was supposed to bring us.

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**zwicky**

16 January 2012 2:27PM

I think the best response to the claim that "few people without access to a library read papers anyway" is that

a) It's a matter of principle that the results of research paid for by tax should be openly accessible by anyone. There are significant groups which are economically important, e.g. commercial research, who have to pay to access publically funded research. Surely (one of) the ultimate purposes of public research is to trickle down to profitable businesses?

b) Libraries at universities pay absurd access fees for journals and these fees are undoubtedly inflated by lack of proper competition on funding. Open access helps this.

I admit that charging for access does appear to restrict access to journals by poorer researchers, but by making the cost explicit journals are given incentives to push down costs, cut their profit margins and it's not like they want to reject good science anyway. It'd only undermine their reputation if they become the "journal for rich scientists with massive grants" rather than good research.

It's great that the UK govt has indicated support for open access, now if they'd just enforce it properly and declare that all UK science, a major world funder, will be open access -- that should cause a nice crisis in the boardrooms of academic publishers.

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**GreyBrother**

16 January 2012 2:38PM

Which public should have access to which publicly funded research?

In other words, why should research funded by the US taxpayer be freely available outside the US?

As a UK taxpayer, why would I agree to non-UK scientists freely accessing the fruits of UK science? **Anyone from outside the UK should pay to access, otherwise surely it's just a form of freeloading on the taxpayer?**

Research is expensive and so is digitisation and web hosting. **At a time of budget cuts in UK education, is it fiscally irresponsible to just give science away to users outside the UK when it could be used to generate revenue?**

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**StephenStewart**

16 January 2012 2:47PM

Thanks for bringing this matter to my attention. The implications go well beyond medical research and Elsevier. A quick glance at the membership of the Association of American Publishers ([www.publishers.org/members/](http://www.publishers.org/members/)) reveals that it's more than 300 members do include more than 50 scholarly societies. The list includes, for example, both of the principal computer science societies, the Association for Computing Machinery ([www.acm.org/](http://www.acm.org/)) and the Institute of Electrical & Electronics Engineers, Inc. ([www.ieee.org/](http://www.ieee.org/)). It seems ridiculous in the extreme that these associations, whose members built the internet and made open source software a key technology, should now seek to retreat behind a paywall.

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**pinch2sins**

16 January 2012 2:49PM

Very glad to see this article on The Guardian. Hope to see more on similar topics of the enclosure of ideas.

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**oharar**

16 January 2012 2:53PM

Response to [MikeTaylor](#), 16 January 2012 2:20PM

But as the linked PDF explicitly states, the Ecological Society of America is a commercial publisher

Sorry, I wasn't clear. What I meant was a "for profit publisher". The ESA is a scientific society, so its primary purpose isn't to make money.

The issue here is whether or not a person reads the technical literature, other people do (when it's available) on her behalf. Got cancer? Want your GP to be able to give up to date advice? Sorry, she can't! Because Elsevier own the relevant papers.

How did GPs survive before the internet? Did they really all pop off down to the library to read the latest *J. Colds Infl. Treat.*? And are they now unable to read [blogs](#)? There are other ways of getting the information than reading the primary literature, and it's probably a better read too. And if there are papers that a GP occasionally wants to read, there are still ways of getting hold of it (e.g. emailing the authors).

But pretty much everyone now agrees that judging the quality of research by the company that it keeps is [NOTE TO SELF: think of a polite way to say "stupid"].

In my experience this is wrong: we do use journals to decide how good a paper is, and also the style of the paper. You're going to get a more advanced level of maths in *Theoretical Population Biology* than in *Ecology Letters*, for example. You're also going to get (on average) a better paper, in the sense of it tackling an important ecological question. Anyone denying that in the real world scientists judge papers like this is delusional (sod politeness).

I see you also skipped my point that we need some way to estimate - if imprecisely - the quality of papers without having to read them carefully.

Oh, and citing impact factors to support PLoS One is hilarious - most OA advocates I've talked to are extremely critical of them. If it comes to that, most scientists who think about impact factors are extremely critical of them.

Yes, PLoS ONE charges US\$ 1350. But it also offers a no-questions-asked 100% fee waiver for authors without funds to support open-access publishing

Which is obviously only financially viable if people don't abuse the waiver system. If we all decide to do that, PLoS are going to be in big trouble. So the system penalises the productive and the honourable.



**DrMLHarris**

16 January 2012 2:59PM

Response to [basthagen](#), 16 January 2012 1:43PM

Okay, I'll bite.

The other side of the story is that not all academic publishers operate on Elsevier's model, and the services provided by publishers in managing the peer review and dissemination process are not nearly as cheap or trivial as this article makes out.

I work for a learned-society publisher allied to the Institute of Physics (my opinions are my own, not those of my employer). Being a learned-society publisher generally means that any profits the company makes after staff costs, building overheads etc. are ploughed straight back into the charitable work done by the learned society. In our case, that includes promoting and supporting physics teaching and research in the UK, Ireland and elsewhere.

I can't speak for other publishers on this, but I know that the editors of our journals do a darn sight more than make the figures look pretty. I'm pretty sure all of them have degrees in their field; most have PhDs or equivalent levels of experience in research; and they are doing work that is commensurate with their training. A partial list would include weeding out poor articles, selecting qualified reviewers for more promising ones, managing the peer-review process (everything from chasing up late reviews to deciding what to do when reviewers disagree), and so on.

Another point I'd make is that although the existence of modern communications has made it much easier and cheaper to disseminate information, cheap does not mean free. We may not have to post physical bits of paper around the world anymore, but we need techies to build and maintain websites, fix them when they break, and otherwise make sure that people can upload papers for publication and download them for reading. These techies are also quite highly trained, and they don't work for free. The problem is not unrelated to those faced by newspapers and other media outlets, which are struggling to survive in a world where "information

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wants to be free" but the cost of generating that information is not zero.

As the article-writer says, open-access publishing is an alternative model that acknowledges (and pays for) the work done by publishers while also making research accessible to the public. But there are some wrinkles in it as a business model; in particular, a lot of time and effort is taken up by papers that ultimately fail to achieve publication standard, and hence produce zero revenue. So there are reasons other than sheer naked avarice for being wary of it.



**Telescopor**

16 January 2012 3:04PM

It's worth pointing out the actual cost of the arXiv

The annual budget for arXiv is \$400,000. With over 60,000 new submissions per year one may think of this as an effective cost of <\$7 per submission. Alternatively, with over 30,000,000 full-text downloads per year this is an effective cost of <1.4 cents per download. We believe that arXiv is an extremely cost-effective service.

They are right that it is cost effective - it covers most physics research across the entire world - and, given that a single physics journal subscription for one institution can easily be \$20,000, it also shows the extent to which science is being ripped off by the traditional publishers.

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**Jimmyji**

16 January 2012 3:08PM

Reply to CLICKYOURHEELS; just recently I did something almost like you propose. So yes, I approve your idea. The editors of the journal I now have in mind don't have a paywall, but they presumably have a backlog of refereed manuscripts which they have approved and accepted. Anyway, my article which, they wrote me, would be published in 2000-and-something had not been published nearly four years later. So after writing them that I wished to withdraw the article I put it on the internet myself.

In other circumstances they might cost a chap his Nobel, or something.

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**LindaR**

16 January 2012 3:09PM

I'm a self-employed author who writes books for "crossover" (academic and nonacademic) readers. I've never received any advance payment from any publisher that's accepted my work, so I research and write the books at my own expense. It's become increasingly difficult for me to gain access to published papers in various social scientific disciplines because of the paywall. I can't afford to shell out \$30 or more for each article, especially when many of them aren't worth reading. Unaffiliated with any university, I can't afford to pay the high annual fees university libraries charge for access to their databases and online archives. Local public libraries can't afford to provide these resources. Thus open access to knowledge and free debate are being destroyed by the greed of the multinational conglomerates that have created a closed community accessible only to a tiny elite of researchers. That elite seems uninterested in communicating with anybody outside its confines. No wonder so many professional associations have endorsed the Research Works Act. Oh Marx, that thou wert living at this hour!

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**basthagen**

16 January 2012 3:12PM

Response to [DrMLHarris](#), 16 January 2012 2:59PM

Thanks DrMLHarris for 'biting'! You do of course bring up an important point which is that not only for profit Elsevier-like actors publish. Good of you to point this out. The question still remains though: even if the 'profit' goes to teaching and the like, should science publishing be subjected to several levels of payments as was one of the main points with the article?

Another interesting point brought up here above is whether 'peer review', our holy cow not to be touch under any circumstances, could be allowed to be replaced by an alternative 'endorsement system' of 'reviewing' and accepted as such?

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**DrMLHarris**

16 January 2012 3:14PM

Response to [Telescopor](#), 16 January 2012 3:04PM

The arXiv is a wonderful thing, I agree, and they certainly do a lot with a little, financially speaking.

But there's also a fair amount of dreck on the arXiv, since nothing on it has been peer-reviewed (unless, of course, authors replace the original, un-peer-reviewed version of their paper with the peer-reviewed version after a journal editor and reviewers have done some work whipping it into shape).

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So I guess the question is, how much (or how little) are you willing to pay to add a quality filter and paper-improving process to a dissemination service like the arXiv?



**ybdetsoP**

16 January 2012 3:15PM

Someone mentioned that the journals format your paper nicely but this is becoming less and less true - usually a template is provided and wobetide you if you go beyond its measure. The only value added as far as I can see is that they organize the peer review process and (some journals) will actively promote papers they consider of high impact.

I agree with some of the people here who have pointed out that the public don't care what science is published (unless it involves some juicy sex research) but I don't think open access is about the public, it is about other scientists freely viewing colleagues' work. This would certainly benefit interdisciplinary work and broaden scientific portfolios of many research groups and individual scientists all over the world.

Who would pay is still the main question and if the US bill is passed then, as I understand it, it is one in the eye for open access. On the other hand, so much work is published whose real connotations are not realized yet perhaps it is better not made freely available?

Anyway, when I think about the open access question I always wonder what my mother would say if she read some my papers. Something like "You paid for that, ay, ay, ay?" I shouldn't wonder.

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**ybdetsoP**

16 January 2012 3:17PM

Oh, and I think most Elsevier journals would be considered 'archival'....I think is the term some reviewers use as a euphemism for 'boring'

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**PatPoppy**

16 January 2012 3:19PM

So far everyone is talking about science, but this affects all academic publishing, humanities and social sciences as well. I used to own copyright in my articles, but back issues of journals have been digitised and now copyright rests with the publishers. This is because many small academic societies are ceasing to publish themselves, but are going through commercial publishers, because of the "need" to be online. As Linda R has pointed out, in the past university and other libraries had print copies of journals and almost anyone could come in and read them, now access agreements mean the journals are only available to registered students and staff. It is not only the "general public" who are losing access, but retired and unemployed academics and independent scholars, who are finding it more and more difficult to access material.

[Recommend \(20\)](#)

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**Jimmyji**

16 January 2012 3:26PM

While you are giving Elsevier the thrashing they deserve please do the same to the other big publishers of scientific research. Google anything you like and it will turn up. Click on, and you may, if lucky, get a summary of the research. But if you want to read it in full, MONEY, MONEY, MONEY!

We interested readers are not all being subsidized, but we are all taxpayers who paid for the research in the first place.

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**neurobonkers**

16 January 2012 3:26PM

Response to [palfreyman](#), 16 January 2012 12:40PM

Yes but it's also pretty depressing.

See my [blog post earlier today](#) for an in depth look at the problem.

[Recommend \(2\)](#)

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**JohnCan45**

16 January 2012 3:48PM

It's no better purchasing scientific tests, including psych tests. The publishers really are a racket.

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**DrMLHarris**

16 January 2012 3:55PM

[Recommend \(7\)](#)

[Responses \(1\)](#)

Response to [basthagen](#), 16 January 2012 3:12PM

These are important questions, and I hope some commenters (above the line as well as below it) move on to address them instead of throwing around words like "racket", which are pretty insulting for organizations like ours.

Re: levels of payment, although it may seem like J Q Taxpayer is paying twice over -- once for the research, and then again to read about it -- they are in fact paying for two different things. They are paying the researchers to carry out the work, and they are paying for journals publishers to help improve it and disseminate it. Whether they are paying too much for these services is, of course, a different question, and the fact that in some cases the profits are lower, and go to worthy causes, does not wholly answer it.

As for a system to replace peer review, I'd personally welcome it, as long as it really was an improvement on the status quo. "Open" peer review has occasionally happened (somewhat by accident) with really big papers that attract legions of science bloggers etc. to discuss their merits in public fora, so that's one alternative. However, it does seem to have some flaws. One, of course, is that it's unlikely to work with worthy but obscure papers that get little attention. The other is that a lynch-mob mentality can develop as critics pile on; the authors of that "arsenic life" paper in Science a year ago may have got their science wrong, but I'm really not sure they deserved the volume of bile poured on them by their public reviewers. Is what happened to them better or worse than the anonymous "knife in the dark" of having a paper rejected by private peer review?



**basthagen**

16 January 2012 4:07PM

Response to [DrMLHarris](#), 16 January 2012 3:55PM

The advantage with an endorsement system is that the comments are (or at least should be) there for all to see. Yes, they could potentially develop into a lynch mob, but on the whole I think that most science communities are trying their best to be fair and concentrate on the science. Just as likely that 'unfair' comments are brought down by others. After all, the old principles in science should apply, i.e. any criticism should be well underbuilt and supported by counterarguments and maybe contradictory data even. Should they be anonymous or not - i would favour a system where choice exists, and people can then judge the reasons for someone going anonymous if that happens when needed.



**conejo**

16 January 2012 4:15PM

Response to [StephenStewart](#), 16 January 2012 2:47PM

It seems ridiculous in the extreme that these associations, whose members built the internet and made open source software a key technology, should now seek to retreat behind a paywall.

My guess is that there are factions within each society: usually learned societies are significant publishers of research articles in their own right - IEEE and ACM certainly are, and representatives of the publishing arms will have lobbied for the societies to join AAP. But societies should be subject to the wishes of their members, and another guess is that the overwhelming majority of those members would be in favour of open access. So they need to make their voices heard, PDQ.

This is a situation which is crying out for a user-based, open-source type solution. It is an example where the free market should apply to select the 'best' (some combination of fastest, cheapest, most accessible, most reliable) solution. Publishing in the old way is doomed; it belongs in museums alongside using a scythe to harvest wheat and travelling about a city in a sedan-chair. Tough on the people employed in that business, but that's progress. Looking back, do we really regret the loss of scythe-mowers or sedan-chairmen?



**brembs**

16 January 2012 4:19PM

Response to [oharar](#), 16 January 2012 2:53PM

In my experience this is wrong: we do use journals to decide how good a paper is, and also the style of the paper.

Yes, you are correct that people do that, but there are two sides to it: one, which you explicitly mention, is topic: clearly, journals serve as 'tags'. this is a functionality which is not too difficult to reproduce without the second component: journal rank. And here your experience is simply subjective perception [without empirical evidence](#). If anything, journal rank predicts the unreliability of papers, but not much else.

Thus, given that we have so many journals the existence of which serves no better purpose than 'tags' to sort out different fields, may even be detrimental to science and yields about US\$4b annually to corporate publishers which use these funds to wage war against science, why can't we get a task-force ready to develop a proper transition to a [library-based system](#) for hosting data and literature with all the required metrics to handle the deluge? After all, the technology is around, it's cheap and if we weaned ourselves from the publishers, we'd have US\$4b every year to implement it!

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[Responses \(0\)](#)

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**AATaylor**  
16 January 2012 4:41PM

I Dont want to live on this planet anymore!

[Recommend \(2\)](#)

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**Jayarava**  
16 January 2012 4:58PM

Academics and their institutions have for a long time colluded with publishers, so there's no point in acting all surprised. This has been building since the 1970s at least.

The status of an academic comes partly from the prestige of their publishers, and they have courted this prestige like cheap tarts. Institutions faced with having to justify their budgets and rate their teachers have resorted to counting citations in the same journals. If everything got democratic and went online then this system would fall flat on it's face.

But academic publishing is horrendously expensive. You publish an article that probably includes more than one non-standard font, diagrams, images, and requires a PhD just to proof read. You produce it to a high standard and then discover that you can only sell 50 copies because of the unit price, and because academics just photocopy the articles anyway. Libraries try to keep up, but their budgets have been falling in real terms every year since the 1970s.

So not only does the academic world lose it's external scale of excellence, the academic publishers are slowly going out of business. One can't blame them for not wanting to go out of business.

This is all not entirely unrelated to the general trend of the Western World. Since the 1970s tax revenues have been falling, and spending has been going up. This has squeezed education budgets and made governments impose stupid regulations and surveillance requirements on their staff. And so it goes.

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**Jayarava**  
16 January 2012 5:05PM

"They do add value -- by formatting research articles nicely."

This is totally disingenuous since they bare the cost of publishing and distributing the work of academics. They bare all of the upfront costs and the business risk of putting the work into print. Formatting academic work is extremely tricky.

10-15 years ago online publishing did not exist. No one could published their own work and be taken seriously. Even electronic publishing was was technically demanding for this kind of material and extremely expensive. For a tiny audience.

If you're going to tell the story then tell it, but if you're just pushing an ideological barrow then should you be writing in a newspaper? The bias is outrageous.

Alright the publishing business is changing, and the academic publishers are hanging on too tight. So what is the alternative to just putting them out of business? The trouble with extreme views is that no compromise is possible.

[Recommend \(9\)](#)

[Responses \(0\)](#)

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**Chronos**  
16 January 2012 5:10PM

Response to [oharar](#), 16 January 2012 2:02PM

BH, I'm not sure how much this will damage science. Very few papers are read by people outside science, and if you're a scientist you know how to get hold of papers (emailing friends or authors, or asking on twitter).

But scientific papers are quoted all the time in newspapers and other media but frequently a reader can't access anything beyond a very brief abstract if they want to learn anything more and potentially judge the quality of the work.

We see papers being mentioned in the Guardian science section regularly by journalists and contributors to CiF. Open access would allow readers to get a proper understanding of how science is done and get an appreciation for the quality (or lack of it) of research being quoted.

[Recommend \(9\)](#)

[Responses \(1\)](#)

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**Gareth100**  
16 January 2012 5:25PM

Response to [Chronos](#), 16 January 2012 5:10PM

If you think the average Guardian reader could make sense of the average scientific publication then I admire your optimism, after all the majority of science journalists repeatedly fail to do so.

[Recommend \(5\)](#)

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**Robstacle**  
16 January 2012 5:30PM

[Recommend \(7\)](#)

[Responses \(0\)](#)

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Response to [GreyBrother](#), 16 January 2012 2:38PM

It would perhaps make economic (if not scientific) sense to ask those who have not funded the research to pay for access to its findings - e.g. asking Americans to pay for access to British research - if it weren't for the fact that scientists don't necessarily publish in journals based in their own country.

Research in my own field (like in most fields nowadays) is published predominantly in American journals. Come to think of it, despite having mostly worked in the UK, 100% of my papers are in US publications.

Unless we force UK scientists to publish in UK journals, your idea won't fly.

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**ralfmuschall**

16 January 2012 5:47PM

I think there is a significant population outside of academia which wants to read papers: Ex-scientists who work in other professions now but want to stay in touch with what they did when they were young (only a few % of PhDs etc. get tenure).

@GreyBrother: My guess is that the number of potential readers of science papers is approximately proportional to the number of authors in each country, so making papers paywalled for foreigners only would be equivalent to customs fees - i.e. just a hindrance for everybody with a zero net result. In addition, the money from paywalls currently doesn't go to research but to private corporations, i.e. it is not even redistributed (however just or unjust that might be) but simply lost.

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**StephenStewart**

16 January 2012 5:56PM

Most of the comments to this article are quite encouraging, but they seem to come primarily from the academic community, The Research Works Act (RWA) makes the Stop Online Piracy Act (SOPA) look tame. RWA spells the end of academic freedom and will choke off innovation. How can we generate the kind of broad based opposition to RWA that SOPA has encountered?

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[Responses \(0\)](#)

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**Holiestofcows**

16 January 2012 5:56PM

The current system of academic publishing is simply a racket: academics put in all the work of doing the research and writing the papers; they receive no fee from the publishers, and sometimes even have to pay page charges for the privilege of seeing their work in a journal; then the journal sells the product back to academia at an extortionately high price.

As a business model - obtain the product for free and then sell it back to the supplier at an inflated price - this can't fail, but as a means of disseminating scientific discoveries it is terrible. All research funded by the public should be openly available. In the digital age it is only the rapacious vested interests (i.e. companies like Elsevier) who want to maintain the status quo. It's a disgraceful situation.

=====

That's all true, but you're forgetting a few important things:

1: Peer review costs huge amounts of money.

Academics don't like reviewing papers. They hate reviewing papers to short deadlines even more.

Publishers hire huge numbers of highly qualified physicists themselves, on high salaries, to ensure they get these reviews to very short deadlines. This is generally done through investing even more time into building relationships in the community.

It's no exaggeration to say big players in the industry probably have 200-300 Physicists on their payroll themselves. You're talking 10s of millions a year just on peer review.

The truth is, academics don't want peer review. They want very very fast peer review.

2: Academics also want high citations, high visibility and high impact - again, this is something that costs huge amounts of money. On marketing, PR, web technology etc etc. Millions of pounds a year.

You can't expect publishers to outlay tens of millions a year on reviewing, and promoting articles for nothing.....

[Recommend \(5\)](#)

[Responses \(1\)](#)

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**SimpleMinds**

16 January 2012 6:12PM

Firstly, congratulations on your self archiving policy re. [your Palaeo Manuscripts](#).

(BTW FYI, if you "google" your name and Guardian, this article is the 1st result ;-) )

I'm not a scientist but I'm an [active Patient Advocate](#) in my spare time and have been closely following STM Publishing for several years now.

I fully agree with your article.

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I was actually at The Guardian a few months ago to [host a podcast](#) with some of their science guys and OA came up a couple of times. The Monbiot article came out a few days before we recorded it.

Alok Jha made a couple of great points about OA which essentially were:-

1) The Monbiot piece (*whilst not really reporting anything we didn't know about already*) reached a large audience who didn't know about these issues, so that was important.

2) There's a lot of discussion about these issues, but it's up to scientists themselves to do something about it.

3) If you don't want to publish in a TA Journal, then "don't do it". but we know that obviously it's *"not as simple as that"*.

Also FYI, I posted [a link to your article on FriendFeed](#) at lunchtime and there are some comments for you to read over there.

There's also been coverage on Google+ such as [this post by Peter Suber](#).

Graham Steel



**SimonRoss**

16 January 2012 6:22PM

Mike Taylor

From one geologist to another...

Are you aware of the Public Knowledge Project (PKP)?

PKP have already produced an open access electronic journal publishing system

See <http://http://pkp.sfu.ca/?q=ojs>

An example of an Open Access Journal published by PKP

<http://http://pkp.sfu.ca/?q=ojs>

A list of open access e-journals produced through PKP <http://pkp.sfu.ca/ojs-journals>

What is the position of the Geological Society (of London) on open access and what are your views on them publishing this way. Mine is that it is high time that their journals were open access and perhaps members would not have to be charged such huge membership fees.

[Recommend \(1\)](#)

[Responses \(0\)](#)

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**SimonRoss**

16 January 2012 6:25PM

Damn and blast this software!

The links should be

to PKP <http://pkp.sfu.ca/?q=ojs>

AAAn example journal <http://pkp.sfu.ca/?q=o>

and list of PKP published journals

<http://pkp.sfu.ca/ojs-journals>

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**Holiestofcows**

16 January 2012 6:27PM

Also, you need to take into account that most journals and papers lose money.....

Most big companies have 2-3 big journals that make lots of money. But they also have 50+ that lose them money. Lots of money.

In truth, most journals (and the papers they publish) are subsidised by the big sellers, and the star authors.

It's true to say that the companies make profit. But most of that comes from 2-3 big products. They still publish the 50+ that lose money.

So how do you convince Publishers to print articles, in journals, they know is going to lose them money - If you don't allow them to make profits?

The truth is, they wouldn't. They publish loss making papers, in loss making journals, to put something back in.

As I said - you need to take into account that probably 70% of all published papers COST the publisher money.

If you decide you don't want the publisher, then you need to accept that the number of published journals and papers would plummet.

It's not true to say Publishers make huge profits on papers.

They make the huge profits on SOME papers. They lose money on most of them.

---

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**Holiestofcows**  
16 January 2012 6:30PM

What is the position of the Geological Society (of London) on open access and what are your views on them publishing this way. Mine is that is high time that their journals were open access and perhaps members would not have to be charged such huge membership fees.

=====

The problem with Open Access is the fact that not all papers pay for themselves.

In fact most papers cost the publisher money to print.

Journals and papers tend to subsidise each other. As in, a company will have 3 huge money making journals, and 50 that lose money.

So why's the company going to continue publishing 50 journals that lose money, if they get nothing out of it?

Truth is, Publishers are taking huge financial risks with every single article they publish. They do it because the model, at the end of the year, guarantees them a profit.

How would you convince a publisher to take a financial risk on a paper?

[Recommend \(1\)](#)

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**SimonRoss**  
16 January 2012 6:33PM

Jimmyji

16 January 2012 3:26PM

While you are giving Elsevier the thrashing they deserve please do the same to the other big publishers of scientific research. Google anything you like and it will turn up. Click on, and you may, if lucky, get a summary of the research. But if you want to read it in full, MONEY, MONEY, MONEY!

We interested readers are not all being subsidized, but we are all taxpayers who paid for the research in the first place.

It is not quite as bad as you have stated. Try using Google Scholar and carefully chosen keywords for your subject of interest. It will typically return many recent papers in PDF form.

[Recommend \(0\)](#)

[Responses \(0\)](#)

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**Holiestofcows**  
16 January 2012 6:37PM

Truth is, Publishers publish huge numbers of articles, in huge numbers of journals that know will cost them money.

They see the subject, and know it's not going to do enough to cover the publishing costs.

But they still do it. As they have a secure model that allows them to profit from their big journals/articles.

As I said, if the publishers don't make the profits, there is no way they would continue publishing loss making journals, and loss making papers.

And seriously, when I say loss making, I mean probably 50% of every article currently published in academic journals.

A model where publishers don't make guaranteed money, is a model where they just stop publishing articles that aren't commercially viable

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**Holiestofcows**  
16 January 2012 6:39PM

Simple fact is, you're asking the big publishers, on an hourly basis to take a substantial financial hit to ensure that your paper is published.

The only reason they do it, is they know it will be subsidised elsewhere.

If you remove this model, and say "every author for themselves" the result is that Publishers stop publishing work that nobody wants to read (50% of it)

[Recommend \(1\)](#)

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**SimonRoss**  
16 January 2012 6:45PM

Holiestofcows

16 January 2012 6:30PM What is the position of the Geological Society (of London) on open access and what are your views on them publishing this way. Mine is that is high time that their journals were open access and perhaps members would not have to be charged such huge membership fees.

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Truth is, Publishers are taking huge financial risks with every single article they publish. They do it because the model, at the end of the year, guarantees them a profit.

How would you convince a publisher to take a financial risk on a paper?

The operative word in your comment is *print*.

The entire point of electronic journal publishing is that it is very inexpensive compared to hardcopy publishing (printing). Since e-publishing is very inexpensive there is no longer any justification for charging for access to content. Charging for e-journal content as if it were hardcopy is thus a racket.

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