



OxFOSS

Oxford Forum of Open Scholarship

Welcome to our in-person conference day

Wednesday 4 March 2026, 10:00-18:00



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Oxford Forum of Open Scholarship

Keynote lecture: Benevolent and malevolent unintended consequences of open science

Wednesday 4 March 2026



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Benevolent and malevolent unintended consequences of open science

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University of Oxford

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Open research practices

- Open access: freely available publications
- Open sharing of data/scripts
- Open peer review

Overview of intended/unintended consequences

OPEN ACCESS

Open access publishing: advantages

“The bottom line is very simple: we want the science we fund to have the maximum impact, and it can only have the maximum impact if it has the maximum distribution. It’s as simple as that ... Using the internet, we can actually make scientific research accessible – or available at any rate – to anyone who has an internet connection.”



Sir Mark Walport, 2012

Open access publishing: advantages

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Sir Mark Walport, 2012

We do this
not because it is easy

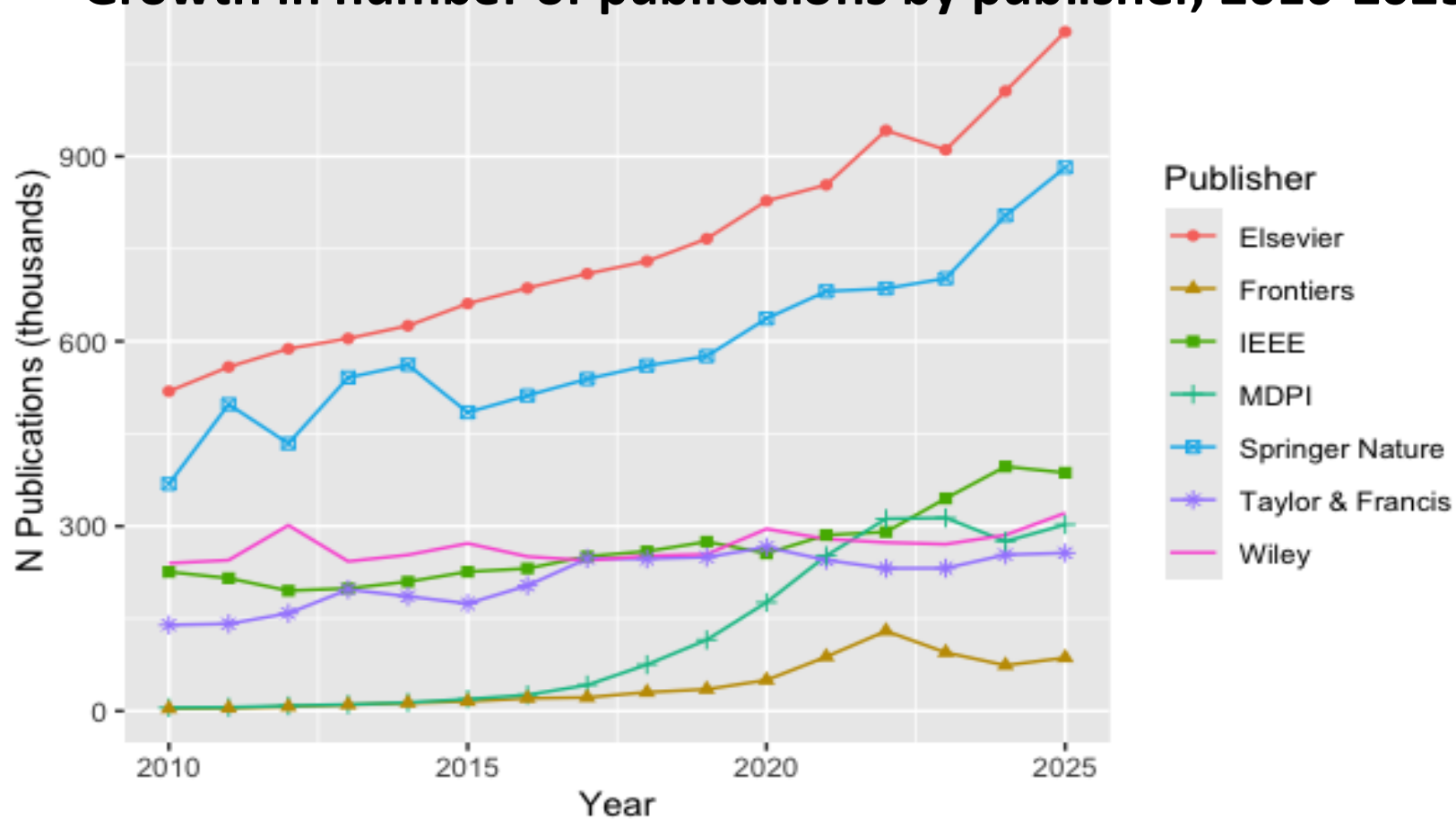
But because
we thought it would be easy

Open access publishing - Disadvantages

- “the Open Access movement aimed to make knowledge freely accessible, publishers found ways to shift paywalls from readers to authors” (Beigel et al, 2025)
- Who pays? Problems for authors in low-income countries
- Incentive for publishers to publish anything for a fee – may have driven massive increase in published papers

Beigel, F., et al. (2025). *The drain of scientific publishing* (arXiv:2511.04820).
<https://doi.org/10.48550/arXiv.2511.04820>

Growth in number of publications by publisher, 2010-2025



data from Dimensions.ai

Estimated APCs, millions USD, selected publishers (Beigel et al, 2025)

	2019	2020	2021	2022	2023
Elsevier	137	187	322	403	583
Frontiers	89	132	230	331	258
MDPI	168	306	501	657	682
Springer Nature	251	329	429	478	547
Wiley	101	167	182	255	429

Beigel, F., et al. (2025). *The drain of scientific publishing* (arXiv:2511.04820).

<https://doi.org/10.48550/arXiv.2511.04820>

Open access publishing – What went wrong?

Need to consider: who might try to block a new development and why?
who might try to exploit it?

- Problems are with the publishing system, rather than with Open Access per se.
- Beigel et al (2025) recommend looking at community-governed publication models developed in Latin America.

“in Latin America, the majority of journals are still sustained by public universities. As a result, thousands of autonomous, community-led, diamond Open Access journals still thrive outside the publishing oligopoly”

Open sharing of data/scripts

Open sharing of data/scripts - Advantages

- Reuse of data, in meta-analyses and to answer new questions
- Learning opportunities of working through real scripts
- Checking reproducibility

Requirement for a replication package has become common in some disciplines, esp. Economics

The logo for The Econometrics Journal, featuring the text "The Econometrics Journal" in a serif font on a yellow background, with a black horizontal bar below it containing a white hamburger menu icon.

The
Econometrics
Journal

Replication policy

“It is an integral and essential part of scientific investigation that results are easily replicated. We will only publish papers if they are accompanied by a complete replication package.”

Open sharing of data/scripts - Disadvantages

- Confidentiality concerns:
 - though deidentification/synthetic data may fix this
- Time costs of making data/scripts open and usable
- Potential misuse of data

Measles-mumps-rubella vaccination timing and autism among young african american boys: a reanalysis of CDC data

Research | [Open access](#) | Published: 27 August 2014

Volume 3, article number 16, (2014) [Cite this article](#)

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[Brian S Hooker](#) 

 160k Accesses  20 Citations  1255 Altmetric  94 Mentions

[Explore all metrics](#) →

 This article was [retracted](#) on 03 October 2014

Hooker divided up CDC data on MMR vaccination in numerous ways, until he found an age x race subgroup and time period showing link with autism.

Paper later retracted.

But genie out of the bottle – feeds a conspiracy theory that CDC suppressed data

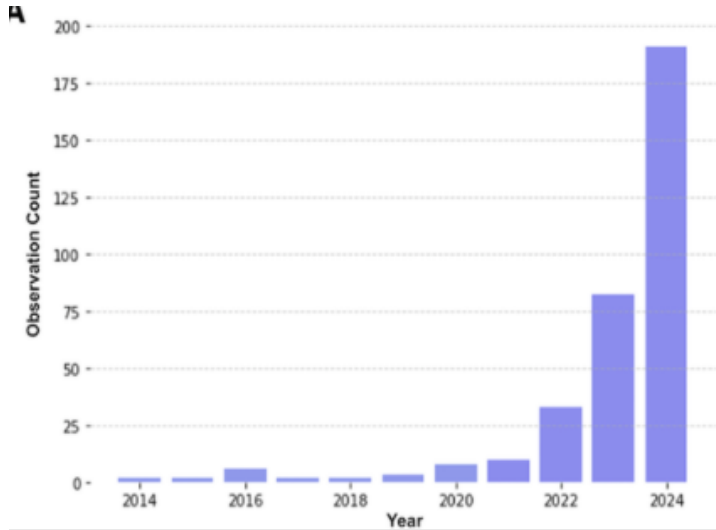


The New York Times

Genetic Data From Over 20,000 U.S. Children Misused for 'Race Science'

The National Institutes of Health failed to protect brain scans that an international group of fringe researchers used to argue for the intellectual superiority of white people.

A more recent phenomenon: GenAI-assisted “fast churn science”



- Explosion in formulaic papers from large openly available dataset: NHANES
- Numerous possible combinations of association of condition X with measurement Y in subgroup Z
- Abusing open data: intended as a “public good” but literature flooded with uninformative articles
- Likely to be due to paper mills – will sell authorship for money

Suchak, T., et al (2025).. *PLOS Biology*, 23(5), e3003152. <https://doi.org/10.1371/journal.pbio.3003152>

Maupin, D., Spick, M., & Geifman, N. (2025). *PLOS Medicine*, 22(12), e1004851.
<https://doi.org/10.1371/journal.pmed.1004851>

Should we backtrack on open data?

May need more gatekeeping by third parties – but not a return to “data available on request”

One model suitable for very big sensitive datasets:
Open Safely



A platform for analysing large, sensitive datasets – safely and securely

OpenSAFELY is built, managed and maintained by a [team](#) at the [Bennett Institute, University of Oxford](#), with [NHS England](#), [TPP](#), [Optum](#), and a community of collaborators around the UK.

**Unintended benefit of open data:
can help detect falsified or fabricated data**

Prevention of acute myocardial infarction induced heart failure by intracoronary infusion of mesenchymal stem cells: phase 3 randomised clinical trial (PREVENT-TAHA8)

BMJ 2025 ; 391 doi: <https://doi.org/10.1136/bmj-2024-083382>

(Published 29 October 2025)

Cite this as: *BMJ* 2025;391:e083382

[Article](#)

[Related content](#)

[Metrics](#)

[Responses](#)

[Peer review](#)

Data availability statement

De-identified individual participant data underlying the results reported in this article are available through the Figshare sharing platform (<https://doi.org/10.6084/m9.figshare.29375153.v2>).

Suspicious raw data (from Figshare)

Immediate issue detected: Age column (see initial rows below, rotated)

- Selection criteria: “Only patients aged below 65 years with impaired LV function (LVEF < 40%) will be included”.
- Text states 340 patients excluded because they were older than 65 yrs.
- Yet mean and SD of age computed from column B match those in the article.

A	B
obs_id	Age
295	53
244	64
106	66
206	52
376	46
23	64
174	57
375	51
175	57
337	45
195	57
55	55
269	65
317	67
386	60
14	72
70	71
165	66
291	48
127	64
139	67
164	66
7	67
30	42
51	64
79	73
105	57
124	68
...	..

Prevention of acute myocardial infarction induced heart failure by intracoronary infusion of mesenchymal stem cells: phase 3 randomised clinical trial (PREVENT-TAHA8)

BMJ 2025 ; 391 doi: <https://doi.org/10.1136/bmj-2024-083382>



65 comments on PubPeer (by: Nicholas J. L. Brown, Dorothy V.M. Bishop, Thomas Kesteman, Myrothecium Inundatum, Matthias Wjst, Gideon Meyerowitz-Katz, Mark J Bolland, Ioana A Cristea, Brownea Leucantha, Sophie Hill, Armin Attar, Streptomyces Rosealbus, Marivita Byunsanensis, Hypericum Lysimachioides, Ixodes Brunneus, Ben Carter, P.T Wilmshurst, Hydraena Bolivari, Leptonema Columbianum, Takifugu Bimaculatus, Apibacter Adventoris, Idaeia Leptochoyta, Arpema Megalopia)

(Published 29 October 2025)

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Article

Related content

Metrics

Responses

Peer review

Suspicious raw data (ctd.)

Repeating blocks of data every 101 cases; found after sorting by ID
This persists for all 396 rows.

A	B	O	P	Q	R	S	T
obs_id	modID,101	WBC	Hb	Plt	BUN	Cr	Na
101	0	10	14.2	228	11	0.9	143
202	0	10	14.2	228	11	0.9	143
303	0	10	14.2	228	11	0.9	143
1	1	9.9	15.9	160	12	0.9	142
102	1	9.9	15.9	160	12	0.9	142
203	1	9.9	15.9	160	12	0.9	142
304	1	9.9	15.9	160	12	0.9	142
2	2	9.7	12.6	258	16	1.1	140
103	2	9.7	12.6	258	16	1.1	140
204	2	9.7	12.6	258	16	1.1	140
305	2	9.7	12.6	258	16	1.1	140
3	3	9.6	12.3	220	12	0.9	141
104	3	9.6	12.3	220	12	0.9	141
205	3	9.6	12.3	220	12	0.9	141
306	3	9.6	12.3	220	12	0.9	141

EXPRESSION OF CONCERN: Prevention of acute myocardial infarction induced heart failure by intracoronary infusion of mesenchymal stem cells: phase 3 randomised clinical trial

BMJ 2025; 391 doi: <https://doi.org/10.1136/bmj.r2388> (Published 12 November 2025)

text from BMJ
webpage

What happened after publication

....*The BMJ* was alerted to post-publication discussion raising concerns about a variety of issues; some issues were apparent from the data that support the paper, and are linked to from the article. Examples of the issues identified include irregularities in the data, concern about the inclusion of participants who did not meet the age criteria specified in the study, and concerns about undeclared conflicts of interest and authorship.

Reason for expressing concern

The editors judge that the trial may have breached accepted practices and that the results may not be reliable.

Further actions

The BMJ's content integrity team will take up the concerns with the authors, and investigate fully— involving institutions and regulatory authorities as necessary. The authors have informed the journal that an auditable replacement dataset has been prepared and will be made available to *The BMJ*. *The BMJ* will update this notice and make a decision about what post-publication change to the content is needed.

Serious fraud in a trial with implications for patient safety would NOT have been detectable without:

Open data

supplemented with:

Trial pre-registration

Open peer review

Post-publication peer review

Open peer review

Open peer review

Three aspects:

- WHAT is open? Actual reviews and/or names of reviewers
- TO WHOM is it open? Just the editor/authors or publicly available
- WHEN is the review done? Pre-publication or post-publication?

My particular focus:

Open reviews (ideally with reviewer ID)

Published with article

Open peer review - Disadvantages

Disadvantages

- Hard to find reviewers
- Reviewers fear retaliation
- Little empirical evidence that openness improves the overall quality of reviews
- Likely to lead to bland, timid reviews

But note, consequences may be different if reviews are published:

Kudos for reviewers who write good reviews

Postpublication peer review not discussed – but is increasingly important, especially in context of fraud

Anonymous: Pros and cons of open peer review. (1999). *Nature Neuroscience*, 2(3), Article 3. <https://doi.org/10.1038/6295>

Unintended benefit of open peer review

Can detect attempts to pervert peer review – by corrupt editors, paper mills, and others

How papermills work – Authorship and citations for sale

<https://retractionwatch.com/2022/10/25/meet-a-sleuth-whose-work-has-resulted-in-more-than-850-retractions/>

“There’s this entire economy, ecosystem of Facebook groups, Whatsapp groups, Telegram channels selling authorship for papers, selling citations, selling book chapters, selling authorship of patents.”



Nick Wise

See also: talk by Bernhard Sabel at <https://osf.io/47utb/>

<https://forbetterscience.com/2022/10/19/the-incredible-collaborations-of-renaissance-men-and-women/>

The paper mill problem

NEWS FEATURE | 23 March 2021

The fight against fake-paper factories that churn out sham science

Some publishers say they are battling industrialized cheating. A *Nature* analysis examines the 'paper mill' problem – and how editors are trying to cope.

[Holly Else](#) & [Richard Van Noorden](#)

Physics publisher retracting nearly 500 likely paper mill papers

<https://retractionwatch.com/2022/09/09/physics-publisher-retracting-nearly-500-likely-paper-mill-papers/>

Exclusive: Hindawi and Wiley to retract over 500 papers linked to peer review rings

After months of investigation that identified networks of reviewers and editors manipulating the peer review process, Hindawi plans to retract 511 papers across 16 journals, Retraction Watch has learned.



<https://retractionwatch.com/2022/09/28/exclusive-hindawi-and-wiley-to-retract-over-500-papers-linked-to-peer-review-rings/>

Doesn't peer review help protect us against fake papers?

Ways around this

Article gets published because either:

It is a very convincing fake

OR

Fake reviewers are recommended

OR

The Editor is complicit in the fraud

May wave through fake papers

OR

Allow authors to be added to genuine paper after acceptance

The tanu.pro papermill

Discovered by Anna Abalkina

- Articles use fake email addresses for authors and peer reviewers
- May appear in ‘special issues’ and hijacked journals



Anna Abalkina

I offered to look at six examples of psychology papers on Anna’s list

All were in the Journal of Community Psychology – a reputable Wiley journal with a long history, edited by Michael B. Blank, University of Pennsylvania

“The Journal of Community Psychology and the American Journal of Community Psychology were both first published in 1973. These journals have become the two most influential professional journals in the field.”

Structural measures to prevent radicalism among youth

Abstract

Extremism has an antilegal nature, that is, it denies consensus ways of solving social problems, giving preference to violent methods and methods of achieving various goals, in particular political ones. The spread of radical, intolerant leadership among young people and attempts to involve young people in extremist activities are especially dangerous. The novelty of the research is determined by the fact that the socio-psychological characteristics inherent in a young person, his superficial and uncritical perception of social life, determine his appeal to protest-activist methods of increasing his social status and role in public life, which are mostly spontaneous, spontaneous.etc etc etc.

Cannot determine from abstract what, if anything, was done

Tip for identifying material from East European papermills

They use the class IMRaD structure, but the headings are randomly placed.

Quick check – does Methods section tell you what they did?

2 MATERIALS AND METHODS

The heightened social danger and the variety of forms of manifestation of youth radicalism and extremism in real life to a large extent necessitate the development of complex, interdisciplinary approaches. The multifaceted nature of this phenomenon allows identifying and analyzing such research approaches to its study. Representatives of the socio-philosophical and sociological approaches consider the phenomenon of youth radicalism and extremism as a form of deviation focused on the conscious violation of existing social norms, standards, principles, rules of behavior, and the like..... etc etc.

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For evaluation see:

<https://pubpeer.com/publications/2D5E8274AE359ECF82239CC4A5A14F>

Open peer review

Reviewer 1. Georgina Smith, University of the Sunshine Coast

Google revealed no web presence for an academic with this affiliation.

Review 1: I rate this article quite positively and I think that it is worthy for publication, but there are some inaccuracies:

[1] The purpose and the objectives of the research are not stated in the introduction part.

[2] The large paragraphs should be divided into smaller ones.

[3] Correct numerous inaccuracies in the typing.

[4] Literature should be refreshed since some of the citations are considered rather dating.

Review 2: "The paper was perfectly fine-tuned in accordance with all the comments that were indicated by the reviewers. I'm glad to recommend this manuscript for publication."

Open peer review

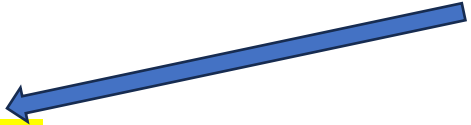
Reviewer 2. Eric Leitmeier, University of West Bohemia. The only hit on Google, was a listing on an editorial board of a journal. There are no publications in this name on Web of Science.

*“In the paper, the authors used many **figures and tables**, which is certainly useful for readers. But some of the inscriptions on the figures are difficult to read. Please improve their quality.*

It is necessary to revise the Conclusions section. Describe more clearly the obtained results.

Most of the references are too old. There is a need to refresh the literature”

Review 2: ‘I think that this manuscript, due to its factual nature, a rich methodological arsenal of research, a delicacy in the presentation of positions, can be published in this journal.’



Had 4
figures
and no
tables

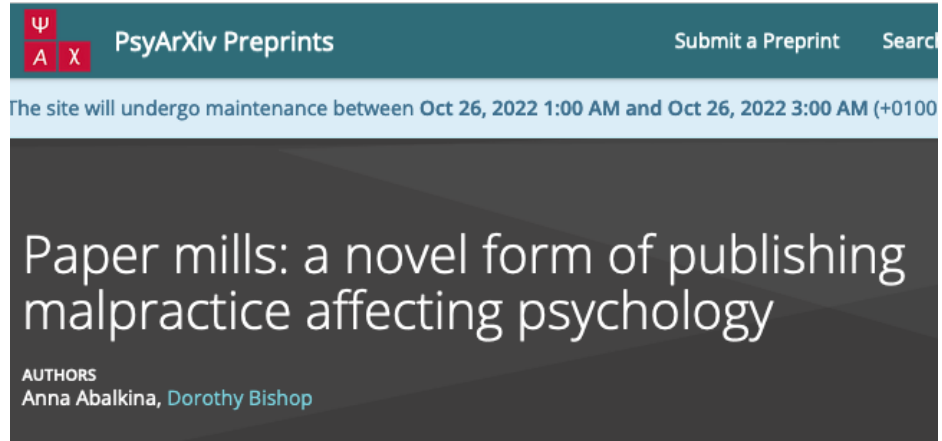
How did this happen?

2 hypotheses

- A. Editor who doesn't read the papers he accepts
- B. Editor who is complicit

Tested hypothesis with a 'sting' paper – submitted a paper describing the papermill to the journal.

- Found we could reject hypothesis A, as our paper was rejected 😊
- But we posted it as open access preprint on PsyArXiv
- Reported to integrity officer at Wiley (5 Sep); some months later retracted, editor gone.

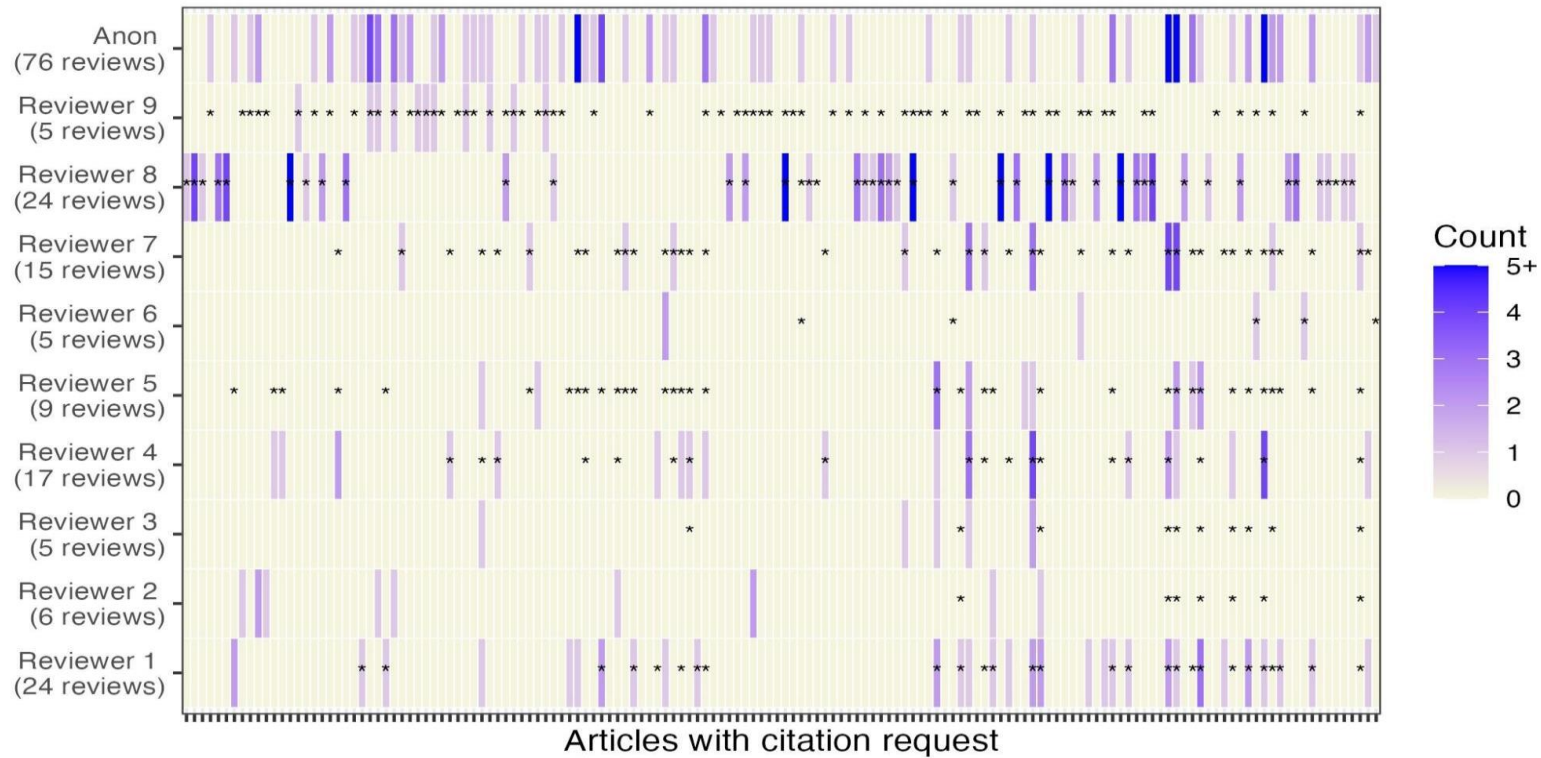


Open peer review: Also useful for identifying “review mills”

Review mill: used by Maria Oviedo Garcia for reviews churned out by one or more individuals using boilerplate text. Typically these also involve coercive citation demands.

**Gaming the peer review system: a sophisticated review mill in
medicine highlights the need to ensure reviewer integrity**

M. Ángeles Oviedo-García, PhD¹, René Aquarius, PhD², Dorothy V. M. Bishop, DPhil^{3*}



Heatmap shows N coercive citations to 151 articles (x axis), all from reviews with boilerplate text. Reviewers (y axis) were in a network of Italian doctors in gynecological oncology.

* denotes that reviewer is an author of the coerced citation.

Summing up

Any innovation in publishing practices is likely to have unintended consequences.

They can't all be predicted, but one general rule applies:

If you make a change, people will try to game it for their own benefit.

This includes researchers as well as publishers.

Publications and citations have become a fungible commodity.

Researcher motivations often driven by academic incentive system – some bad practices, such as paper mills and review mills, may only change when academia changes what it values.

Tracking down fraud and other misconduct – importance of open science

PREREGISTRATION of studies: we can check what was done against the plan – and see if the timescale was sensible

Easier to check that findings are sensible and reproducible if there is OPEN DATA and OPEN CODE

Much easier to identify dodgy peer review with OPEN PEER REVIEW

Hugely important role played by PubPeer website for OPEN POST-PUBLICATION PEER REVIEW, with opportunity for authors to respond





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Thank you
for coming



Still time to book!
go.glam.ox.ac.uk/OxFOS26

Thurs, 5th March, ONLINE 13:00-15:00,
Cultivating FAIR data across disciplines

Fri, 6th March, ONLINE 11:00-12:00,
How to do open research safely

We'd love to
hear what
you thought
of today's
event

Join the mail list to get the recordings
Email: oxfos-subscribe@maillist.ox.ac.uk