

Opinion | Scientific journals have a credibility problem. Here’s how to fix it.

Four experts on how to discredit the so-called “paper mills” while keeping research open to everyone.

9 min 81



(Matt Kunz/Getty Images)

By Letters to the Editor
June 24, 2024 at 5:24 p.m. EDT

Regarding Adam Marcus and Ivan Oransky’s June 17 op-ed, “[An epidemic of scientific fakery threatens publishers](#)”:

What we see here is a crisis caused by bad incentives. Publishers charge anywhere from \$1,000 to \$12,000 for publishing a single open-access article. Every time the publisher rejects a submission, they lose potential revenue. This creates a strong economic incentive to lower the quality standards — a temptation that many publishers cannot resist.

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At the same time, the most important “productivity metrics” that advance the careers of scientists are the number of articles they publish and the citations those articles get. The peer-review process that is supposed to filter for quality relies on the pro-bono work of other busy scientists who have little to gain by being thorough and often lack access to the data and code necessary to check the authors’ claims. Add the rise of artificial intelligence and the lack of incentives for scientists to replicate the publications of others, and we have the conditions for a perfect storm aimed straight at the legitimacy of the scientific enterprise.

Cosmetic changes, such as checklists by journals or ethics declarations, are not sufficient to overcome these fundamental problems. Instead, we must rethink how science is being incentivized, funded, practiced and shared with the public from first principles. The stakes couldn’t be higher: If we can’t trust science, how else are we going to make progress?

Philipp Koellinger, Baech, Switzerland

Yes, “science must fight back” against fraud in scientific papers, as Adam Marcus and Ivan Oransky suggest in their recent op-ed. But it must somehow do so without crippling the open-access effort to make those publications freely available to all.

For three centuries, the international science enterprise evolved based on a small, trusted group of publishers. Eventually, the burden of

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largely on well-curated paper publications. Eventually, the burden of subscription costs to the ever-increasing number of published journals effectively sequestered the reports of science's progress in well-funded university libraries. For many within and outside science, that meant unacceptably — undemocratically — closed access.

That's why it's deeply problematic to contemplate retiring "the pay-for-play business model that, by charging researchers to publish their work, has the effect of putting the veneer of legitimacy up for sale." The problem is that model figures centrally in the effort to achieve open access. That's why the op-ed stipulated that retiring the author-pays model would be "painful."

Open access and the fight against fakery are intertwined information-age challenges for science. Defeating this fakery epidemic is crucial. So is maintaining open access.

H. Frederick Dylla, *Lewes, Del.*

The writer served as executive director and chief executive of the American Institute of Physics from 2007 to 2015 and helped to organize the Scholarly Publishing Roundtable that met from 2009 to 2010.

Adam Marcus and Ivan Oransky raise important concerns in their recent op-ed, but it's worth discussing one crucial reason the "paper mill" scientific journals have been able to thrive.

The advent of the open-access movement in science publishing in the past 20 years was meant to make the results of scientific work more widely accessible, and to a substantial degree that goal has been achieved. But many funding agencies, particularly in Europe, made the mistake of requiring that research funded by their grants be published in "gold" open-access journals — or in free journals that charge neither subscription nor publication fees but, understandably, remain quite rare.

That decision gave the veneer of respectability to the paper mills that present themselves as gold open-access journals, but for all practical purposes operate as profit-oriented self-publishing venues. The only realistic way to counter this destructive trend is for the funding agencies to change course and start promoting "green" open-access alternatives such as open-access preprint servers such as arxiv.org, and various open-access institutional repositories. Scientific papers get posted in these forums in their final accepted form before appearing in a journal, but the typesetting and pagination might be different from what the journal eventually uses. For most readers, such differences are minor to the point of being immaterial. The free availability of a paper is what really matters.

At the same time, the funding agencies should require attestation that none of the articles resulting from their grants were published using the payment of publication charges. Even for "respectable" publishers, the use of such charges should be viewed as a form of self-publishing and eventually phased out. Instead, the publishers should be encouraged to shorten the copyright embargo period as much as possible.

Ilya Kapovich, *New York*

The writer served as chair of the committee on publications of the American Mathematical Society from 2018 to 2019.

Publishers agree that paper mills, which try to subvert editorial practices to trick publishers into publishing fake science, are a real challenge to our community. But we would argue that we are far from being overwhelmed.

At Springer Nature, we are absolutely dedicated to keeping this content out of our (digital) pages and to removing any content that has tricked its way through to publication. We have invested millions of dollars in developing artificial intelligence technology to identify problematic content, including two newly announced AI tools looking out for signals such as AI-generated content or duplicated images. Through technology, people power and collaboration with sleuths, we have identified and are

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tracking different mills around the world and ensuring their submissions cannot make it through our systems. In 2023, our research integrity unit identified and prevented publication of over 8,000 submitted papers with major integrity problems.

In addition to our own in-house work, we are committed to working with other publishers via the STM Integrity Hub, a community initiative to facilitate knowledge and data exchange and develop shared technology tools to help publishers overcome the challenges of paper mills and unethical practices.

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Publishers are working hard to address these issues, but we cannot work in a vacuum. Real efforts need to be made to address perverse incentives to publish fake research and to train researchers in appropriate standards in research practices. We are committed to working together to that end, including by providing free online integrity training, and we hope that the wider scientific community will agree that collaboration, rather than criticism, is the best way forward.

Chris Graf, *London*

The writer is the research integrity director at Springer Nature.

Following ‘the science’:

So far, I’ve willingly received three coronavirus vaccine injections and usually take the annual influenza vaccine because I basically believe the mainstream science behind them. But while the verbal assaults against public health officials such as Anthony S. Fauci are inexcusable, I nevertheless feel the term “science” gets invoked as a trump card a bit too readily nowadays, including for political or self-serving purposes.

Due to increasingly common privatized research for corporate profit aims, sometimes even science can be for sale. Questionable research results are sometimes amplified if they favor a corporate product; accurate research results might be ignored if they are unfavorable to business interests, even if they have serious health implications. And lobbyists do their best to lead government regulators around by the nose.

Such profit-driven manipulation does not belong in any government body, or anywhere in the scientific process.

Frank Sterle Jr., *White Rock, British Columbia*

Space to breathe

Regarding The Post’s June 3 article “CDC’s 6-foot distancing rule during pandemic had little scientific basis”:

Anthony S. Fauci’s recent appearance before Congress and The Post’s coverage made clear that “What were the failures of early pandemic management?” is a contested question. Our collective answers to this question carry profound implications for ongoing and future emergencies.

Distancing guidelines were based on the preliminary understanding that large droplets were the main route of covid-19 infection. Given the efficacy of such protocols for other diseases, it made sense to recommend distancing while more research was underway. Though today we know that covid is primarily airborne and transmitted through inhalation, distancing still lowers the risk of inhaling an infectious dose of the virus.

It’s worth examining what the experiences of agricultural and food workers, who were disproportionately harmed during the pandemic, reveal about how precautions and distancing were not universal and were often denied. On Maryland’s Eastern Shore, where our team focuses our research, living quarters at employer-controlled camps such as Westover in Somerset County are overcrowded and lack proper

ventilation or air conditioning. Workers who live off-site are often packed into employer-approved motel rooms.

In the early months of the pandemic, at food sites across the country, employers concealed outbreaks, forced sick employees to return to work and denied them access to personal protective equipment — and these were just a few of the ways in which they prioritized profits over public health. Honoring regulatory mandates, following health guidelines, and conferring the same protection, dignity and care offered to people not labeled “essential” would have saved lives and lessened the unequal harm these communities faced.

As lawmakers fight to control the pandemic narrative, we are drawing the wrong conclusions.

Of course it’s necessary to reflect on the past to prepare for the next, inevitable pandemic. But rather than obsessing about whether 3, 6 or 10 feet of distance is optimal depending on the pathogen and its transmission method, we should remember that the more significant harm came from the way our society chose to respond and who was deemed sacrificial, not just technical considerations. If we decide that the major problems of pandemic management were costs to businesses or mental health for those who could isolate themselves at home, while ignoring the massive toll (physical, mental, financial and communal) demanded from frontline workers, we risk repeating past harms when faced with a new virus.

Avian flu is currently infecting dairy workers. We can't waste time on the wrong questions.

Elise Ferrer, *Washington*

Devon Payne-Sturges, *College Park*

Thurka Sangaramoorthy, *Washington*

Jessica Culley, *Glassboro, N.J.*

The writers work on the RESPIRAR Project, which focuses on disparities in health outcomes for migrant and seasonal farmworkers.

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ValleyOak 1 month ago

From my perspective as a health care provider, I really believe that the best "take away" from this article is the response letter labelled "Space to breathe" by the writers from the RESPIRAR Project. *I encourage all readers to be sure to read that comment.*

PhillyLew 1 month ago

Another sideEffect with the "publish or perish" principle in academic departments was illustrated in my local psychology department. "Publish" was interpreted to mean your name was among the authors of a paper. In that case, many papers appeared with multiple "authors" who had little creative input to the paper, but each author got full credit for the publication when promotion or "merit" raises were given. This was especially true for publication of dissertations when each member of the committee took credit after, often, little contribution. A more fair procedure I suggested was that only partial publication credit (1/Number of authors) be allocated among the co-authors.

As you might have guessed, this went over not well with faculty who always had a "publication" credit for minimal contribution in certain groups that credited all its members.

seems to me 1 month ago

"other busy scientists who ... often lack access to the data and code necessary to check the authors' claims."

I don't know what code is being referred to, but why in the world would someone not have access to the data of the study they are checking?

Last time I looked, making one's data available for one's study to be checked was part of the modern scientific process.

How would one even be able to check a study without access to the data?

B K 1 month ago (Edited)

You're expecting more from peer review than actually happens. Remember, reviewers are doing this for free, anonymously. The typical reviewer is not doing a replication of the author's work, just looking for whether it seems sane and is "important" in their subjective opinion. That gives authors a lot of room to fail to produce data and code. See <https://arstechnica.com/science/2021/11/keeping-science-reproducible-in-a-world-of-custom-code-and-data/> for more.

rickpres 1 month ago

It used to be that if you did good work, published your methods and were properly peer reviewed the bad publish rate was under 5%.

Painting mice (yes, this was done) or putting up phony numbers or biased statistics would at times trip up those seeking to be published.

What I gather now is that we have a lot more just putting up nonsense trying to get it published.

<

seems to me 1 month ago

"Every time the publisher rejects a submission, they lose potential revenue."
As far as I know, getting one's submission accepted is a highly competitive endeavor. I don't think publishers have a hard time finding a different author or study to fill their pages.

<

jccaton1 1 month ago

It doesn't seem that the magazines in the illustration are the journals publishing researchers' work.

<

No one in particular 1 month ago

This article has very apt timing. After finishing a review on a paper yesterday I have started seriously thinking that the entire system of peer review needs an overhaul. A few key problems I see from within the system are:

1) There is too much emphasis on "journal publications." The expected result from any successfully funded proposal is 1 or more journal articles. Additionally, in the scientific community, your ability to advance your career is directly tied to your publication record. So there's huge incentive to publish regardless of whether or not the research is publishable. All this leads to a glut of articles that are of poor quality that were submitted just to check off a deliverable, which, at times, overwhelms the peer review system.

2) peer review is an unpaid time intensive process. To do peer review well, it often requires 8-16 hours of focused time for each paper, perhaps more. This leads to a common situation where peer reviewers are unable provide a high quality review. This is unfair both to the authors who get reviews that are often all over the place and don't provide good feedback, and the scientific community as it allows for obviously bad research to get published and then, worse, cited.

3) junk journals and paper mills have been around (I think) forever. While most reputable scientists try to avoid them, it's still an easy way to "check off" a publication and beef up one's publication record. Some folks will even submit their paper to these journals after it's been rejected elsewhere, which is another pathway to get bad science into the literature where it can be cited. This is all to say, there is no disincentive to publish in these journals and no disincentive to cite these journals in more reputable work.

All of the solutions proposed here are well meaning and valuable, but I think they miss a good part of the problem. I'd love to propose solutions to the above issues, but I'm already at my character limit 😊...

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Birdstrike 1 month ago

Once credibility is lost, it's gone forever. Global warming is a prime example. Cook your books and no one listens again.

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pmp2430-wp 1 month ago

Example of what?

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Bretzky 1 month ago

At least when it comes to government-funded research, the government in question ought to maintain an online database of the papers and data under its own authority.

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DDID 1 month ago

thoughtful critical comments rejected while personal attacks comments encouraged and thrive without consideration of 'standards'

DDID

<

madmod 1 month ago

As I see it, the "average Joe" and I'm probably in that category, has to learn as much as they are able about science and math to protect themselves from acting upon misinformation. I fear that very cleverly-constructed AI is going to make science worse—into a jumble of nonsense and conspiracy theories. I try to always keep a cautious, personal level of doubt about what others write or say.

For example, a promising, new drug for a common disease comes out and it's molecular structure shows that it is a steroid along with a few atoms of chlorine and a few fluorides. So I wonder what health problems could be caused? Should a warning be

and/or fluorine. So I wonder what possibly could go wrong? Should a woman or child take it? What should the dosage situation be? Should it only be taken for a small period of time? How necessary is it compared to the risks?

Sadly while I think about these things, most other people don't even have an clue and figure that it isn't their problem which it most definitely is.

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^ **CJCCWC** 1 month ago (Edited)

Thanks for providing a free advertisement for the wealthy publisher "Springer Nature". Springer is swimming in money and a major contributor to the decay of contemporary science and publication. This problem will not go away with publishers such as Springer and Elsevier, watch the decay continue.

<

^ **Infinite Jest Sequel** 1 month ago

As I indicated below, if a department has standards for reviewing faculty research the issue goes away at that level. Faculty are not going to pay to have their work published if they receive zero credit for it during annual evaluations.

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^ **Elons Musk Ox** 1 month ago

Don't publish in pay-to-play journals.

Decades ago, before pay-to-play exploded, I was told by my advisor to never cite an article from Perceptual and Motor Skills, because it was a pay-to-play journal. To this day, I refuse to cite articles from publishers like Hindawi and the like.

<

^ **Infinite Jest Sequel** 1 month ago

In our department publications in such journals receives zero credit. During annual reviews, faculty must submit the actual reviews and we use a citation index to determine the credibility of the journal. It's a system we've used for years...new faculty are briefed on this process when they start working here. Zero pushback.....

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^ **le_soulier** 1 month ago

Requirements for data integrity such as tighter supervision of those doing experiments and encoding results that are de-identified to allow unbiased statistical analysis should be universal. The move towards electronic record keeping allows supervising scientists to audit the methods and results more easily. Most newspapers publish an online version that should include links to the journal citations made in the article, not yet a routine for WaPo.

<

^ **Southsouthpacific** 1 month ago

Scientific publishing became a money making machine because of publishers like Maxwell. The journals became concentrated under a relatively small number of publishers. Oligopoly. These charged universities large amounts of money for access to the journals. The content was obtained for free. Very profitable but they were greedy and it became unsustainable. The new model is charge per paper. Also lucrative but now also undermining science.

<

^ **Reality_Has_A_Liberal_Bias-S_Colbert** 1 month ago

"gold" open-access journals — or in free journals that charge neither subscription nor publication fees but, understandably, remain quite rare.' Sorry this is just wrong. What you are describing is called "diamond" and is still rather rare. Gold is a journal that is entirely open access (as compared to a "hybrid") and usually uses the author fees to pay for its expenses. Hybrid journals are ones with some subscription-only content and some OA content - they give the authors on an article by article basis the option to pay the fee to make their own article free to everyone, but the publisher still charges subscription fees to get the non-OA articles. This has been very problematic for the library community, because it is clear double-dipping - we still have to pay for the subscription because we can't afford not to have access to the "paywalled" articles, yet our universities are also paying those OA charges too.

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^ **Arby111** 1 month ago

I would hardly call those rags you depict in the photo scientific journals. Those are the types of things a journalist might read to convince themselves that they understand how things like say, climate change, work.

<

^ **uwteacher** 1 month ago

Ahhh - a new path for climate change denial. The article is not about popular magazines which get their content from peer reviewed sources. Pay to publish is a different issue. The photo at the top of the actual article shows the usual

is a different issue. The photo at the top of the actual article shows the usual dull journals I've seen.



^ **RobinOz** 1 month ago

I'm a physician and retired three years ago but I still get regular emails, usually three or four a week, from 'scientific journals' exhorting me to publish in them - and just about every single one I have never heard of before. I also get regular invitations to speak at international conferences in exotic places, often on topics totally unrelated to the work I did publish (which believe me, was pretty modest). And when I could be bothered (when I first started getting them) I could not find any evidence that these conferences actually existed. I now just block each one but it is like whack-a-mole - sure enough next day a new one appears. I have spoken to colleagues whose prodigious academic output shames me and they are inundated - this is a real problem. There is a whole scam industry behind this epidemic of science fraud and it needs an international approach. Sadly there is one very large state actor that is prominent in all this.



^ **StevenTCornellussen** 1 month ago

For decades in big physics but also at NASA, with my two degrees in English, I got paid to write, including about science and technology history. Twice at *Nature* and once at *Science*, I published short letters correcting history misinformation. Here's my point: the scammers send me those invitation letters too.



^ **RobinOz** 1 month ago

Exactly. I expect that anyone who has published anything gets them - I got another one since I wrote the above comment inviting me to talk at some bogus conference in Singapore. We all just pass them off as an irritant but the sheer volume of them illustrates that this is not just an irritant but a large and serious network of scams.



^ **Casimir Kielbasanova** 1 month ago

I assume traditional scientific journals at large universities are available to the public. Big money has already corrupted our politics and Supreme Court, now it will be allowed to decide what science is allowed to the people?



^ **PortoFonseca** 1 month ago

Libraries at public universities are often open to the public, but how many people spend time combing through medical and scientific journals in the "current periodicals" section every week? And with the shift to online publication, only people affiliated with a university have access to the library's digital holdings. While your concern is reasonable, there is probably better public access to science publishing now than there was 40 years ago....



^ **FedSprinkle** 1 month ago

The system of incentives is broken across the spectrum. Then podcasters capitalize on that notably exemplified anti vaccines episodes



^ **AndyTK2** 1 month ago

All of these items are great, but they don't address the introduction of politics into science, and academia. Just take a look at the Cass Report's view of the "science" being used to support the trans activists demand for affirmation only and rush to sex change drugs ("weak, bordering on fraud"). Maybe AI can provide a solution by providing an automated method of reviewing papers. AI could, maybe, in theory, look for circular reasoning, other logical fallacies, bad math, bugs in software, small sample sizes, conclusions outside the scope of the data, etc. I also like the idea that I saw somewhere else that the journals should approve papers before the research starts, then publishes the results no matter the results. This way the question being asked is the most important question, and negative results get published.



^ **Lake Erie Guy** 1 month ago

Another way to limit these sorts of "publications" is to deemphasize their importance for medical students or PGY1 physicians who are applying to highly competitive residencies.

I am a semi-retired senior academic physician who sits on a residency selection committee at our institution. I have seen all too many very well qualified applicants not receive serious consideration because they did not have a "sufficient" number of publications. This was not the case thirty years ago when I was the

Departmental Chair of a residency. Alas it is the case now.

Some of our applicants had the luxury of taking "research years" between their 3rd and 4th years of medical school. Many did not have that opportunity. Some of the "research" generated was meaningful, some of it clearly was aimed only at "checking the boxes".

The chairman of this well-known department and his program director and I have had many conversations about this phenomenon. Neither of them are happy about it. That said, they both tell me that that is the North American norm in our specialty and that I just needed to accept this "reality" and move on.

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^ **ID_girl** 1 month ago

The reward structure will drive what people do and cultivate those who succeed in that system. As such be careful what you wish for.

—

'[We] must rethink how science is being incentivized, funded, practiced and shared with the public from first principles. The stakes couldn't be higher: If we can't trust science, how else are we going to make progress?'

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^ **Milo__** 1 month ago

The American model of science produces too many premature papers. This comes about by the short durations and small sizes of research grants that force recipients to publish something so they can obtain successor grants. Compounding is that the bulk of the actual work is done by graduate students – people who mostly have good intentions but can fairly be characterized as the least qualified members of the process. Larger, longer duration grants and a shift to permanent research staff – not just professors, grad students, and post-docs – would produce better science.

<

^ **Andrew in Louisville** 1 month ago

Was the 6-foot distancing 'rule' based in science? Of course not, if we take some usual understanding of science. We could have said: OK, we'll get back to you, give us a year our two to line up funding, plan an experiment, do the tests, run the statistics, and come up with a real science-based number with a p-value of better than 0.05. No: but based on our then understanding of the virus and its transmission mechanism, it seemed like a reasonable precaution.

I think 'heuristic' is the word you are looking for.

<

^ **Va Gov Snitchline must go** 1 month ago

The last letter writers said, "...rather than obsessing about whether 3, 6 or 10 feet of distance is optimal depending on the pathogen and its transmission method, we should remember that the more significant harm came from the way our society chose to respond and who was deemed sacrificial"

I'd like to,again, point out that Gov. Youngkin insisted that teachers return to classes without requiring masks **at the height of the Omicron surge**. I believe it was a letter signed by every superintendent in Virginia that finally slowed Youngkin's complete disregard for teacher's lives.

Until we start seeing educators and school staff as something other than "sacrificial", the teacher shortage and lagging test scores will continue. Please vote for someone who follows science in 2024 and beyond. Vote Blue all the way down ballot.

<

^ **D D Marshall** 1 month ago (Edited)

...aimed straight at the legitimacy of the scientific enterprise.

No, not aimed at science. Aimed at reporting and publishing that claims to publish science, truth, the empirical search for knowledge. An easy peek at the converse of science is Fox News and the bellowing Slob liar who now runs for the Presidency when he might soon be imprisoned for his 34 felony convictions. Truth versus crap, value versus slander, life versus death. As Richard Feynman said years ago and it remains true today... *"This is not yet a scientific age."* If it were a scientific age, bellowing slob would have little chance at success since most of us would be hip to the jive and birdbrained claims would scarcely get a laugh.

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^ **CynicalOldPhart** 1 month ago

...when he might soon be imprisoned for his 34 felony convictions.

Not even remotely a possibility.



D D Marshall 1 month ago

...because... this is not yet a scientific age with smart people abounding. Look at the hordes of lunatics who would rule your life and mine over weird personal myths and legends and idiotic group norms... there's that non-science flavor again. And a remote possibility falls within "might," but you've made it an impossible event, with probability zero. I give it something larger than zero, with all my might.



CynicalOldPhart 1 month ago

I give it something larger than zero, with all my might.

You can wish all you'd like but reality will always win.

- It's Trump's first criminal conviction.
- It's a Class E felony, the least serious in NY parlance.
- More than 70% of Class E felons receive no jail time; those who do, are typically guilty of something more serious than screwing with campaign finance laws.
- He's running for president and he has a serious chance of winning the presidency.
- Putting him in the slammer would be a logistical nightmare according to a number of articles I've read.
- And finally, putting him in the slammer would just about guarantee he becomes president again.
 - Consider that since he was convicted, he went from being substantially behind Biden in terms of fundraising and accrued campaign funds. Over the last two months, he's raised more money than Biden and I believe the latest report indicates that he probably now has more money in the kitty than Biden does.

Given that last point about guaranteeing his election, you might rue the day your wish came true.



RFM123 1 month ago

The early recommendation for six foot distancing was not based on any real science. It was based on interpretaion of knowledge learned from other viral infections, like norovirus, that were scientifically based on studies of those particular virus transmission methods. The recommendations had no basis in any legitimate studies of transmission of COVID. Just because "scientists" recommended six-foot distancing does not make it a scientific recommendation, and a critical press should have known and reported on the important difference. Just because the dean of the Brown University School of Medicine reports with theatrical gravitas that something is recommended doesn't mean that the recommendation has any scientific basis. Actually, the esteemed dean is not even a virologist: his field of expertise is public health and his CV shows no publications in anything but the public health arena. His primary claim to fame was his self-assured presentation skills and the press' absolute incompetence in evaluating relevant "experts" to rely on. I cannot quibble with his valid recommendation on the many public health failures of our response to COVID, but his views on transmission mechanisms, distancing, and masking are no more reliable than those of my friendly local pharmacist. The press screws up again.



Caledonian Andrew 1 month ago

Scientists only ever work in SI units.

Always be suspicious of an alleged "scientific" outcome that happens to have a round imperial measurement.



DrPlasmator 1 month ago (Edited)

The "Society" journals of the American Physical Society, the American Chemical Society, IEEE, and the Institute of Physics in the UK still, for the most part, have page charges although they're less than the fees to make an article "Open Access". This system seems to work well. If you don't want to buy an article you can always check arXiv or send one of the authors an email asking for a pdf. I think it works well. Btw, I've subscribed to the Reviews of Modern Physics (print & now electronic too) for 55 years.



OccamsSchick 1 month ago

Who pays for the truth?
The subscribers or the publishers?
Sound familiar: WAPO or FAUX.

When the truth is free any old story will do.



^ **GulfCoastRebel1** 1 month ago

Scientific treatises are peer-reviewed. Any other scientist can critique findings. What other discipline comes under such professional examination, aimed at arriving at the truth?



^ **OccamsSchick** 1 month ago

ABC, NBC and CBS?
Truth is dead and the Internet killed it.



^ **D D Marshall** 1 month ago

You are correct. Expect derision, but not from me.
.



^ **Doug Neidermeyer** 1 month ago

The problem is more deeply systemic than just procedures at journals. The system does not reward for verification of results. That's seen as lower tier.

So everyone is incentivized to produce research that is ground breaking and seems to push the envelope. And someone who publishes a finding isn't concerned about whether it can be replicated by others.



^ **Mr AhClem** 1 month ago (Edited)

I recall a news story about some pranksters who submitted a paper full of jargon and gobbledegook to one of these open access, pay-to-play journals and it was accepted for publication. The pranksters outed themselves before the paper could be published, but their point was made.



^ **Andrew in Louisville** 1 month ago

True enough I suppose - I am not familiar with the story you were referencing - but check 'Sokal Affair' in Wikipedia for the first (and probably the best) example of this hoax from long before the days of internet journals.



^ **Tropicalgoodness** 1 month ago

Wow, you'd think science publications could figure out a methodology for printing good science. Peer review was found to be faulty 15ish years ago. How can anyone ever do "research"?



^ **Andrew in Louisville** 1 month ago

Like any human endeavor peer review can be improperly carried out. But I can confirm from my own publications as a grad student (let's just call them slide rule days) that the peer reviewers I was lucky enough to have - anonymous always - improved my efforts no end.



^ **The Good Fight 2020** 1 month ago

Anything that placates the right has a credibility problem.



^ **PCKDCCA** 1 month ago (Edited)

Chris Graf, from Springer Nature stated '*... accurate research results might be ignored if they are unfavorable to business interests.*' -> "might be" is quite the understatement - this is well documented across the scientific landscape in general, and the pharmaceutical industry in particular. When billions are at stake, **all bets** - be it moral, ethical, scientific, professional - **are off**. Hard stop.



^ **MoreDemocracyPlease** 1 month ago

This is an absolutely critical conversation... and one that journalists should be following very, very closely..... sadly, judging from the number of comments, it is unlikely that they are...

Prof. Philip Koellinger nails the situation concisely, "Cosmetic changes, such as checklists by journals or ethics declarations, are not sufficient to overcome these fundamental problems. Instead, we must rethink how science is being incentivized, funded, practiced and shared with the public from first principles."

To pretend that science is outside the domain of values and politics is a grave

mistake. Instead, the core values of democracy need to be integrated into the practice by which we "know" things...

All science needs to be public science, funded, directed, and evaluated in the public interest. Without serving the public interest, there is no science or civilization.

<

^ **mavericknh** 1 month ago

I'm "The Hatchet" reviewer for the editors of a few top journals, as I have no grants, students or academic position to worry about should I criticize manuscripts coming from medical residents/fellows passing through major research laboratories. When an obviously poor manuscript comes in from such a major laboratory, nobody wants to risk being too easily found out as the one who axed publication, so editors have their standbys to call on, like me. Those papers do get published somewhere, nonetheless.

<

^ **YouCanDoBetterThanThat** 1 month ago (Edited)

When the #1 rule of academia is "Publish or Perish", what do you expect to happen? Perhaps the best way to fight is not to blindly reward the entire notion of "publishing"? Of course, how about publicly outing the offenders and toss them, but that can't happen. Every community protects their own, no matter what.

<

^ **Julius Henry Marx** 1 month ago

I was a program officer for a funding agency. An outside reviewer of our programs was said to have published 10 papers. On checking them, we found he had published 2 papers, each 5 times.

<

^ **Rosaire Thibaut** 1 month ago (Edited)

Prestigious journals I am familiar with don't mention a fee until after a submission is accepted for publication. Furthermore paying the fee is optional. It is typically not expected of student-only papers. Established scientists and tenured professors can certainly afford to support the journals that made them famous and pay beyond their regular dues to professional-associations.

<

^ **FrugalVermonter** 1 month ago

90% of the scientific literature could disappear and we would be the wiser.

1. Too many "journals".
2. Peer review that is too short on the understanding of statistical methods, propagated errors and methodologies/limits.
3. Under-reporting of negative sponsored studies.
4. Reliance on "big data".
5. AI
6. Academic and Administrative Promotion dependent on quantity, not quality.
7. Juicing of Impact Factors.
8. Etc., etc., etc...

<

^ **Patricia** 1 month ago

Bottom line... Signal to Noise ratio.

<

^ **Labsnark** 1 month ago

I definitely go along with 6. I was interviewed for an academic position some years ago (UK institution) where the panel brought up my relatively short publication list. I made the point that what I *had* published had had a significant impact on my field.

They agreed with that analysis, but demanded that, if I was offered the position, I'd need to start to churn out large amounts of crappy papers because quantity of research output was an important metric in the university funding process.

I pointed out that I went into science to increase knowledge and understanding, not to flood the world with useless lists of obvious chemical reactions.

If I hadn't argued that point, I was told I'd have been offered the job... :-)

<

^ **Minispud** 1 month ago

Better to work for an institution that has integrity than one that has none. Hope you finally found such a place.

<

^ **Dave K** 1 month ago

Every scientific paper published should be met with a certain amount of skepticism. It is skepticism that keeps the scientific enterprise alive.

In 1902 the great American physicist wrote: "The more important fundamental laws and facts of physical science have all been discovered, and these are so firmly established that the possibility of their ever being supplanted in consequence of new discoveries is exceedingly remote." In the face of that conclusion, skepticism was essential.

<

^ **GeochFunction** 1 month ago

Regarding incentives of maintaining quality journal content, for scientists:

1) I think the author impact metric, the H Index (number papers N having received N references) encourages passive, low investment publishing. If another metric were used for author impact instead of or in addition to the H Index, that counted solely first author and/or corresponding author papers N having N references, perhaps this would encourage authors to participate more actively in publishing in higher quality journals. and

2) perhaps if the author impact metric reflected the quality of the journal, say using the journal impact factor, perhaps this would help weed out lower quality journals. Perhaps multiplying the author's papers each by the journal impact factor. This way journals with IF= 1 to 3 would be weighed much less heavily than high subject journals in the range of 10 to 20.

But for the present time, if journalists and attorneys learned to account for Clarivate's journal impact factor, the way most successful career research scientists do, this might alleviate wide use of a good fraction of confusing and cynical reference to bad science.

<

^ **Tom in Iowa** 1 month ago

"Respectable" journals, whether published by for-profit companies like Springer-Verlag or non-profit like those published by scientific societies, also levy page charges. One of the differences is that the respectable journals, valuing their reputations, admit their mistakes and acknowledge when bad information sneaks in.

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^ **Fender54** 1 month ago

Experienced scientists know the difference between respected and crappy journals. A real problem is that even in quality journals, the conclusions are often not supported by the results provided. Data are data, but conclusions are just opinions.

<

^ **Simon222** 1 month ago (Edited)

I have watched this issue for many years as a science reader and scholar. Being an educated but skeptical consumer is a must.

One of the Major problem that I see is there is no or little conversation about papers and their strengths and shortcoming.
A strongly moderated additional online comment section might be very useful as an adjunct to online Journal viewing. To improve the research, to educate the reader, and to provide potential suggestions to clarify the research objectives and further that line of research. Science is ultimately a conversation and argument. Good papers and bad papers may receive many citations. So Citations may be a less meaningful metric in some cases.

Oh, and comments can not be anonymous

<

^ **Cheez Leweez** 1 month ago

Lack of anonymity invites retribution. This is the world we live in.

<

^ **Simon222** 1 month ago

It also encourages civility and the Moderator can paraphrase claims. It also could create the real world retraction of false or misleading claims as Commentator and writer reach real accommodation

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^ **Cheez Leweez** 1 month ago (Edited)

That's fine for commenters. The problem comes in with others who read, or are informed of posts.

Exposing your real world identity in online forums - even scientific ones - is dangerous. Driving is real. Death threats are real. People with an agenda

dangerous, being a real death threat or real people with an agenda and a gun showing up on your doorstep are real.

You are focusing in too closely, and making assumptions about potential audiences. Dealing with unruly commenters is easy - kick them off the forum.



[READ MORE OF THIS CONVERSATION >](#)

^ **old_salt** 1 month ago

Reviewing a paper is work, and generally not compensated. There are a few journals with on-line comment/review systems, but the editors still have to assign reviewers so that someone will actually do the job.

I agree that reviews shouldn't be anonymous. The worst reviews I ever got were as a junior scientist from those that seemed to feel that I was stepping into their territory. So, it was established scientist trying to protect their turf.



^ **WildBirdsofPlumIsland** 1 month ago

Within any research community, narrowed to specific topics, those within that community are typically well aware of whether specific journal articles are funded for publication. I seriously doubt the better researchers are ever fooled by a pay-to-publish article. Word spreads quickly within these communities and anything that is published with questionable results, credentials, or void of peer review is quickly recognized as such. the ArXiv and other open access portals with respectability are so because researchers want their results out to the community quickly, but there is an understanding these results will still have to go through a peer review process to be considered proven.



^ **StevenTCorneliusen** 1 month ago

This is important stuff, and I'm glad that the *Post* realized it, then realized it again when they saw these letters and decided to print them. I don't think the problems are existential for the international science enterprise, but I think they're quite big. Good for the *Post*.

But it seems worth noting that of the four publications shown in the photo, two—*Scientific American* and *New Scientist*—are magazines, not journals in the crucial academic sense addressed in the article and ensuing letters. (*Nature*, also pictured, is partly a magazine, but is also quite substantially a scientific journal.)



^ **StevenTCorneliusen** 1 month ago

I later emailed the letters editor (who may well not have controlled how others chose to illustrate the posting).



^ **StevenTCorneliusen** 1 month ago

Appears to be fixed now, as of mid-evening.



^ **dles23** 1 month ago

It should be understood that the profit-driven scientific paper mills are well known to the science community. I regularly get pleas from them to submit a research paper. Refereeing is poor, allowing low science quality work to be featured. As such, I don't really take them seriously, and people who proudly foist papers they've published in these rags get somewhat discounted in my book. The issue here is really just making sure the community knows which publications are reputable and which ones are not.



^ **Winged Avenger** 1 month ago

The peer-review process that is supposed to filter for quality relies on the pro-bono work of other busy scientists who have little to gain by being thorough and often lack access to the data and code necessary to check the authors' claims.

I don't know how it worked for other institutions but my employer considered my review of articles to be a worthwhile metric for consideration for promotions.



^ **Here_for_the_Snacks** 1 month ago

It is important disciplinary service, however, I do caution my junior colleagues to not put so much time there compared to producing their own work. Reviewing for a journal will not get you tenure.



[^](#) **pmp2430-wp** 1 month ago

By itself, reviewing papers will not get you tenure. Done diligently, over time, it will help you get there. Sometimes doors are opened quietly via word-of-mouth from editors who have come to trust your work ethic, quality of writing, personal ethics, and ability to repeatedly do good work. Another benefit is the extent to which the process of reviewing papers can help you become a better writer and scientist, in ways that make major contributions to long-term success. A big benefit of reviewing manuscripts is the level of focused immersion required to do a good review of work that involves new methods, complex data, and fresh ideas of the sort often present in newly submitted papers from good scientists.



[^](#) **Simon222** 1 month ago

Well put, science can suddenly rapidly evolves. People, may not, becoming stuck in assumptions and generational viewpoints



[^](#) **Andrew in Louisville** 1 month ago

During my publishing days - now 50-plus years ago - I was grateful to those anonymous reviewers who, unpaid, took the time to review my work and comment on the drafts and improve them enormously.



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