

The optimal and inevitable outcome for research in the online age

Stevan Harnad argues that free, online, worldwide access to research is as optimal as it is inevitable, and that publishers will simply have to adapt.



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<http://bit.ly/ReaBEI>

OPEN access (OA) means free, online access to peer-reviewed research. OA's purpose is to make research accessible to all its would-be users worldwide, not just to those whose institutions can afford subscription access to the journal in which it was published.¹

Maximizing Research Impact

To understand the need for OA, we have to remember that the reason research is funded by the public is so that it can be conducted, refereed and reported by researchers, and then accessed, used, applied and built upon by all its potential users. The objective is to generate maximal research uptake, impact and progress – not to generate income for publishers.

Green and Gold OA

There are two ways researchers can provide OA to their articles: by paying to publish them in an OA journal ('Gold OA') which makes articles free for all or by publishing them in a subscription journal and then self-archiving their final, peer-reviewed drafts in their institutional repositories, free for all ('Green OA').² (The most widespread misunderstanding about OA today is to imagine or imply that 'OA' is synonymous with (Gold) OA publishing.)

Most journals today (and almost all the top journals) are subscription journals – and they are not only paid in full for publication through institutional subscriptions, but very well paid.

The Research Accessibility Problem

OA is intended to solve the research accessibility problem: no institution, not even Harvard, can afford to subscribe to all or most journals, and most institutions can only afford a small fraction of them. As a result, research is inaccessible to many of its potential users.³

Green OA solves the research accessibility problem by supplementing the subscription access that institutions can afford with Green OA access to all the research they cannot afford.

Mandating Green OA

Green OA has the further benefit that, unlike Gold OA, it is free of additional cost – the subscribing institutions are already paying in full for the cost of publication. Even more important, Green OA can be and is being mandated (required) by institutions (e.g. Harvard) and funders (e.g. NIH).⁴

Green OA has only reached a little above 20 per cent globally today,⁵ but even in the few subfields (particle



physics, astrophysics) where it has been close to 100 per cent for two decades, it has so far not caused any detectable subscription cancellations.⁵

Publisher OA Embargoes

Where effectively mandated,⁷ Green OA soon rises to 70 per cent and then keeps climbing toward 100 per cent. Globally, however, Gold OA is still under 10 per cent.⁸ Hence, compared to the policy of diverting scarce research funds to pay extra for costly Gold OA, mandating Green OA is cost-free and generates a great deal more OA.

About 60 per cent of journals (including most of the top journals in almost every field) already formally recognise the right of their authors to provide immediate, un-embargoed Green OA. The remaining 40 per cent of journals embargo Green OA for various intervals, claiming that otherwise it would cause subscription cancellations.⁹

Hybrid Gold OA

Some subscription journals have also turned to hedging their bets, offering 'hybrid Gold OA', in which the author can either publish for free or pay a fee for Gold OA.¹⁰ These journals promise that as the uptake of Gold OA rises, institutional subscription fees will be reduced.

Hybrid Gold OA – if forcibly coupled with embargoes on Green OA – is a way that publishers can lock in their current revenue streams come what may. (To their credit, not all or even most of the publishers that offer hybrid Gold OA couple it with a Green OA embargo: Springer journals, for example, are among

the 60 per cent of journals that endorse immediate Green OA, while also offering the hybrid Gold option.)

The Eprint-Request Button

There is, however, a way to minimize the damage caused to research by Green OA embargoes: many Green OA institutional repositories have an automated 'email-eprint-request' button.¹¹ This allows would-be users to request, and willing authors to provide – with one click each – a single copy of an embargoed deposit to an individual requester for research purposes. This is not OA, but it is 'Almost-OA' and can help tide over research needs during OA embargo intervals (as well as hastening the well-deserved demise of OA embargoes, under mounting pressure as mandated Green OA grows globally and its benefits become increasingly palpable to the research community).¹²

Paying Pre-Emptively for Gold OA

Two questions immediately arise: 1. Does it make sense to pay extra today, pre-emptively, for Gold OA, out of scarce research funds, rather than providing Green OA, at no extra cost, while worldwide subscriptions are paying for publication? 2. And is there any justification for publishers imposing OA embargoes on immediate research access in order to guarantee their current subscription revenues and Gold OA asking-prices?

Mandating Green OA First

A much more natural process of evolution toward the optimal and inevitable outcome in the online era is for institutions and funders to mandate that their researchers provide Green OA to the peer-reviewed final draft of all research they have hosted, funded and conducted. Publication costs are currently being paid in full by worldwide institutional subscriptions. If, when Green OA approaches 100 per cent, institutions and their users find that their needs are being adequately met by the Green OA versions, institutions can cancel their journal subscriptions. To cut obsolete costs, journals can phase out both their print and online editions, as well as offloading all access-provision and archiving onto the global network of global Green OA institutional repositories.¹³

Peer Review

That leaves only one essential service for journals to perform: managing the peer review process (the peers review for free). That service alone can then be sold, at far lower cost, on the Gold OA cost-recovery model, but paid for, per paper peer-reviewed, out of institutions' windfall subscription cancellation savings instead of out of scarce research funds.¹⁴

Note that this is post-Green-OA Gold OA – not today's pre-emptive Gold OA. It requires Green OA to be globally mandated and provided first.

The Finch Report and Research Council UK OA Policy

Funders and institutions need to mandate (require) that their authors provide OA. But the worst possible way to do this is to take money out of already scarce research funds and require authors to use it to pay publishers extra money pre-emptively for Gold OA today. That is not only a waste of research resources and unaffordable for most of the world, but it provides an irresistible incentive for subscription publishers to offer 'hybrid Gold', in which they continue to be paid for access via subscriptions, but individual authors may pay them extra to make their own individual article Gold OA.¹⁰

Yet this is what the Finch Report¹⁵ and the new RCUK OA Policy,¹⁶ influenced by both the (huge) subscription publisher lobby and the (much smaller) Gold



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The graphic features the word 'rebus' in a white, lowercase, sans-serif font against a solid orange background. Below the text is a stylized graphic of four white, rectangular blocks of varying heights and widths, arranged in a row and slightly overlapping, resembling a rebus puzzle. The entire graphic is set against a white background.

OA publisher lobby, are proposing to do in the UK.¹⁷

The UK Makes and the World Takes

The proposed new RCUK policy stipulates that researchers may only publish in a journal that either offers Gold OA or Green OA (immediate, or within a maximal allowable embargo of six months), and if the journal offers both the RCUK author must choose and pay for Gold. This creates a strong incentive for subscription journals to offer Hybrid Gold and to increase their Green OA embargoes beyond the allowable limit. Not only does RCUK policy restrict UK authors' choice of journal (based on the journal's business model rather than its quality); and not only does it divert scarce UK research funds from funding research to paying publishers extra for Gold; but the strong incentive for publishers worldwide to offer hybrid Gold and embargo Green also weakens Green OA mandates in other countries that cannot afford to subsidize Gold OA out of research funds.

The UK, which publishes only six per cent of the world's research output, in forcing its researchers to pay for Gold OA, not only makes Green OA harder to mandate for the remaining 94 per cent of worldwide research, but it thereby makes it harder for UK researchers to access that remaining 94 per cent too. OA, after all, is not just needed for outgoing research, but for incoming research too.

The Publisher Lobby

What is really behind this perverse outcome is that those publishers who are embargoing Green OA and lobbying against Green OA mandates¹⁸ are trying to prevent (or delay as long as possible) the optimal and inevitable outcome for research – in order to protect their current inflated revenue streams and obsolescent ways of doing things from having to adapt to the online era and its full power and potential for research and researchers. Publicly funded research and research progress is being held hostage by an industry whose addition of value to research (apart from managing peer review) is approaching zero.

It is a case of the publishing tail wagging the research dog.

The Immediate-Deposit/Optional-Access (ID/OA) Mandate

But there is an extremely simple way for RCUK to fix the fatal flaws in its OA mandate: simply drop the requirement to choose Gold OA over Green OA. And stop worrying so much about Green OA embargoes.

The way to immunise all institutional and funder mandates against any publisher interference while also minimising the effects of publisher OA embargoes is to adopt the Immediate-Deposit/Optional-Access (ID/OA) Mandate.¹⁹ ID/OA requires the immediate deposit of the author's peer-reviewed final draft of all articles, but only recommends rather than requires that access to the immediate deposit be made OA immediately. For embargoed deposits, the 'Almost-OA' Button is enough for now.²¹ Together, universally mandated ID/OA + the Button will generate at least 60 per cent immediate-OA + 40 per cent Almost-OA today.⁹ And the globally growing sense of the power and benefits of OA that it will propagate, together with human nature, will ensure that embargoes become extinct soon thereafter.

The outcome will be as optimal as it is inevitable.²⁰ And publishers will no longer be able to delay it once ID/OA is universally mandated: they will simply have to adapt. [J]

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