Peer Review
Dr. Ashley Carter
Associate Professor
Biological Sciences
Undergraduate Advisor
WHAT DO WE WANT?
EVIDENCE-BASED CHANGE
WHEN DO WE WANT IT?
AFTER PEER REVIEW

Peer Review
Dr. Ashley Carter
Associate Professor
Biological Sciences
Undergraduate Advisor

xkcd
How we communicate ideas.

- Talking/lectures/oral presentations
  
  No real quality control (e.g., MBE conference)

- Posters
  
  No real quality control

- Books
  
  Some quality control: editors (academic publishers)
  
  No quality control (self publishing, commercial publishers)

- Journals
  
  High quality control: editors and peer-review
Peer review: a flawed process at the heart of science and journals

Richard Smith

Peer review is at the heart of the processes of not just medical journals but of all of science. It is the method by which grants are allocated, papers published, academics promoted, and Nobel prizes won. Yet it is hard to define. It has until recently been unstudied. And its defects are easier to identify than its attributes. Yet it shows no sign of going away. Famously, it is compared with democracy: a system full of problems but the least worst we have.

“Democracy is the worst form of government, except for all the others.”

- Winston Churchill
Have an idea

Plan experiment
  - animal welfare

Perform experiment
  - biostats

Analyze data

Write manuscript
  - proper citing

Submit manuscript
  - journal choice

Publication of manuscript

Peer-review of manuscript

Advance knowledge
Choose journal (be careful)

Submit to editor
- Include list of suggested reviewers (and enemies)

Editor sends copies out for review
**Who reviews papers?**
**Blinded?**
- Reviewers know authors
- Authors can sometimes guess reviewers

Reviewers read
- Make comments
- Recommend a decision

Editor collects reviews and adds own opinion
- Makes decision
  - Accept without revision
  - Accept with minor revision
  - Accept with major revision
  - Reject with invitation to resubmit
  - Reject without invitation to resubmit
Choose journal (be careful)

Submit to editor
- Include list of suggested reviewers (and enemies)

Editor sends copies out for review
Who reviews papers?
Choose journal (be careful)

Submit to editor
- Include list of suggested reviewers (and enemies)

Editor sends copies out for review
Who reviews papers?
Blinded?
- Reviewers know authors
- Authors can sometimes guess reviewers

Reviewers read
- Make comments
- Recommend a decision

Editor collects reviews and adds own opinion
- Makes decision
  - Accept without revision
  - Accept with minor revision
  - Accept with major revision
  - Reject with invitation to resubmit
  - Reject without invitation to resubmit
Editor sends copies out for review

- Blinded?
  - Reviewers know authors
  - Authors can sometimes guess reviewers

Reviewers read
  - Make comments

ADDRESSING REVIEWER COMMENTS

Reviewer comment:
"The method/device/paradigm the authors propose is clearly wrong."

How NOT to respond:

× “Yes, we know. We thought we could still get a paper out of it. Sorry.”

Correct response:
✓ “The reviewer raises an interesting concern. However, as the focus of this work is exploratory and not performance-based, validation was not found to be of critical importance to the contribution of the paper.”

Reviewer comment:
"The authors fail to reference the work of Smith et al., who solved the same problem 20 years ago."

How NOT to respond:

× “Huh. We didn’t think anybody had read that. Actually, their solution is better than ours.”

Correct response:
✓ “The reviewer raises an interesting concern. However, our work is based on completely different first principles (we use different variable names), and has a much more attractive graphical user interface.

Reviewer comment:
“This paper is poorly written and scientifically unsound. I do not recommend it for publication.”

How NOT to respond:

× “You #&@*% reviewer! I know who you are! I’m gonna get you when it’s my turn to review!”

Correct response:
✓ “The reviewer raises an interesting concern. However, we feel the reviewer did not fully comprehend the scope of the work, and misjudged the results based on incorrect assumptions.

www.phdcomics.com
Choose journal (be careful)

Publication of manuscript

Submit manuscript

Peer-review of manuscript

Submit to editor
- Include list of suggested reviewers (and enemies)

Editor sends copies out for review
- Who reviews papers?
  - Blinded?
    - Reviewers know authors
    - Authors can sometimes guess reviewers

Reviewers read
- Make comments
- Recommend a decision

Editor collects reviews and adds own opinion
- Makes decision
  - Accept without revision
  - Accept with minor revision
  - Accept with major revision
  - Reject with invitation to resubmit
  - Reject without invitation to resubmit
Editor collects reviews and adds own opinion
- Makes decision
- Accept without revision
- Accept with minor revision
- Accept with major revision
- Reject with invitation to resubmit
- Reject without invitation to resubmit
Choose journal (be careful)

Submit to editor
- Include list of suggested reviewers (and enemies)

Editor sends copies out for review
Who reviews papers?
Blinded?
- Reviewers know authors
- Authors can sometimes guess reviewers

Reviewers read
- Make comments
- Recommend a decision

Editor collects reviews and adds own opinion
- Makes decision
  - Accept without revision
  - Accept with minor revision
  - Accept with major revision
  - Reject with invitation to resubmit
  - Reject without invitation to resubmit
The process is not perfect.
The process is depressing

From: <JBOAutomessenger@apa.org>
Date: October 28, 2014 at 11:06:11 AM PDT
To: [REDACTED]
Cc: <call@eva.mpg.de>
Subject: Manuscript 2014-0362 Decision
Reply-To: <ACollev@apa.org>

Dear Dr. Dolphin:
I have received three reviews of your article entitled "Evidence that previous experiences anchor mate choice decisions in male Drosophila melanogaster" ms # 2014-0362. Based on these reviews and my own reading of the manuscript, I regret to inform you that I cannot accept your manuscript for publication in the Journal of Comparative Psychology.

Although all reviewers concurred that you investigated an important topic, they raised a number of serious concerns about your study. Most important of all is that your design was not fully counterbalanced, thus making the interpretation of the results extremely problematic. This concern together with several others including missing literature, the terminology used, some inconsistencies in the methods and results, and the lack of clarity in the description of the methods further weakened your study.

I regret that I cannot be more positive towards your manuscript. I hope that that the reviewers' comments will be helpful in case you decide to revise this manuscript and send it elsewhere. Thank you very much for submitting your work to the Journal of Comparative Psychology.

Sincerely,

Josep Call Editor Journal of Comparative Psychology

Please visit the following address to acknowledge receipt of this letter: http://www.jbo.com/jbo3/B.cfm?id=227609
The process is depressing and inconsistent

Re: MS: 2089416367164389
An analysis of discrepancies between UK cancer research funding and societal burden with a comparison to previous values and US values. Ashley J.R. Carter, Beverly F Delarosa and Hannah Hur BMC Public Health

Dear Dr Carter

Thank you for considering BMC Public Health for your manuscript (above). We have now looked over this and, as this is out of scope for the journal, I am sorry to say that we cannot consider the manuscript for publication and are closing your file.

I believe Health Research Policy and Systems would be appropriate for your research, please review the scope for yourself http://www.health-policy-systems.com/info/about/#aimsscope.

Benefits of transferring include:
* Ease of publication - No need to find an alternative journal
* Save time - No re-formatting necessary and files automatically transferred
* Reach the right audience for your research

The transfer of your manuscript does not imply that it will be accepted and the Editors are free to reject the manuscript if it is not suitable.

Accept the transfer to Health Research Policy and Systems by logging on to 'My Manuscripts' http://www.biomedcentral.com/bmcpublichealth/my/manuscripts.

You will also find further details including the new Article Processing Charge and peer-review policy.

Thank you for your interest in BMC Public Health I do hope that you will consider an alternative BioMed Central journal for your manuscript and publish with Health Research Policy and Systems.

Similarly to BMC Public Health, Health Research Policy and Systems also operates using a open peer-review system. Please refer to http://www.health-policy-systems.com/about#publication for further details on the peer-review policy of Health Research Policy and Systems, or if you have any questions, please contact editorial@health-policy-systems.com.

Thank you for your interest in BMC Public Health.

Best wishes,

Natalie Pafitis, MSc
Decision on manuscript you reviewed for us - our thanks

HARPS Editorial <editorial@health-policy-systems.com>

Follow up. Start by Wednesday, November 12, 2014. Due by Wednesday, November 12, 2014.

Sent: Wed 11/12/2014 2:02 AM
To: Ashley Carter

Authors: Jonas M Kinge, Ingrid Roxrud, Stein Emil Vollset, Vegard Skirbekk and John-Arne Røttingen
Title: Are the Norwegian health research investments in line with the disease burden?
Journal: Health Research Policy and Systems

Dear Dr Carter,

Many thanks for your help with the above manuscript. This is just a quick note to let you know that in the light of your and the other referees' advice the manuscript has now been accepted for publication in Health Research Policy and Systems.

With best wishes,

The HARPS Editorial Team

e-mail: editorial@health-policy-systems.com
Web: http://www.health-policy-systems.com/
The process is altruistic (by the scientists)

No money is paid for reviewing or publishing (directly) which insulates science from bribery and the corrupting power of money. It's not perfect, but much better than all the alternatives.
The process is exciting
The process is exciting
Have an idea

Plan experiment
  - animal welfare

Plan budget

Write grant proposal
  - proper citing

Submit grant proposal
  - agency choice

Perform experiment

Funding of grant

Peer-review of grant proposal
Submit grant proposal → Peer-review of grant proposal → Funding of grant

SCIENCEMASTER ADLER, WE MUST DENY YOUR REQUEST FOR FUNDING FOR YOUR HAMSTER SMARTENER.

YOUR RESEARCH IS SUSPECT AT BEST AND CRIMINAL AT WORST.

NONSENSE! MY REQUEST IS PEER-REVIEWED.

THOSE HAMSTERS ARE UNDERGRADUATES AND CANNOT AS SUCH BE PROPERLY CONSIDERED YOUR PEERS.

THEY WOULD BE IF YOU WOULD APPROVE MY RESEARCH GRANT.

agency choice
Researcher submits to an agency and category

Agency reviewer checks proposals for suitability

Agency reviewer sends copies out for detailed review by a subset of panel members

Reviewers read
  - Make comments
  - Determine a rating (e, vg, g, f, p)

Reviewer convenes panel meeting
  - Panel discusses
  - Panel ranks
  - Agency reviewer uses panel rankings to rank
    - >50% "Non-competitive"
    - ~25% invited for full proposal
    - ~7% funded (25% of 25%)
Weaknesses of peer review

Not anonymous or double blinded (and very hard to make it so).

Hard to publish controversial results (journal's motivation counters though).

- Journal impact factors

Performed by fallible humans (hence multiple reviewers).

May allow theft of ideas before publication/funding.

Not designed to detect fraud or deception
Scam journals
Scam reviewers
Who's Afraid of Peer Review?

John Bohannon

A spoof paper concocted by *Science* reveals little or no scrutiny at many open-access journals.

On 4 July, good news arrived in the inbox of Ocorrafoo Cobange, a biologist at the Wassee Institute of Medicine in Asmara. It was the official letter of acceptance for a paper he had submitted 2 months earlier to the *Journal of Natural Pharmaceuticals*, describing the anticancer properties of a chemical that Cobange had extracted from a lichen.

In fact, it should have been promptly rejected. Any reviewer with more than a high-school knowledge of chemistry and the ability to understand a basic data plot should have spotted the paper's shortcomings immediately. Its experiments are so hopelessly flawed that the results are meaningless.

I know because I wrote the paper. Ocorrafoo Cobange does not exist, nor does the Wassee Institute of Medicine. Over the past 10 months, I have submitted 304 versions of the wonder drug paper to open-access journals. More than half of the journals accepted the paper, failing to notice its fatal flaws. Beyond that headline result, the data from this sting operation reveal the contours of an emerging Wild West in academic publishing.
Get me off Your Fucking Mailing List

David Mazieres and Eddie Kohler
New York University
University of California, Los Angeles
http://www.mailavenger.org/

Abstract

Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list. Get me off your fucking mailing list.

(David Mazieres and Eddie Kohler)

DON'T MISS STORIES. FOLLOW VOX!

The paper above, titled “Get me off your fucking mailing list,” has been accepted by the International Journal of Advanced Computer Technology.

Let us explain.

The journal, despite its distinguished name, is a predatory open-access journal, as noted by io9. These sorts of low-quality journals spam thousands of scientists, offering to publish their work for a fee.

Dear Dr. A. J. Ashley J. R.,

Greetings from Journal of Pancreatic Disorder & Therapy.

On behalf of the Editorial Board Members of Pancreatic Disorder & Therapy, I would be pleased to invite you to submit your valuable article to the Special Topic Issue entitled "Molecular Mechanisms of Pancreatic Cancer" to be published in our journal.

For more details about special issues please visit:

http://omicsgroup.org/journals/guidelines-pancreatic-disorders-therapy-open-access.php

The articles will be reviewed within 3 weeks and published within 7 days from the acceptance upon the ongoing first come first published basis.

It would be grateful if you would submit a paper for an upcoming issue on "Molecular Mechanisms of Pancreatic Cancer".

Please respond to this invitation on or before April 30th, 2015.

If possible, I would appreciate receiving your submission by May 10, 2015. You may submit your paper online at: http://www.editorialmanager.com/medicaljournals/default.aspx or draft to editor.pdt@omicsinc.com / editor.pdt@omicsonline.net

Thank you for your time and consideration in this matter. We would appreciate it if you could let us know at your earliest convenience whether or not you will be submitting a paper.

Please let me know your acceptance at your earliest regarding contribution for the same.

Have a good day!

With kind regards,

Ernestina Williams
Editorial Assistant
Journal of Pancreatic Disorder & Therapy
731 Gull Ave, Foster City
CA 94404, USA
Ph: +1-650-260-9744
Fax: +1-650-618-1414
E-mail: editor.pdt@omicsonline.org
Dear Colleague,

I trust you are doing fine!

In view of your experience in the field & past publications, we would like to invite you to submit your next submissions to our open access journal “Archives of Clinical Gastroenterology”.

Archives of Clinical Gastroenterology is an open access, peer reviewed, clinical journal dedicated to publish articles related to original and latest advancements in the field of Gastroenterology.

The journal accepts original research articles, review articles, case reports, mini reviews, clinical images and short communication on all the related aspects of Gastroenterology.


We also have an Editorial Tracking System for easy follow up of your submitted manuscript. The deadline for seeking Articles for Inaugural Issue is May 09, 2015.

Looking forward to have a long lasting scientific relationship. Have a productive day at work!

Best regards,

Dia Wagle
Executive Editor-Journals Division
Editorial Office-PeerTechz.com
#14-1-90/381, Gayatri Nagar
Jagapathi Hills, near Hi-Tech City
Hyderabad - 500 018, T.S., India
Tel: +91 40 23833479
Email: mail.gastroenterology@peertechz.com

Copyright © 2014 PeerTechz.com, All rights reserved.

To unsubscribe, please [click here](mailto:).
Publishing: The peer-review scam

When a handful of authors were caught reviewing their own papers, it exposed weaknesses in modern publishing systems. Editors are trying to plug the holes.

Cat Ferguson, Adam Marcus & Ivan Oransky

26 November 2014

Most journal editors know how much effort it takes to persuade busy researchers to review a paper. That is why the editor of The Journal of Enzyme Inhibition and Medicinal Chemistry was puzzled by the reviews for manuscripts by one author — Hyung-In Moon, a medicinal-plant researcher then at Dongguk University in Gyeongju, South Korea.

The reviews themselves were not remarkable: mostly favourable, with some suggestions about how to improve the papers. What was unusual was how quickly they were completed — often within 24 hours. The turnaround was a little too fast, and Claudiu Supuran, the journal's editor-in-chief, started to become suspicious.
In 2012, he confronted Moon, who readily admitted that the reviews had come in so quickly because he had written many of them himself. The deception had not been hard to set up. Supuran's journal and several others published by Informa Healthcare in London invite authors to suggest potential reviewers for their papers. So Moon provided names, sometimes of real scientists and sometimes pseudonyms, often with bogus e-mail addresses that would go directly to him or his colleagues. His confession led to the retraction of 28 papers by several Informa journals, and the resignation of an editor.

Moon's was not an isolated case. In the past 2 years, journals have been forced to retract more than 110 papers in at least 6 instances of peer-review rigging. What all these cases had in common was that researchers exploited vulnerabilities in the publishers' computerized systems to dupe editors into accepting manuscripts, often by doing their own reviews. The cases involved publishing behemoths Elsevier, Springer, Taylor & Francis, SAGE and Wiley, as well as Informa, and they exploited security flaws that — in at least one of the systems — could make researchers vulnerable to even more serious identity theft. "For a piece of software that's used by hundreds of thousands of academics worldwide, it really is appalling," says Mark Dingemanse, a linguist at the Max Planck Institute for Psycholinguistics in Nijmegen, the Netherlands, who has used some of these programs to publish and review papers.
Inappropriate manipulation of peer review

Following a thorough investigation, we can now provide a further update on our discovery last year of attempts to manipulate the peer review process at several of our journals.

Elizabeth Moylan 26 Mar 2015

In November last year, BioMed Central uncovered evidence of repeated and inappropriate attempts to manipulate the peer review process of several journals (see our original statement and update).

The apparent intention was to deceive Editors and positively influence the outcome of peer review by suggesting fabricated reviewers. Given the scale of the deception, we alerted COPE (the Committee on Publication Ethics) and a number of other publishers. COPE issued a statement providing further advice for publishers. PLOS also recently issued a statement here.

Although we originally found only a handful of affected published articles, a subsequent extensive and systematic search of all of our journals identified 43 articles that were published on the basis of reviews from fabricated reviewers.

After contacting the authors involved, and notifying their institutions, we have now begun retracting these articles. We have also contacted institutions about a much larger number of rejected articles where the names of fabricated reviewers had been supplied.
Springer retracts 64 papers in wake of peer review fraud scandal

Experts blame 'pressure to publish' in academia

9:45 AM - August 20, 2015

One of the largest academic publishers, Springer, retracted 64 articles from 10 of its journals after officials realized peer reviews were linked to fake email accounts.

In the past three years, at least 230 papers have been withdrawn because of issues with false reviews, according to Retraction Watch, a blog that reports on academic publishing plagiarism and fraud.

Co-founder Ivan Oransky, a science journalist, told the Washington Post he had not heard of retractions based on faked reviews prior to 2012—but that in the last three years, they account for 15% of all the retractions his site logged.

“What’s not clear is, are we better at finding it? Or is it actually a new phenomenon?” he said.

The falsified reviews come in multiple forms: stolen identities of real people; fake identities with fake emails; and authors who review their own work as an “independent report.”

Contact information and names for fake experts along with the promise of a positive, quick review are all for sale by various services.

These issues are “systematic, inappropriate attempts” to influence the peer-review process, the Committee on Publication Ethics (COPE) said in a February statement. And often it is murky whether the authors know about the review rigging, according to COPE.

Many journals enlist third parties to verify peer reviewers and analyze the submissions, but loopholes in the system remain, Sarah Kaplan reports for the Washington Post.

Now editors are working to close these gaps by requiring peer reviewers use institutional emails accounts—rather than Gmail or Yahoo addresses. Others no longer take suggestions of who should review submissions from the scholars themselves.

However, some experts say no regulatory measures will result in significant change. First, a cultural shift must happen, they argue, blaming the “pressure to publish.”

“There are some very fundamental problems within the reward system of academia which even the best practices in publication ethics cannot solve unless the fundamental issues in academia are addressed,” says COPE chair Ginny Barbour (Kaplan, “Morning Mix,” Washington Post, 8/18).
Dans ses écrits, un sage Italien. Dit que le mieux est l'ennemi du bien. - Voltaire.

Paraphrase: Don't let the perfect be the enemy of the good

Questions?

Most scientists regarded the new streamlined peer-review process as “quite an improvement.”