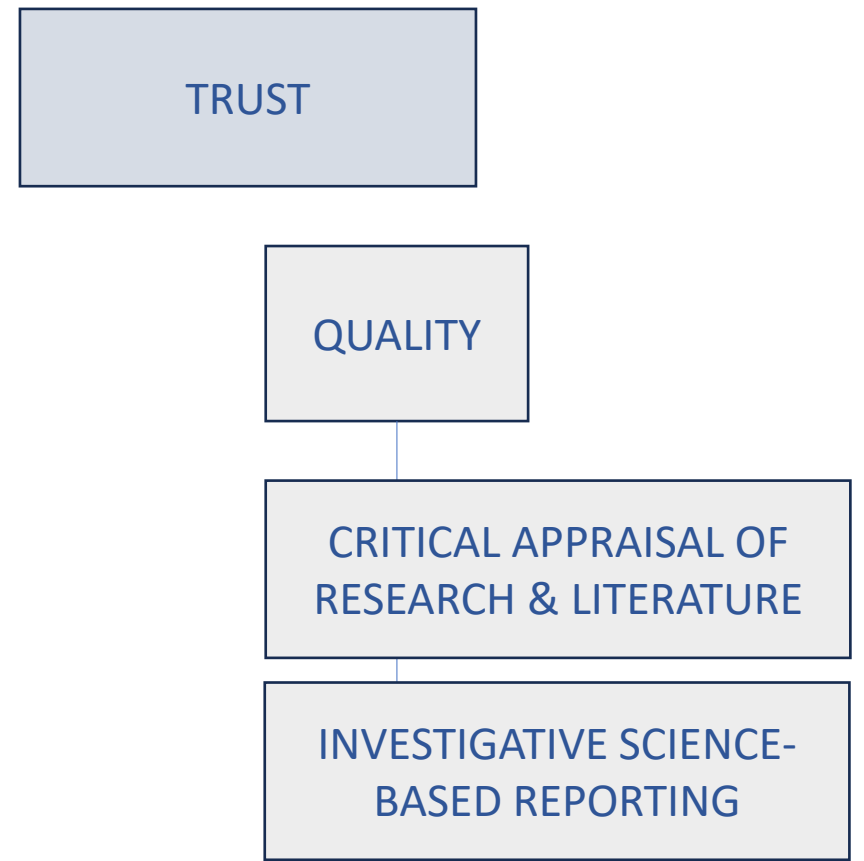
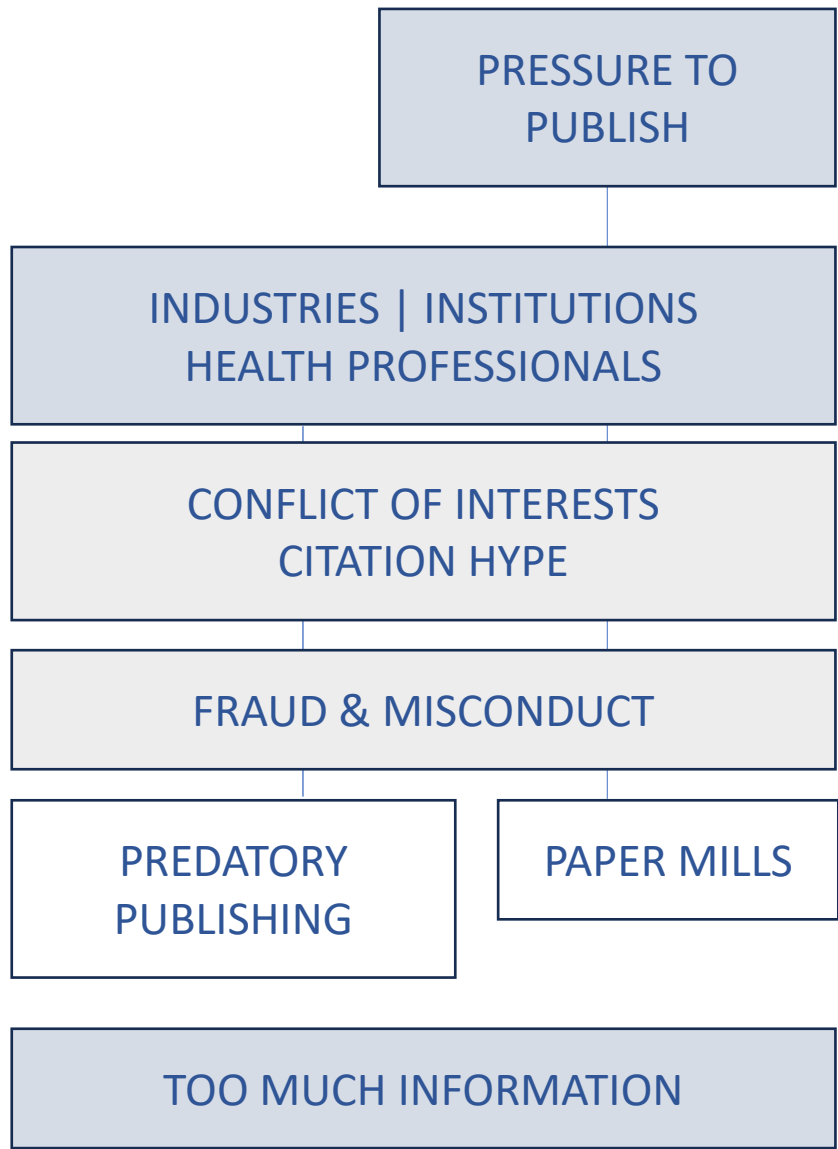


Health communication in a changing landscape

Luca De Fiore



PRESSURE TO
PUBLISH

FRAUD &
MISCONDUCT

Scientific misconduct in research and non-research publications includes but is not necessarily limited to data fabrication; data falsification including deceptive manipulation of images; purposeful failure to disclose relationships and activities; and plagiarism.

Some people consider failure to publish the results of clinical trials and other human studies a form of scientific misconduct. While each of these practices is problematic, they are not equivalent. Each situation requires individual assessment by relevant stakeholders.

[INTERNATIONAL COMMITTEE ON PUBLICATION ETHICS](#)

Scientific fraud is rising, and automated systems won't stop it. We need research detectives

Published: June 20, 2023 10.13pm CEST

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Fraud in science is alarmingly common. Sometimes researchers lie about results and invent data to win funding and prestige. Other times, researchers might pay to stage and publish entirely bogus studies to win an undeserved pay rise – fuelling a “paper mill” industry worth an estimated €1 billion a year.

Some of this rubbish can be easily spotted by peer reviewers, but the peer review system has become badly stretched by ever-rising paper numbers. And there's a new threat, as more sophisticated AI is able to generate plausible scientific data.

The latest idea among academic publishers is to use automated tools to screen all papers submitted to scientific journals for telltale signs. However, some of these tools are easy to fool.

I am part of a group of multidisciplinary scientists working to tackle research fraud and poor practice using metascience or the “science of science”. Ours is a new field, but we already have our own society and our members have worked with funders and publishers to investigate improvements to research practice.

Author



Adrian Barnett
Professor of Statistics, Queensland University of Technology

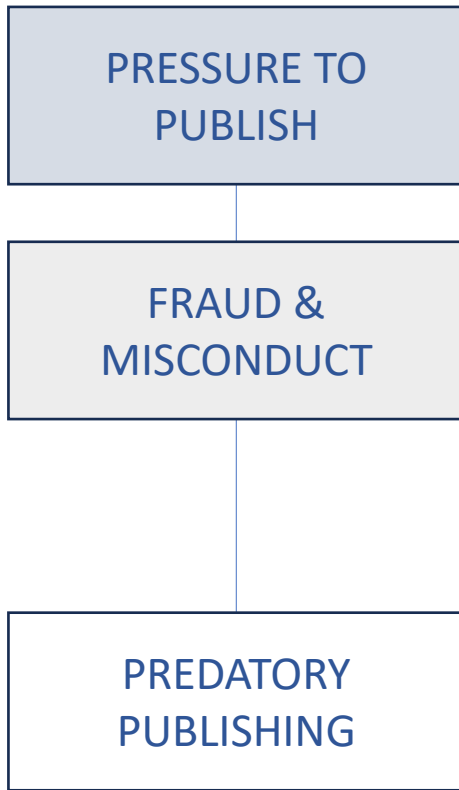
Disclosure statement

Adrian Barnett receives funding from National Health and Medical Research Council. He is affiliated with the Association for Interdisciplinary Metaresearch & Open Science.

Partners



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It is extremely difficult for people reading a study, or watching a news segment about a particular study, to recognize that it appeared in a predatory journal.

Predatory publishing creates a major obstacle in the drive to ensure that new research on critical topics is well-founded and truthful. This can have implications in health and medical research.

[LAURA HOOD, THE CONVERSATION 2023.](#)

Rising number of 'predatory' academic journals undermines research and public trust in scholarship

Published: September 19, 2023 2.19pm CEST



There is a rising number of predatory journals in academia, challenging scholars to determine which publications are legitimate. Marat Musabito/Getty Images

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Taxpayers fund a lot of [university research](#) in the U.S., and these findings published in scholarly journals often produce major breakthroughs in medicine,

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The authors do not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and have disclosed no relevant affiliations beyond their academic appointment.

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COMMENT | 11 December 2019


Predatory journals: no definition, no defence

Leading scholars and publishers from ten countries have agreed a definition of predatory publishing that can protect scholarship. It took 12 hours of discussion, 18 questions and 3 rounds to reach.

[Agnes Grudniewicz](#) , [David Moher](#) , [Kelly D. Cobey](#) , [Gregory L. Bryson](#), [Samantha Cukier](#), [Kristiann Allen](#), [Clare Ardern](#), [Lesley Balcom](#), [Tiago Barros](#), [Monica Berger](#), [Jairo Buitrago Ciro](#), [Lucia Cugusi](#), [Michael R. Donaldson](#), [Matthias Egger](#), [Ian D. Graham](#), [Matt Hodgkinson](#), [Karim M. Khan](#), [Mahlubi Mabizela](#), [Andrea Manca](#), [Katrin Milzow](#), [Johann Mouton](#), [Marvelous Muchenje](#), [Tom Olijhoek](#), [Alexander Ommaya](#), [Bhushan Patwardhan](#), [Deborah Poff](#), [Laurie Proulx](#), [Marc Rodger](#), [Anna Severin](#), [Michaela Strinzel](#), [Mauro Sylos-Labini](#), [Robyn Tamblyn](#), [Marthie van Niekerk](#), [Jelte M. Wicherts](#) & [Manoj M. Lalu](#)  Show fewer authors



When 'Jane' turned to alternative medicine, she had already exhausted radiotherapy, chemotherapy and other standard treatments for breast cancer. Her alternative-medicine practitioner shared an article about a therapy involving vitamin infusions. To her and her

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[Why India is striking back against predatory journals](#)



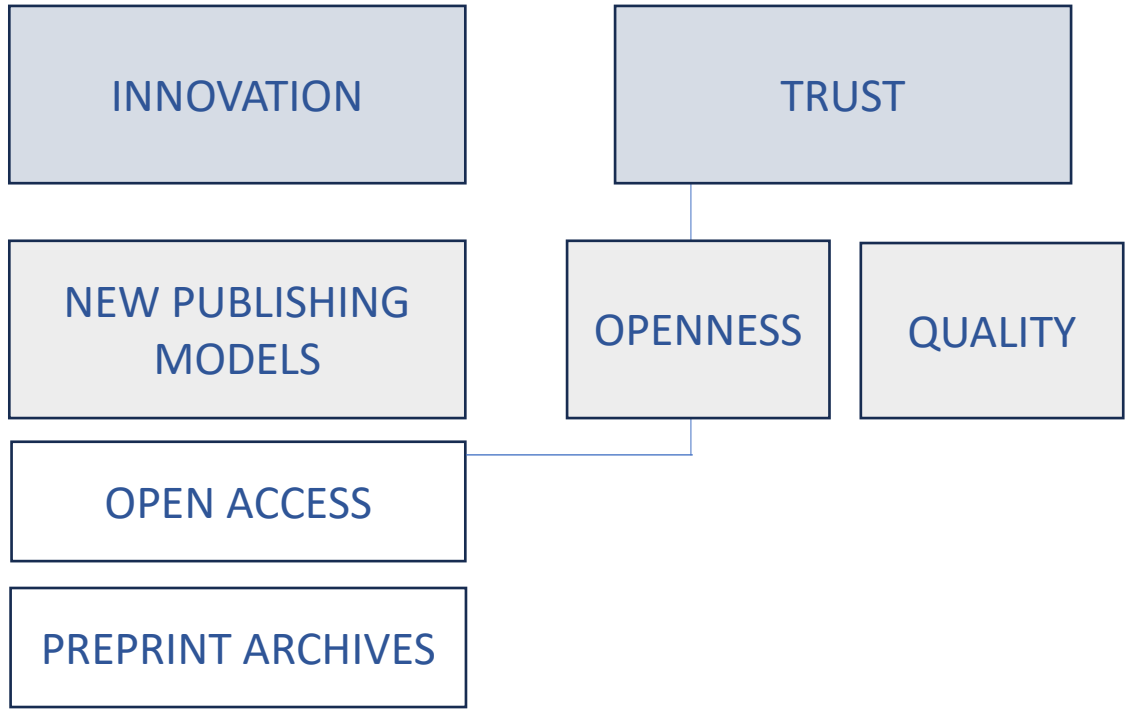
[Stop this waste of people, animals and money](#)



[Payouts push professors towards predatory journals](#)



[The undercover academic keeping tabs on predatory publishing](#)





Public digital libraries and open access publishing promise great benefits for science and society: equity [...], more effective practice of science; and reduction in overall costs.”

HAROLD VARMUS, *THE ART AND POLITICS OF SCIENCE*, 2009

Equity?

“ Academic publishing may have been held hostage by large conglomerates, but the mode in which OA is being proposed does nothing to alter that.

[JOHN HOLMWOOD | BLOG LONDON SCHOOL OF ECONOMICS](#)





While the original intent of open access was to limit or destroy [the large commercial publishers] monopoly, the exact opposite has happened.”



HOLLEY RP. OPEN ACCESS: CURRENT OVERVIEW AND FUTURE PROSPECTS. LIBRARY TRENDS 2018;67(2):214-40. CIT. IN: RODRIGUES RS, ABADAL E, DE ARAÚJO BK. OPEN ACCESS PUBLISHERS: THE NEW PLAYERS. PLOS ONE 2020;15(6):E0233432.

“There is an oligopoly of commercial publishers trying to control the scientific communication system, creating a level of dependence where researchers have little power to decide what and where to publish.”

STEPHEN PINFIELD | [LEARNED PUBLISHING, 2020](#)

[nature](#) > [news](#) > article

NEWS | 16 February 2022 | Correction [22 February 2022](#)

Open-access publishing fees deter researchers in the global south

Authors in low-income countries rarely published free-to-read papers, even when they qualified for publication-fee waivers.

[Diana Kwon](#)



Researchers in Brazil are among those that say resources for publishing fees are hard to come by. Credit: Rahel Patrasso/Reuters/Alamy

Better science?

“The journals will not necessarily have any financial incentives to ensure appropriate peer review or quality control.”

MARTIN HAGVE | TIDSS KRIFTET, 2020



Costs reduction?

“ ... a systemic opacity both within institutions as well as regarding the ‘black box’ of finances around scholarly communication.”



LAWSON S, GRAY J, MAURI M. OPENING THE BLACK BOX OF SCHOLARLY COMMUNICATION FUNDING. OPEN LIBR HUMANIT. 2016;2(1).

“ In a market where higher fees help to indicate prestige and legitimacy, the profit-motive of commercial publishers and careerism of authors are perversely aligned.”

SHAUN KHOO
BLOG LONDON SCHOOL OF ECONOMICS, 2022



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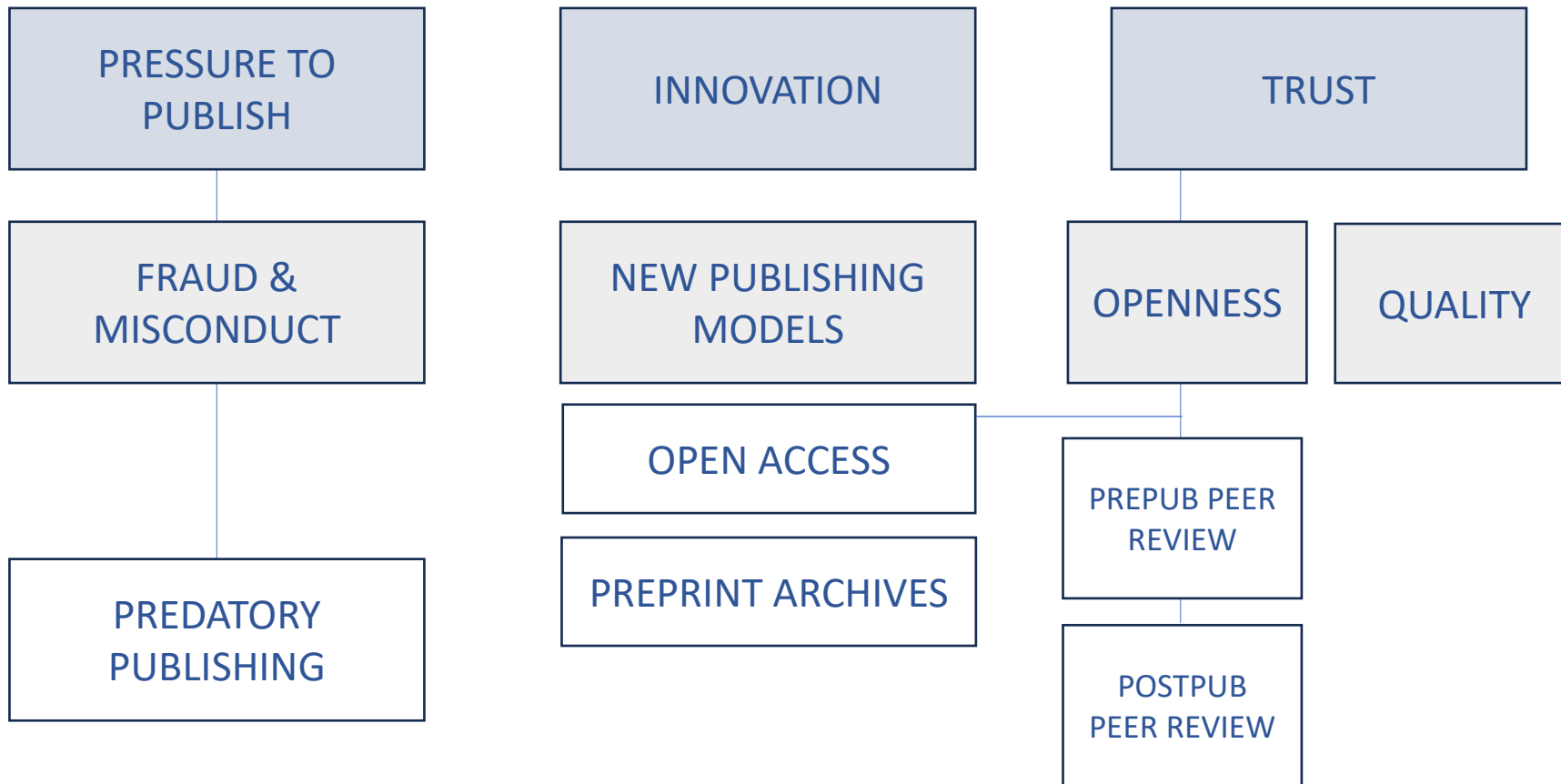


An important justification for transitioning from a subscription based journal publishing system to an open access journal publishing system, has been that whereas printing and distributing physical copies of journals is an expensive process, the cost of digital publication and dissemination are marginal. In this post **Shaun Khoo** argues that whilst a shift to gold (pay to publish) open access would deliver wider access to research, the lack of price sensitivity amongst academics presents a risk that they will be locked into a new escalating pay to publish system that could potentially be more costly to researchers than the previous subscription model.

For decades, the cost of subscription journals has been rising **faster than inflation**. Struggling with this **serials crisis**, librarians have **encouraged** the development of open access journals. Under open access, anyone can access research articles, reducing the need for libraries to subscribe to journals. This might benefit libraries, but by opening up research budgets as a revenue source it also promises to boost publisher profits.

“ The price paid for APC is already not directly linked to the costs of production but rather to what the market will bear.”

STEPHEN PINFILED | LEARNED PUBLISHING, 2020



**WHAT DOES THE FUTURE HOLD FOR PEER REVIEW
IN ACADEMIC PUBLISHING?**

Retraction Watch

Tracking retractions as a window into the scientific process

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Wiley and Hindawi to retract 1,200 more papers for compromised peer review

Hindawi and Wiley, its parent company, have identified approximately 1,200 articles with compromised peer review that the publishers will begin retracting this month.



Jay Flynn, executive vice president and general manager of the research division at Wiley, which acquired Hindawi in 2021, wrote about the forthcoming retractions in a [blog post](#) at Scholarly Kitchen yesterday.

The plan to retract 1,200 articles, which the publisher expects to take a few months, follows Hindawi's [announcement last September](#) that it would retract 511 articles across 16 journals for manipulated peer review. (We've [tracked 501](#) retractions from 23 Hindawi journals since the announcement.)





Peer review and scientific publication at a crossroads

Call for research for the 10th international congress on peer review and scientific publication

John P A Ioannidis,^{1,2} Michael Berkwits,³ Annette Flanagin,³ Theodora Bloom⁴

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Cite this as: *BMJ* 2023;382:p1992
<http://dx.doi.org/10.1136/bmj.p1992>

Published: 22 September 2023

The way science is assessed, published, and disseminated has markedly changed since 1986, when the launch of a new congress focused on the science of peer review was first announced. There have been nine international peer review congresses since 1989, typically running every four years, and most recently in 2022 after a year's delay because of the covid-19 pandemic.¹ Here, we announce that the 10th international congress on peer review and scientific publication will be held in Chicago, Illinois, on 3-5 September 2025.

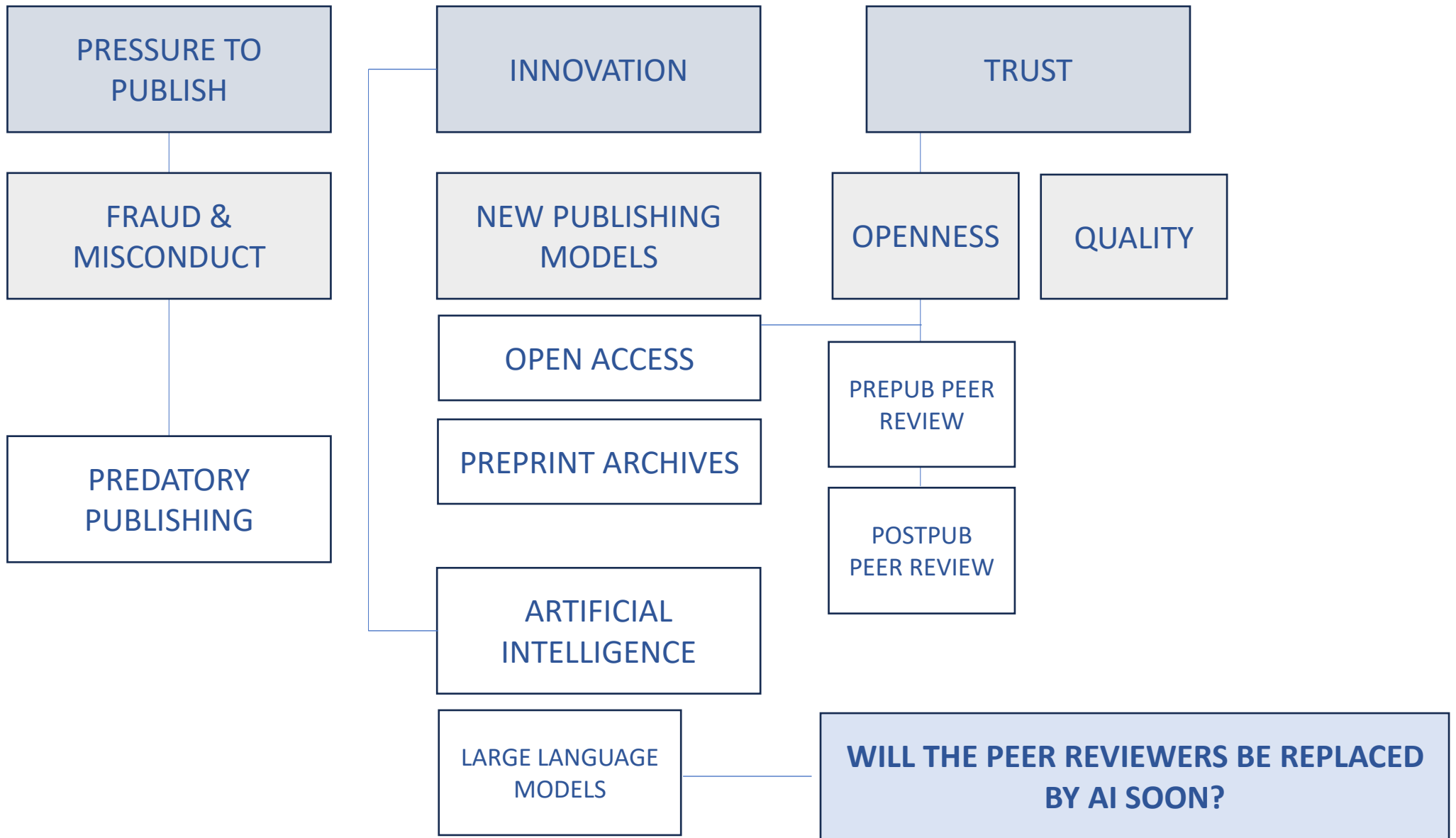
The congresses have been enormously productive, incentivising and publicising important empirical work into how science is produced, evaluated, published, and disseminated.²⁻⁴ However, peer review and scientific publication are currently at a crossroads and their future more difficult than ever to predict. After decades of experience and research in these fields, we have learnt a lot about a wide range of aspects of peer review and scientific publication.²⁻⁵ We have accumulated a large body of empirical evidence on how systems function and how they can malfunction. Evidence is also growing on how to make peer review, publication, and dissemination processes more efficient, fair, open, transparent, reliable, and equitable.⁶⁻¹⁵

to research and data may not be fully understood, accepted, or funded.

Many other new, often disruptive, ideas abound on how to improve dissemination of and access to science, some more speculative, utopian, or self-serving than others. In addition, rogue actors, such as predatory and pirate publishers, fake reviewers, and paper mills, continue to threaten the integrity of peer review and scientific publication. Careful testing of the many proposals to improve peer review and publication and of interventions and processes to address threats to their integrity in a rigorous and timely manner are essential to the future of science and the scholarly publishing enterprise.

Proposed remedies for several of the problems and biases have been evaluated,⁴ but many are untested or have inconclusive evidence for or against their use. New biases continue to appear (or at least to be recognised). In addition, there is tension about how exactly to correct the scientific literature, where a large share of what is published may not be replicable or is obviously false.²⁶ Even outright fraud may be becoming more common—or may simply be recognised and reported more often than before.^{27 28}

By their very nature, peer review and scientific publication practices are in a state of flux and may





ARTICLE

<https://doi.org/10.1057/s41599-020-00703-8>

OPEN



AI-assisted peer review

Alessandro Checco¹, Lorenzo Bracciale², Pierpaolo Loreti², Stephen Pinfield¹ & Giuseppe Bianchi²

The scientific literature peer review workflow is under strain because of the constant growth of submission volume. One response to this is to make initial screening of submissions less time intensive. Reducing screening and review time would save millions of working hours and potentially boost academic productivity. Many platforms have already started to use automated screening tools, to prevent plagiarism and failure to respect format requirements. Some tools even attempt to flag the quality of a study or summarise its content, to reduce reviewers' load. The recent advances in artificial intelligence (AI) create the potential for (semi) automated peer review systems, where potentially low-quality or controversial studies could be flagged, and reviewer-document matching could be performed in an automated manner. However, there are ethical concerns, which arise from such approaches, particularly associated with bias and the extent to which AI systems may replicate bias. Our main goal in this study is to discuss the potential, pitfalls, and uncertainties of the use of AI to approximate or assist human decisions in the quality assurance and peer-review process associated with research outputs. We design an AI tool and train it with 3300 papers from three conferences, together with their reviews evaluations. We then test the ability of the AI in predicting the review score of a new, unobserved manuscript, only using its textual content. We show that such techniques can reveal correlations between the decision process and other quality proxy measures, uncovering potential biases of the review process. Finally, we discuss the opportunities, but also the potential unintended consequences of these techniques in terms of algorithmic bias and ethical concerns.



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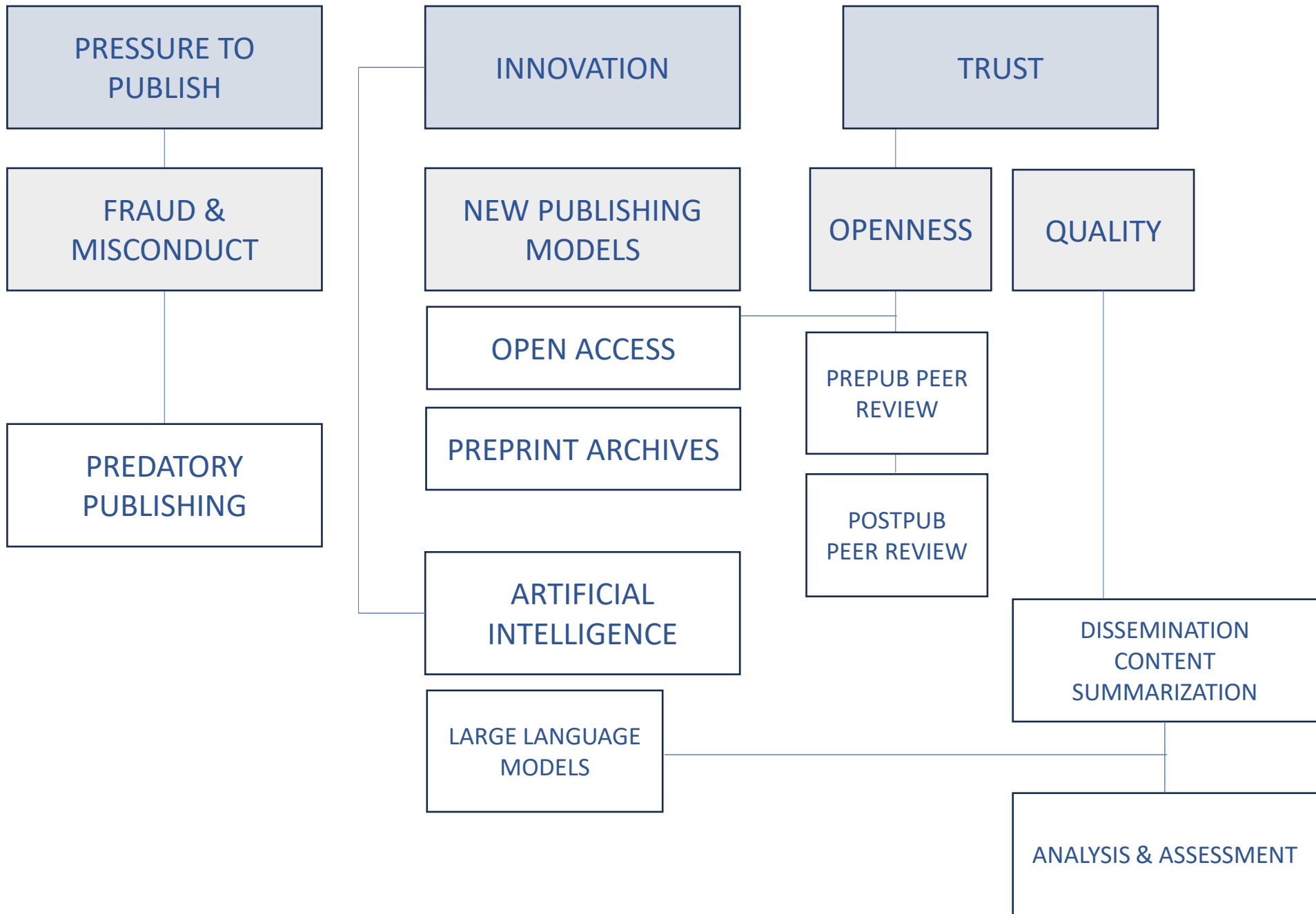
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Science funding agencies say no to using AI for peer review

Concerns include confidentiality, accuracy, and "originality of thought"

14 JUL 2023 · 4:25 PM ET · BY JOCELYN KAISER



We created an AI tool for journalists. Here are our key takeaways.

by ALI TEHRANI · Sep 25, 2023 in MEDIA INNOVATION



Smart Ways Journalists Can Exploit Artificial Intelligence

Chatbots may reinvent the way we write news, but AI is also helping newsrooms connect with readers and reach new audiences



BY GABE BULLARD
@gbullard

June 20, 2023

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So, what?

The research community
should regain control of the
scholarly communication
system.

Publicly funded research aims, methods, and results should be disseminate **free** in open repositories.

What now, with artificial intelligence? The answer was to frame innovation and AI as a colleague, not a replacement.

Critical appraisal skills are essential to informed decision-making.

Do we have to start again
with the children?