

THE COST OF KNOWLEDGE BOYCOTT AND THE FUTURE OF ACADEMIC PUBLISHING

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THE ISSUES

- COST OF KNOWLEDGE BOYCOTT AND ITS PRECEDENTS
- WHY THE CURRENT MODEL IS FAILING ACADEMICS
- NEW IDEAS AND INITIATIVES

ACADEMIC SPRING

- 21 January 2012: Tim Gowers announces on his blog that he will no longer “*have anything to do with Elsevier journals*”
- 23 January 2012: Tyler Neylon sets up *Cost of Knowledge* website: boycott has grown to over 13,000 names (including 21 from McMaster)
- 27 February 2012: Elsevier withdraws support for RWA and bill dies
- mid-2012: UK, EU governments decide all publicly funded scientific research *must* be freely available



So I am not only going to refuse to have anything to do with Elsevier journals from now on, but I am saying so publicly. I am by no means the first person to do this, but the more of us there are, the more socially acceptable it becomes, and that is my main reason for writing this post.

The image shows a screenshot of the "The Cost of Knowledge" website. The main heading is "The Cost of Knowledge" in green. Below it, it says "13012 Researchers Taking a Stand. [See the list](#)". There is a paragraph of text: "Academics have protested against Elsevier's business practices for years with little effect. These are some of their objections:" followed by a numbered list of three points. Below the list is a paragraph: "The key to all these issues is the right of authors to achieve easily-accessible distribution of their work. If you would like to declare publicly that you will not support any Elsevier journal unless they radically change how they operate, then you can do so by filling in your details on this page." Below that is "More information:" with two bullet points: "Statement of Purpose" and "PolyMath journal publishing reform page". At the bottom, it says "Read our blog, and follow the boycott on Twitter [here](#)." On the right side, there is a green sign-up form titled "Add your name to the list." with fields for "First and Last Name", "Affiliation", "Email", "Subject" (with a dropdown menu showing "Mathematics"), "Comments" (with a note "only used once to verify your identity; never displayed, never shared"), and "Link" (with a note "such as a link to a blog post of yours explaining your position"). Below the form, it says "I plan to refrain from:" with checkboxes for "publishing", "refereeing", and "editorial work". At the bottom of the form is a button "Add My Name". At the very bottom of the page, there are social media icons for Facebook, Twitter, and Google+.

A LONG STRUGGLE

Notices of the AMS, May 2007

Jumping Ship: *Topology* Board Resigns

Allyn Jackson

"Why should one spend one's life maintaining a top-class journal—for Elsevier?" This rhetorical question, posed by Martin Bridson of Imperial College London, expresses one strong current of feeling within the mathematical community. Bridson

together large numbers of journals—even a couple of thousand, in Elsevier's case—and sell them to institutions for a single price. Around this time, the perception deepened within some segments of the mathematical community that Elsevier

- 1990s: efforts by Rob Kirby, Donald Knuth, etc.
- 2000: 34,000 signature boycott led to *PLoS* electronic journals (*now biggest biomedical journals in the world*)
- 2007: resignation of editorial boards of *Topology*, *K-theory*

THIS TIME IS DIFFERENT

- Huge press attention (especially *The Guardian*)
- Advances in technology provide other options
- Behaviour of commercial publishers increasingly egregious
- Governments and funding agencies realize they are not getting value for money (*PubMed Central* example)




THE CASE AGAINST ELSEVIER

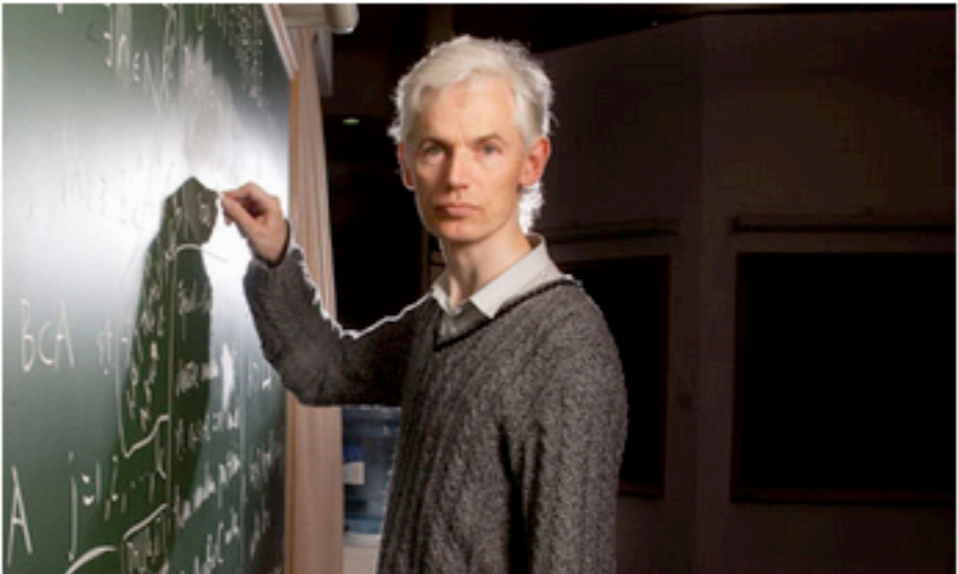
- Exorbitant costs (about \$7000 per article, compared with \$7 for arXiv), huge profits (36%), abusive negotiating tactics with libraries (e.g. *bundling*)
- Claims scientists “work” for *Elsevier* and that *Elsevier* “owns” research published in their journals
- Lobbies for restrictive intellectual property legislation (*RWA, PIPA, SOPA,...*)
- Unfair, vague and confusing copyright policies (e.g. “*Sponsored Article*”)
- Unethical publishing practices...

Series: The networker

Academic publishing doesn't add up

The world of university research has long been held to ransom by academic publishers charging exorbitant prices for subscriptions – but that may all be about to end

 **John Naughton**
The Observer, Sunday 22 April 2012
[Jump to comments \(69\)](#)



Tim Gowers, the Cambridge mathematician taking a stand against the big names behind academic journals. Photograph: Karen Robinson

As one of the characters in George Bernard Shaw's *The Doctor's Dilemma* observes: "All professions are conspiracies against the laity." To

UNETHICAL PRACTICES

- Coercive citation to increase impact factor
- Restricting re-use and distribution of knowledge (*prevents text mining*)
- Falsifying publication times (*revise and resubmit*)
- Stealing content (*re-sell images*)
- Fake journals (e.g. *Chaos, Solitons & Fractals, Australasian Journal of Bone & Joint Medicine,...*)
- Paying authors to write enthusiastic reviews of their own books on Amazon

Before the figures, there should be pages listing the figure captions, double-spaced also. Do not capitalize every word.
21. You must cite, and include in the references, some JFS papers, including some published recently (in 2010 and 2011).

Sauropod Vertebra Picture of the Week

SV-POWI ... All sauropod vertebrae, except when we're talking about Open Access

Dear Royal Society, please stop lying to us
about publication times

October 3, 2012

« [Springergate: rebadging and reselling Wiley content](#)
[#springergate: update from Bettina Goerner and some "explanations"](#). I urge that scientific images should be FREE - as in speech - for everyone. »

Springergate: Systematic "copyglitch" appropriation of Wikimedia content

Australasian Journal of Bone & Joint Medicine

I have
relabel
heard
in m

From Wikipedia, the free encyclopedia

The *Australasian Journal of Bone & Joint Medicine* (originally titled the *Australasian Journal of Musculoskeletal Medicine*^[1]) was a periodical presented in the style of a scientific journal, published by Elsevier but established and funded by pharmaceutical company Merck. Publication began in 2002,^[1] and the last known issue appeared in 2005.^{[2][3]} According to *The Scientist*.

THE CASE AGAINST THE BOYCOTT

- It's not worth my time worrying about it (*apathy*)
- They're all just as bad
- *Elsevier* saves small math journals when it buys publishers
- Unfair to colleagues who are editors and submit articles
- Harms junior colleagues who *must* publish in high-ranked *Elsevier* journals for tenure and promotion

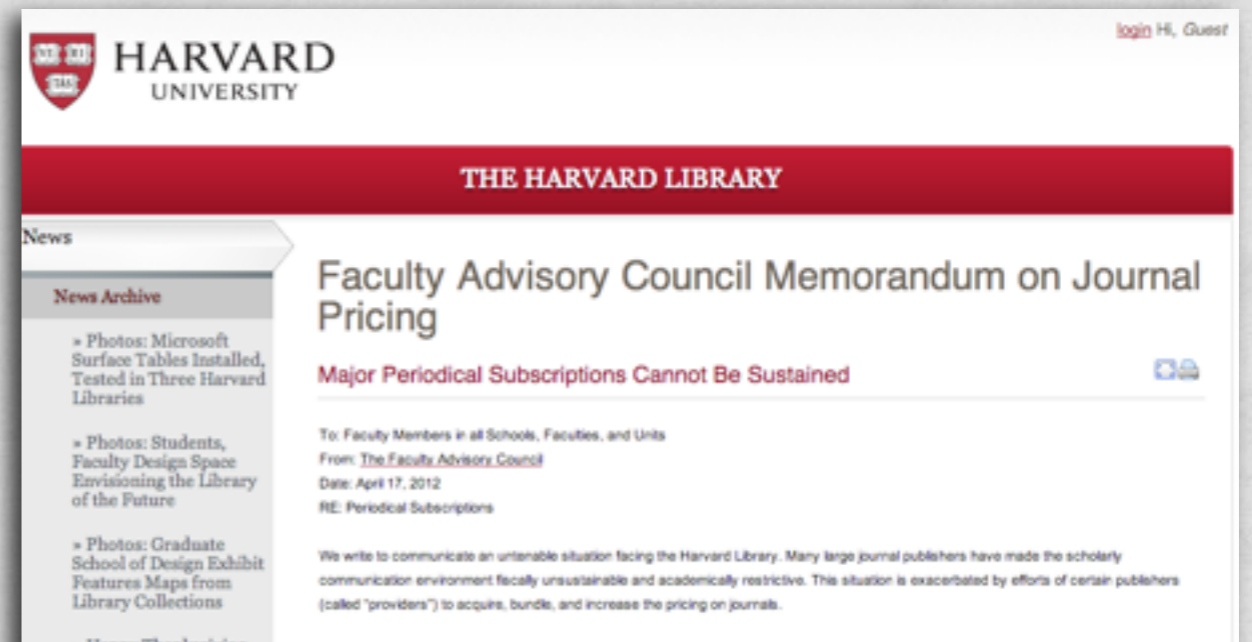
THE BASIC PROBLEM

- Interests of publishers and academics *not* aligned
- **Publishers** make money by controlling access to knowledge they have not created and have obtained for free (*break into components “monetized” separately*)
- **Academics** (*and funding agencies*) want knowledge they have created (*or funded*) freely accessible

*The goal of the boycott is not to make Elsevier change,
but to encourage scientists to publish in ways that help,
rather than harm, science and scientists*

WHY A CRISIS NOW?

- Publishers taking advantage of technology to restrict access, re-sell content and control use
- Costs unsustainable for libraries
- Publishers now provide little (*essential*) value added
- Cheaper alternatives now available (e.g. *free journal management systems like Annotum, PKP*)



2. Consider submitting articles to open-access journals, or to ones that have reasonable, sustainable subscription costs; move prestige to open access (F).





WHY DOES OPEN ACCESS MATTER?

- Per article access is *prohibitive*: \$30-\$50
- Not all universities subscribe to all journals
- Cannot substitute accessible article for inaccessible one!
- General public, civil servants and journalists needs to evaluate scientific literature directly (e.g. *medicine, public health, ecology, climate change, transportation, urban planning, ...*)
- (Small) businesses need access to latest research

*Paywalls severely limit
the impact of scientific research*

WHAT IS OPEN ACCESS?

Reader Rights	Reuse Rights	Copyrights	Author Posting Rights	Automatic Posting	Machine Readability	Access
Free readership rights to all articles immediately upon publication	Generous reuse & remixing rights (e.g., CC BY license)	Author holds copyright with no restrictions	Author may post any version to any repository or website	Journals make copies of articles automatically available in trusted third-party repositories (e.g., PubMed Central) immediately upon publication	Article full text, metadata, citations, & data, including supplementary data, provided in community machine-readable standard formats through a community standard API or protocol	 OPEN ACCESS
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WHAT'S NEXT?

- New *economic models* to fund evaluation, distribution, and archiving of scientific knowledge under open access
- New *forms* of academic communication

WHO PAYS?

- **Current model** subscription (*usually bundled*) paid by libraries, often **Some “Diamond” journals** paid by authors. (*Elsevier, Springer*)
of all scientific articles in

Homology, Homotopy and Applications, 1991
The New York Journal of Mathematics, 1994,
The Electronic Journal of Combinatorics, 1994

Open Access Policy

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Discrete Mathematics and Theoretical Computer Science, 1997
Journal of Graph Algorithms & Applications, 1997
INTEGERS, 2000
Theory of Computing, 2005
Ars Mathematica Contemporanea, 2008
Contributions to Discrete Mathematics, 2006
Journal of Computational Geometry, 2010

ACADEMIC PUBLISHING IN FLUX

- Publishers trying to impose “gold” model for Open Access
- Currently ranges from \$120 (*scholarly society*) to \$3000 (*Elsevier*) per article
- *PeerJ* has lifetime deal of one paper per year for \$99!
- Publishers now recruiting authors (*predatory/vanity publishers*)



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Scientific publishing
Brought to book
Academic journals face a radical shake-up
Jul 21st 2012 | from the print edition

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IF THERE is any endeavour whose fruits should be freely available, that endeavour is surely publicly financed science. Morally, taxpayers who wish to should be able to read about it

ALTERNATIVES TO AUTHOR-PAYS

- **Archive** subject-based repositories funded by subscription, run as non-profits by scholarly societies (e.g. *arXiv, PubMed Central*)
- **Peer-review** direct commercial support, indirect institutional support, direct government support
- Differential pricing based on use
- Change tenure and promotion to favour quality over quantity (*current system encourages unlimited production*)

WHY DO WE PUBLISH IN JOURNALS?

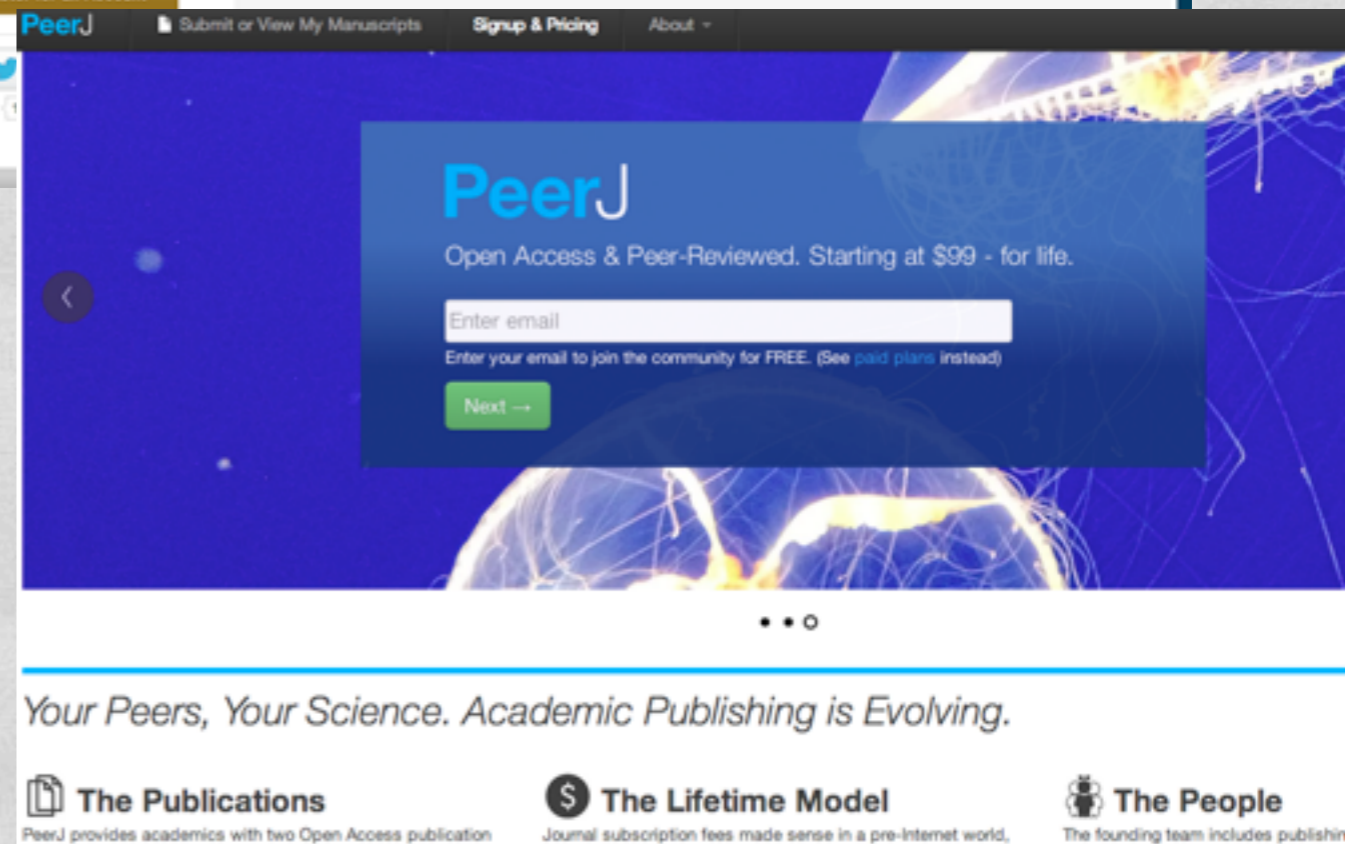
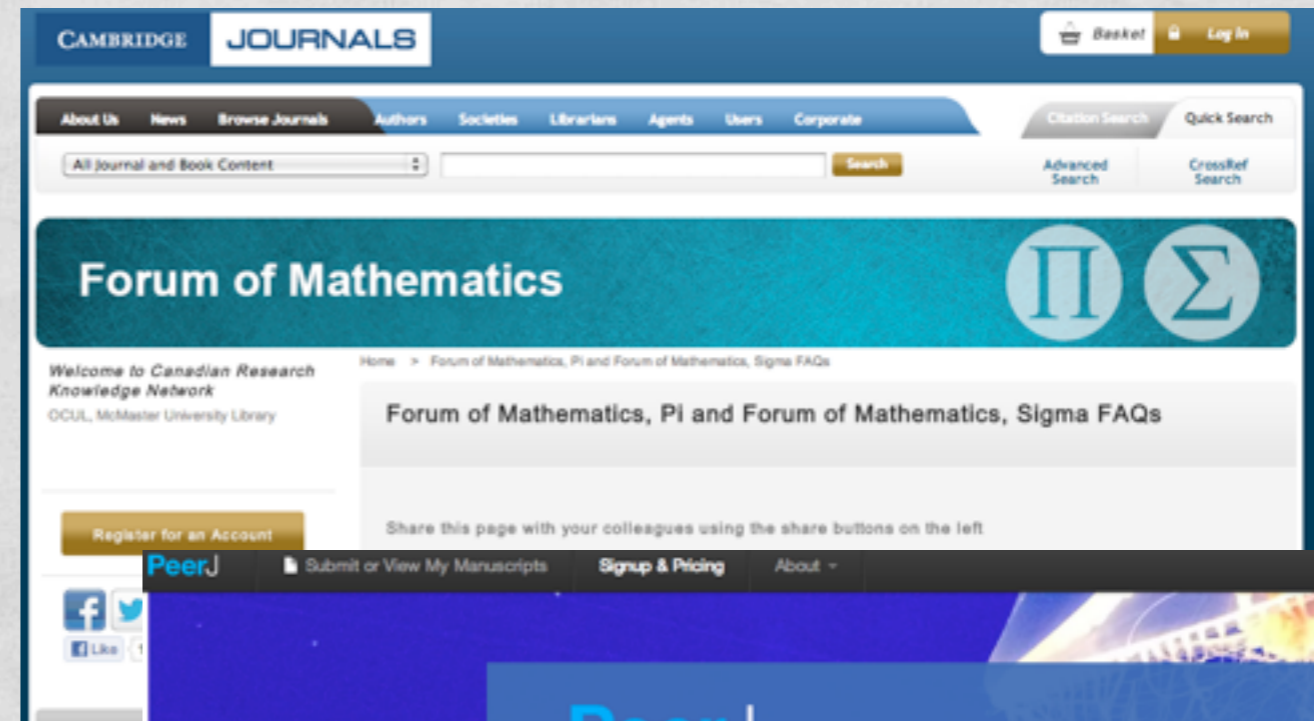
- Communicate research results and ideas? NO!
- Archive research results and ideas? NO!
- Highlight really important ideas? NO!
- Quality control? YES (*somewhat*)
- Tenure, promotion and funding decisions? YES, YES and YES!

“Do we really want the editorial boards of Nature and Science to determine billions of dollars of research funding and tenure and promotion decisions for the entire world?”

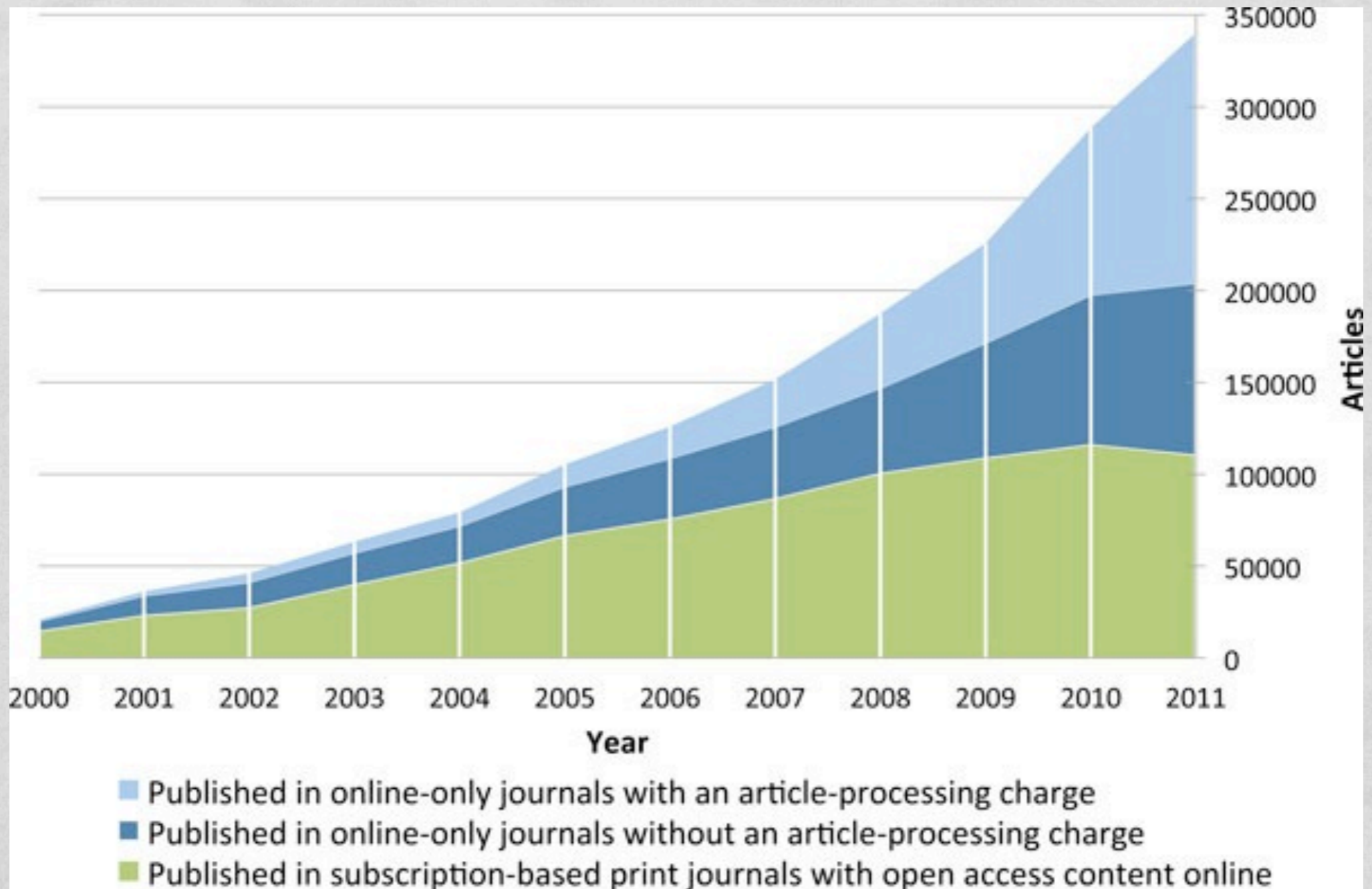
- Geoffrey Bodenhausen, Chemist, ENS/EPFL

FIRST STEPS

- Electronic only
- Multimedia
- Continuous publication
- ArXiv overlay journals (*Episciences*)
- Multiple subjects with separate editorial boards
- Multiple, hierarchical quality labels (*given by different editorial boards*)



RISE OF OPEN ACCESS PUBLISHING



MORE RADICAL CHANGES

- Open and continuous peer-review; revisions submitted in response to reviews
- Reviews submitted *after* publication (*no reason not to publish all papers*)
- *Anyone* can submit a review, *anyone* can read reviews
- Important papers accumulate reviews over time
- Uninteresting papers do not go through expensive peer-review

EVEN MORE RADICAL

- Open science: science done collaboratively online
- Process of discovery is visible
- Problem: how to share “credit” for ideas
- (Why) does it matter?

The polymath blog

September 10, 2012

Polymath7 research threads 4: the Hot Spots Conjecture

Filed under: [hot spots](#), [research](#) — Terence Tao @ 7:28 pm

It's time for another rollover of the [Polymath7 “Hot Spots”](#) conjecture, as the [previous research thread](#) has again become full.

Activity has now focused on a numerical strategy to solve the hot spots conjecture for all acute angle triangles ABC . In broad terms, the strategy (also outlined in this document) is as follows. (I'll focus here on the problem of estimating the eigenfunction; one also needs to simultaneously obtain control on the eigenvalue, but this seems to be to be a somewhat more tractable problem.)



Recent Comments



Chris Evans on
[Polymath7
research
threads 4: ...](#)



Pytha on [How
to use LaTeX](#)

THE STAKES ARE HIGH

- Open access threatens established interests
- US federal government charged Swartz for downloading millions of files from *JSTOR*
- Swartz faced 35 years prison despite *JSTOR* opposing prosecution!
- *JSTOR*'s goal is "to foster widespread access to the world's body of scholarly knowledge"
- Swartz drafted *RSS*, co-founded *Reddit*, launched campaign against *SOPA/PIPA* and was an architect



Many JSTOR Journal Archives Now Free to Public

By [Meredith Schwartz](#) on January 9, 2013 [20 Comments](#)

The archives of more than 1,200 journals are now available for limited free reading by the public, [JSTOR](#) announced today.

Library Journal

[post](#) on INFOdocket.com.

Wikipedia image

Aaron Swartz (November 8, 1986 – January 11, 2013)

CONCLUSIONS

- Current system unsustainable, harms academics
- Funding agencies forcing shift to *Open Access*
- Publishing becomes *service* not *product* industry
- Economic model for academic publishing in flux
- New technologies enable academic communication not tied to traditional journal model