Open access – an academic perspective

Stephen Curry | Professor of Structural Biology | Imperial College London | Coimbra Workshop | 4 Nov 2016
The big question

How do we set Open Access to be the default?

(Or, how to we get academics to take open access policies seriously?)
Open access – a good fit to academic culture but there are tensions

technological change: access to information
cultural change (e.g. societal, academic)
policy change (driven by economics, but also govt transparency & public engagement...?)
Researchers are focused on research...

Scholarly-Communication Reform: Why Is it So Hard to Talk About, and Where are the Authors?

Readers of the Scholarly Kitchen (or of any number of professional listservs, magazines, journals, etc.) may have noticed that questions about scholarly-communication reform tend to be, shall we say, vexed and controversial. Having participated in these conversations for 20 or so years now, and having recently gotten home from a conference that dealt specifically with such questions, I've been thinking a lot about why feelings run so high when we talk about them. I think some of the reasons would include the following:

1. They are tied up in troublesome questions of right and wrong. When Person A speaks of the public's right to have access to scholarly products that were created on the public's dime, he's invoking a moral principle: that charging for access to such products...
Some researcher reactions to open access...

See it primarily as a service to science (so what’s the problem?)

Does the public need access? Are they capable of understanding?
   Ask patient groups, citizen scientists, science bloggers, journalists...

Are open access mandates an infringement of academic freedom?
Researchers are sympathetic but compliance and costs are issues

Can we make open access cost-effective?
Cost-benefits of journals (and their impact factors)

Nature Communications - $5200
Cell Press - $5000
Science Advances (w. CC-BY) - $4600

We academics like journals: disciplinary support, filtering, reputation & career points...

...but we need to think hard about the costs of the present system
Full analysis needs to encompass all the costs

Costs:
Speed
Reproducibility
  Journal bias to novel, positive results
Scientific fraud...

Issues of trust and reliability: can they be addressed via open access, open review, open data?
The problems are well known – but how do we change behaviour?
Declarations are not enough

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are life, liberty and the pursuit of happiness.

Hancock, J. et al. (1776)

“The principle that the results of research that has been publicly funded should be freely accessible in the public domain is a compelling one, and fundamentally unanswerable.”  
Dame Janet Finch (2012)

“All scientific papers should be freely available by 2020...”  
Commissioner Carlos Moedas (2016)
Policies can help, but need careful handling & communication...

From April 2016: To be eligible for submission to the post-2014 REF, authors’ outputs must have been deposited in an institutional or subject repository.”
Good practices don’t spread by themselves (or by exhortation, or by sanctions...)

Why was Anaesthesia adopted more rapidly than Antisepsis?

“First, one combatted a visible and immediate problem (pain); the other combatted an invisible problem (germs) whose effects wouldn’t be manifest until well after the operation.

“Second, although both made life better for patients, only one made life better for doctors.”

“People talking to people is still how the world’s standards change.”
Academic initiatives to combat cultural impediments

Can openness change behaviour?

Impact factor: a measure of the frequency with which the “average article” in a journal has been cited in a particular year or period. The impact factor is calculated by dividing the number of current year citations to source items published in that journal during the previous 2 years.

Immediacy Index: the average number of times an article is cited in the year it is published.

Cited half-life: the number of years, going back from the current Journal Citation Reports (JCR) year, that account for 50% of citations received by the journal in the current JCR year.

A simple proposal for the publication of journal citation distributions

Although the Journal Impact Factor (JIF) is widely acknowledged to be a poor indicator of the quality of individual papers, it is used routinely to evaluate research and researchers. Here, we present a simple method for generating the citation distributions that underlie JIFs. Application of this straightforward protocol reveals the full extent of the skew of these distributions and the variation in citations received by published papers that is characteristic of all scientific journals. Although there are differences among journals across the spectrum of JIFs, the citation distributions overlap extensively, demonstrating that the citation performance of individual papers cannot be inferred from the JIF. We propose that this methodology be adopted by all journals as a move to greater transparency, one that should help to refocus attention on individual pieces of work and counter the inappropriate usage of JIFs during the process of research assessment.
Academic initiatives to combat cultural impediments

Mike Taylor
“It feels morally wrong, given the capacity we have to do that, not to do it.”

Alexandra Elbakyan

Open Pledge

Version presented at OpenCon 2015:
My pledge to be open:
- I will not edit, review, or work for closed access journals.
- I will blog my work and post preprints, when possible.
- I will publish only in open access journals.
- I will not publish in Cell, Nature, or Science.
- I will pull my name off a paper if coauthors refuse to be open.
- I will share my code, when possible.
- I will share my raw and processed data, when possible.
- I will practice open notebook science, when possible.
- I will ask my professional society to support open access.
- I will speak out about my choices.

https://emckiernan.wordpress.com/pledge/
Institutional initiatives

Evaluating how we evaluate

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ABSTRACT Evaluation of scientific work underlies the process of career advancement in academic science, with publications being a fundamental metric. Many aspects of the evaluation


Researcher assessment at UMC Utrecht

1. Research, publications, grants
2. Managerial responsibilities & academic duties
3. Mentoring & teaching
4. Clinical work (if applicable)
5. Entrepreneurship & community outreach
We need to talk about **open access** as a good in itself.

**Access**

**Pre-prints (for speed)**

**Open peer review**

**Largest possible audience (sharing & scrutiny)**

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**Data sharing (sharing & scrutiny)**

**Better for addressing societal problems**

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**Keep authors in the picture**

**Simple rewards for good behaviour**
We need to talk about open science as a good in itself

These activities tell researchers about:
New (non-traditional) audiences & scientists

Communication + Participation = Public Trust
After Brexit, we need to reassert the values of the academy...

“We have to go public. We have to be open.”

“People in this country have had enough of experts.”

Personally, never thought of academics as ‘experts’. No experience of the real world.
Open access & open science: keep the faith – and keep talking about it

It’s *not* the answer to everything but OA is an opportunity to show:

- that openness is part and parcel of the noble calling to be an academic
- how the academy is relevant to people’s lives
- that we care about delivering value for money
- that open science is better science (e.g. how the transparency of openness leads to more rigorous research)

[Image: The Incredulity of Saint Thomas, Caravaggio](http://www.caravaggio.org/the-incredulity-of-saint-thomas.jsp)
Thank You

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