

■ OPEN ACCESS – STEVAN HARNAD IM INTERVIEW

von Kerstin Stieg und Karlo Pavlovic

Ad personam:

STEVAN HARNAD was born in Budapest, Hungary, did his undergraduate work at [McGill University](#) and his graduate work at [Princeton University](#). Currently he holds the [Canada Research Chair in Cognitive Sciences](#) at [Universite du Quebec a Montreal](#) and is [Affiliate Professor in Electronics and Computer Science](#) at University of Southampton, UK, where his research is on [categorisation](#), [communication](#) and cognition. He is founder and editor of [Behavioral and Brain Sciences](#) (a paper journal published by Cambridge University Press), past president of the [Society for Philosophy and Psychology](#), external member of the Hungarian Academy of Sciences, and author and contributor to over 300 publications, including [Origins and Evolution of Language and Speech](#) (NY Acad Sci 1976), [Lateralization in the Nervous System](#) (Acad Pr 1977), [Peer Commentary on Peer Review: A Case Study in Scientific Quality Control](#) (CUP 1982), [Categorical Perception: The Groundwork of Cognition](#) (CUP 1987), [The Selection of Behavior: The Operant Behaviorism of BF Skinner: Comments and Consequences](#) (CUP 1988), [Scholarly Journals at the Crossroads: A Subversive Proposal for Electronic Publishing](#) (1995), [Essays on the Foundations and Fringes of Cognition](#) (in prep) and [Cognition Distributed: How Cognitive Technology Extends Our Minds](#) (Benjamins 2008).



The [EPrints research team](#) at Southampton University is at the forefront in the critical developments in OA across the past decade. The team hosted one of the first OA journals, [Psychology](#) (since 1994), the first journal OA preprint archive, [BBSPrints](#) (since 1994), formulated the first OA [self-archiving proposal](#) (1994), founded one of the first central OA Repositories, [Cogprints](#) (1997), founded the [American Scientist Open Access Forum](#) (1998), created [GNU EPrints](#), the first software for creating OAI-compliant Institutional Repositories (now in use at over 200 universities worldwide) (2000), co-drafted the [Budapest Open Access Initiative \(BOAI\)](#) and its self-archiving FAQ (2001), created the first citation impact-measuring search engine, [Citebase](#) (2003), designed the first OAI standardised CV Template for UK

Research Assessment (2002) and proposed that the RAE [convert to metrics](#) (2003), which the RAE announced it would do in 2007. Furthermore the team members compiled the BOAI Eprints software [Handbook](#) (2003), formulated and promoted the [model self-archiving mandate](#) for departments and institutions, now being adopted worldwide (2003), created and maintains [ROAR](#), the Registry of Open Access Repositories worldwide (2003), collaborated in the creation and maintenance of the ROMEo directory of journals' OA self-archiving policies (2004), created and maintains [ROARMAP](#), the registry of Open Access Mandates (2004), piloted the paradigm of collecting, analysing and disseminating data on the magnitude of the OA impact advantage and the [growth of OA](#) across all disciplines worldwide (2004). Since 2006 they are consulting and [blogging](#) widely on institutional and funder [Open Access policy-making](#).

1) You are one of the founding fathers and a fierce advocate of Open Access. According to your opinion, Open Access is a prelude to a fourth revolution in human cognition (the first three being language, writing and print). The Open Access revolution has been dragging on for years now and it seems the revolution is more a slow and tedious evolution. Why is that and will Open Access ever become the predominant business model in the information industry?

The fourth revolution („[skywriting](#)“) has certainly already happened. Consider blogs, Facebook, twitter, Wikipedia and much of google-space.

However, you are right that the specific form of skywriting („[Scholarly Skywriting](#)“) that I have so often claimed to be „[optimal and inevitable](#)“ is certainly coming much more slowly than I had hoped or expected.

I will answer why I think it is happening so slowly, but first I have to correct one, and perhaps two misconceptions that might underline your question:

What is optimal and inevitable is *Open Access (OA)*, which means free online access to the 2.5 million articles a year that are published yearly in the planet's 25.000 peer-reviewed research journals, in all disciplines, making the research accessible to all would-be users, and not just to those whose institutions can afford to subscribe to the journal in which it was published.

Misconception #1: „*information industry*“: OA does not apply to „the information industry“ (i.e., every form of the written word – books, newspapers, magazines, journals, and maybe even beyond that to all digital me-

dia, images, audio video). OA applies only to the work of researchers who conduct and publish their research not in order to earn royalty income but in order to make a research impact, by having their findings accessed, used, applied, cited and built upon by all their potential users. That is how research progresses and it is also how researchers' careers and funding progress. This definitely not true of *all* kinds of writing, writers, information, and information-provider (though once it prevails for research, it will probably also be emulated for other some forms information and information-providers too).

Misconception #2: OA ≠ OA publishing: The most widespread misconception about OA – and also one of the main reasons it is so slow in coming – is that *OA is wrongly assumed to be synonymous with OA publishing*. It is not. There are two ways to provide OA to peer-reviewed research journal articles. One way is to publish them in an OA journal. (This is also called the „golden road to OA“ or „Gold OA“). The journal makes the article OA (free online), often for an author publication fee. But most journals today are still subscription journals, not OA journals. And I never believed that OA must wait for the publishing industry to convert to Gold OA publishing. That wait could well be endless. The second form of OA is OA self-archiving, by authors, of their peer-reviewed final drafts, in their institutional repositories, immediately upon acceptance for publication. This is called the „green road to OA“ or „Green OA.“ And Green OA self-archiving is what I have been advocating ever since my 1994 [Subversive Proposal](#).

Misconception #2, „[Waiting for Gold](#)“ (conflating OA with Gold OA) is one of the (at least) [38 reasons](#) why OA is so slow in coming. Another prominent one is fear (that Green OA is illegal, or will destroy publishing, etc.). I have called these 38+ worries that are holding back OA „[Zeno's Paralysis](#).“ All 38 worries are groundless, but it takes forever to explain that over and over.

So the solution has become clear: The cure for the Zeno's Paralysis that is preventing researchers from providing OA – even though they want to – is for their institutions and funders to mandate (require) Green OA self-archiving.

And that is exactly what is at last beginning to happen, with Green OA mandates being adopted by funders and institutions worldwide (see [ROARMAP](#)), including RCUK in the UK, the EU research funders, NIH in the US, Harvard, MIT, U. London, U. Southampton, U. Liege and perhaps soon all the US research funders, if the Federal Research Public Access Act ([FRPAA](#)) becomes law. (A [White House petition](#) for this is about to reach

the 25.000 signature threshold it needs to receive President Obama's attention.)

2) If you had to choose: Would you prefer Green or Gold Open Access? If you prefer one over the other, why is this?

Of course I choose Green, and the reasons are myriad:

1. Providing Green is entirely in the hands of researchers, providing Gold is in the hands of publishers.
2. Green can be mandated by institutions and funders, Gold cannot.
3. Gold costs extra money, Green does not.
4. Subscriptions are still paying for publication, so there is not the money available to pay for Gold.
5. Once Green is universally mandated and implemented, the research access problem is solved, universally.
6. Universally mandated Green OA is also the fastest and surest way to eventually reach Gold OA, but Green must come first:

Plans by universities and research funders to pay the costs of Gold OA publishing are premature. Funds are short; 80% of journals (including virtually all the top journals) are still subscription-based, locking up the potential funds to pay for Gold OA; the asking price for Gold OA is still much too high; and there is concern that paying to publish may inflate acceptance rates and lower quality standards. What is needed now is for universities and funders to mandate Green OA self-archiving (of authors' final peer-reviewed drafts, in the author's institutional OA repository, immediately upon acceptance for publication). That will provide immediate OA; and if and when universal Green OA should go on to make subscriptions unsustainable (because users are satisfied with just the Green OA versions) that will in turn induce journals to cut costs (print edition, online edition, access-provision, archiving), downsize to just providing the service of peer review, and convert to the Gold OA cost-recovery model; meanwhile, the subscription cancellations will have released the funds to pay these residual service costs. The natural way to charge for the service of peer review then will be on a „no-fault basis,“ with the author's institution or funder paying for each round of refereeing, regardless of outcome (acceptance, revision/re-refereeing, or rejection). This will minimize cost while protecting against inflated acceptance rates and decline in quality standards.

Harnad, S. (2010) [No-Fault Peer Review Charges: The Price of Selectivity Need Not Be Access Denied or Delayed.](http://eprints.ecs.soton.ac.uk/21348/) D-Lib Magazine 16 (7/8). <http://eprints.ecs.soton.ac.uk/21348/>

Harnad, S. (2010) [The Immediate Practical Implication of the Houghton Report: Provide Green Open Access Now.](http://eprints.ecs.soton.ac.uk/18514) Prometheus, 28 (1). pp. 55–59. <http://eprints.ecs.soton.ac.uk/18514>

3) If the whole world moved to Gold Open Access and subscriptions were to be replaced by author fees, large institutions with a high publication output and research-intensive institutions would have to bear the lion's share of publication fees. Is that fair? Do you have any ideas for burden sharing?

The worry about some institutions having to pay more is again based on premature, pre-emptive Gold OA, at today's Gold OA asking price (which is arbitrary and inflated).

Today, subscriptions are paying for the price of publication, *in full*. If – and only if – Green OA is universally mandated and provided, institutions can cancel their subscriptions.

Once this makes subscriptions unsustainable, journal publishers will be forced to cut costs, downsize to just providing peer review alone, offload access-provision and archiving onto the global network of institutional OA repositories, and convert to the Gold OA cost-recovery model.

The price of peer review alone, paid per outgoing article by the author-institution is only a small fraction of what is currently paid for, jointly, per incoming article, via subscriptions, by all the subscribing user-institutions.

The yearly windfall savings from cancelling all incoming subscriptions will be more than enough to cover the yearly peer-review costs per outgoing article for even the most productive and prolific institution.

4) Green Road Open Access might be weakened by authenticity issues: Scientists usually go for the final version of an article instead of a Pre-print and the publisher PDF is considered as having a quality stamp. What is your point of view as scientist (not as Open Access proponent)?

This is [Zeno #23: Version Control](#).

My point of view as a scientist is what shaped my point of view as an

OA proponent:

As a researcher-user I would infinitely prefer access to the researcher-author's Green OA peer-reviewed final draft rather than no access at all.

As a researcher-author, I would infinitely prefer to have all my work's potential users access my Green OA peer-reviewed final draft rather than some of them having no access at all.

With universally mandated Green OA, those researchers whose institutions can afford access to the publisher's PDF will have access to the publisher's PDF; and those who do not will have access to the Green OA peer-reviewed final draft.

Both versions are peer-reviewed and accepted. Hence both have met the requisite quality standards. (And it is likely that once Green OA prevails universally, the Green OA version will be accepted to be the canonical version.)

5) What is your opinion on hybrid journals and how do you see the role of publishers and information providers?

I think [hybrid Gold OA](#) is a Trojan Horse, designed to lock in current publisher prices and revenues and to delay OA until everyone is willing to pay exactly the same price for Gold OA as for subscription OA today. And it enjoys some double-payment in the meanwhile.

Universal Open Access (OA) is fully within the reach of the global research community, at no additional cost: Research institutions and funders need merely mandate (green) OA self-archiving of the final, refereed drafts of all journal articles immediately upon acceptance for publication. The money to pay for gold OA publishing will only become available if universal green OA eventually makes subscriptions unsustainable. Paying for gold OA pre-emptively today, without first having mandated green OA not only squanders scarce money, but it delays the attainment of universal OA.

Harnad, S. (2011) [Gold Open Access Publishing Must Not Be Allowed to Retard the Progress of Green Open Access Self-Archiving](#). *Logos: The Journal of the World Book Community*. 21(3-4): 86-93.

6) According to a study by the UK Open Access Implementation Group, the total cost to the public sector of accessing journal papers is around

£135 million per annum. The direct cost savings that accrue from the availability of Open Access articles (using both Green and Gold routes) amount to £28.6 million (£26 million in access fees and £2.6 million in time savings). What do you think of such economic calculations?

There is no doubt that both Green OA and Gold OA save money. Exactly how much money they save is a matter of conjecture and estimate. But these savings all tend to be calculated in terms of publication costs and savings. This is the publishing tail's economics wagging the research dog: Research is not conducted and funded in order as a service to sustain the research publishing industry: Research publishing is a service-provider for the research community.

Among the many important implications of Houghton et al's (2009) timely and illuminating JISC analysis of the costs and benefits of providing free online access (OA) to peer-reviewed scholarly and scientific journal articles one stands out as particularly compelling: It would yield a forty-fold benefit/cost ratio if the world's peer-reviewed research were all self-archived by its authors so as to make it OA. There are many assumptions and estimates underlying Houghton et al's modelling and analyses, but they are for the most part very reasonable and even conservative. This makes their strongest practical implication particularly striking: The 40-fold benefit/cost ratio of providing Green OA is an order of magnitude greater than all the other potential combinations of alternatives to the status quo analyzed and compared by Houghton et al. This outcome is all the more significant in light of the fact that self-archiving already rests entirely in the hands of the research community (researchers, their institutions and their funders), whereas OA publishing depends on the publishing community. Perhaps most remarkable is the fact that this outcome emerged from studies that approached the problem primarily from the standpoint of the economics of publication rather than the economics of research.

Harnad, S. (2010) [The Immediate Practical Implication of the Houghton Report: Provide Green Open Access Now](#). Prometheus, 28 (1). pp. 55–59.

7) The gradual and slow progress of Open Access is definitely also deeply rooted in authors' behaviors and their reluctance to go Open Access. Publishers argue that subscription costs will not be lowered because the Open Access ratio is so small. What is the main problem and do you have any ideas how it can be solved?

I have already replied to this. There are at least 38 worries holding authors back from Green OA self-archiving, even though *they all want to give away their articles* and even though it brings benefits both to users (in accessing all the articles their institution cannot afford) and authors (in gaining the uptake, usage and impact from the users who could not otherwise afford access to their findings).

All the Zeno-paralytic worries are groundless, but the only way to convince authors it is so is for their institutions and funders to mandate Green OA.

(And of course there is also the conflation in authors' minds between OA and Gold OA, and the worry that in order to provide OA, they must give up their journals of choice and switch to a Gold OA journal.)

Publishers are always trying (understandably, and predictably, as it is a matter of self-interest for them) to argue that un-affordability and access-denial are minimal, hence the benefits of OA (whether in research usage and impact or in financial savings) are minimal. Their arguments are invalid. The evidence both for insufficient access and consequent research impact-loss is broad and deep (see [The effect of open access and downloads \('hits'\) on citation impact: a bibliography of studies](#)) and so is the evidence for economic benefits.

The solution, again, to dispel this publisher anti-OA FUD is for institutions and funders to mandate Green OA. The rest of the transition to the optimal and inevitable will take care of itself quite naturally, of its own accord.

8) You are supporting Open Access but you seem to be critical about Open Data? How come?

I am not at all critical of Open Data: I am strongly supportive of Open Data (and I think that it too is optimal and inevitable).

What I am critical of is needlessly losing years to *over-reaching*, failing to grasp what is already fully within immediate reach, delaying the reachable better for the not-yet-reachable best.

What is fully within immediate reach is global Green Gratis OA, through Green OA mandates from research institutions and funders.

All researchers want all users to be able to access their peer-reviewed research, immediately upon acceptance for publication. Hence all they need is a mandate to make it free for all online.

Not all researchers want their data to be freely accessible to everyone as soon as they publish their first paper on it. There is still the question of

how long the data-gatherer should have exclusive data-mining rights on the data he has gathered. The answer will differ from field to field and project to project. Researchers are not just data-gatherers: they gather data in order to be able to analyze it; they are not gathering it just so others can then analyze it.

The problem is solvable: Some researchers will be happy to release their data right away; others will need more time, sometimes a lot more time. But the point is that OA must not wait for this to be resolved. OA to research articles should be mandated now, not just after agreement has been reached about open data.

Same is true for „Gratis“ OA (free online access) vs. „Libre“ OA (free online access plus certain re-use rights, such as CC-BY):

All authors want to give away their articles free for all, now (Gratis OA). Not all authors want to give away the right to alter and republish their texts, or to create derivative works out of their texts (Libre OA). Some do; some might. These are all complications for whose resolution Green Gratis OA mandates must on no account keep waiting.

And of course the same is true of Gold OA, for which we should certainly not wait.

So it is a great misunderstanding to say I am opposed to any of these things: I am for them all. What I am against is continuing to delay reaching for the universal Green Gratis OA that is already within our grasp, in favor of continuing to over-reach for Libre OA, data OA, Libre OA, the solution to the „serials crisis“ and Gold OA, which are not within reach.

And especially because I am certain that mandating Green Gratis OA first, now, is the fastest, simplest, cheapest and surest way of reaching all those other desiderata too!

9) The serials crisis has been going on even longer than the Open Access and there is no end in sight. Have you signed the Elsevier boycott (<http://thecostofknowledge.com/>) and what do you think about such initiatives? What would you recommend libraries and publishers and authors?

I have definitely not signed the Elsevier boycott. That is yet another case of futile time-wasting and over-reaching.

There are two separate problems, somewhat related but not identical: research accessibility and journal affordability. The two are often conflated and confused (just as OA and Gold OA are conflated and confused).

What is needed is not publisher boycotts but OA mandates. If you want to reform publishing, mandate Green OA and let nature do the rest. Boycotting publishers is spinning wheels (as the year [2000 PLoS boycott threat](#), with over 34.000 signatories, has already shown).

Those signing the Elsevier boycott should instead sign the petition to mandate OA. (Better still, they should themselves provide OA, un-mandated.)

Research access is urgent; journal affordability is not. And having universal Green OA makes journal affordability even less urgent.

Far more important than signing anti-Elsevier boycotts is to shame Elsevier into dropping their incoherent double-talk about their authors' right to provide immediate, un-embargoed Green OA. Since 2004 Elsevier has been Green on Green OA (Elsevier authors retain the right to make their refereed final drafts OA immediately upon publication by posting them on their institutional website.) But lately, spooked by Green OA mandates, they have added a desperate, incoherent clause to try to hedge their bets: „You retain the immediate OA self-archiving right, but you may only exercise the right if your institution does no mandate it.“

So I don't sign anti-Elsevier boycotts, but those boycotts are certainly damaging to Elsevier's image; that is why Elsevier is eager to be on the „side of the angels“ by not trying to oppose Green OA self-archiving. So I prefer to work on [publicly shaming Elsevier](#) into dropping the self-contradictory double-talk in its recent hedging clause.

10) You are also into scientometrics. Bibliometrics and scientometrics are fields which have also come under criticism. Do you believe that the quality of science or impact can be measured by pure, hard figures given the flaws of scientific publishing (e.g. nepotism, self-citing etc.)?

First: have a look at „[On Metrics and Metaphysics](#)“.

Today's closed-access scientometrics are rightly under criticism, for many reasons: the poverty and bias and misleadingness of the one-dimensional „journal impact factor“ and its pre-emptive misuse in research and research evaluation, the monopoly and hegemony of Thompson-Reuters ISI in providing scientometric data, etc.

But that is just today's one-dimensional, ISI-dominated scientometrics, used in naive and un-validated ways.

OA can provide a much richer and more diverse collection of predictors of research impact, influence, direction, importance and progress, but for

that, again, we first need to mandate OA. And then we need to do a lot of systematic work to test and validate predictors:

Scientometric predictors of research performance need to be validated by showing that they have a high correlation with the external criterion they are trying to predict. The UK Research Assessment Exercise (RAE) – together with the growing movement toward making the full-texts of research articles freely available on the web – offered a unique opportunity (which was missed!) to test and validate a wealth of old and new scientometric predictors, through multiple regression analysis: Publications, journal impact factors, citations, co-citations, citation chronometrics (age, growth, latency to peak, decay rate), hub/authority scores, h-index, prior funding, student counts, co-authorship scores, endogamy/exogamy, textual proximity, download/co-downloads and their chronometrics, etc. could all have been tested and validated jointly, discipline by discipline, against their RAE panel rankings in the parallel panel-based and metric RAE in 2008. The weights of each predictor can be calibrated to maximize the joint correlation with the rankings. Open Access Scientometrics will provide powerful new means of navigating, evaluating, predicting and analyzing the growing Open Access database, as well as powerful incentives for making it grow faster. But we need OA first, and then metric validation.

Harnad, S. (2009) [Open Access Scientometrics and the UK Research Assessment Exercise](#). *Scientometrics* 79 (1).

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