

# Peer review: strengths, limitations and emerging issues

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# What is Peer Review?

A process where peer experts in a particular field of knowledge creation – from scientific research to creative arts production – are invited and accept to review and provide learned and critical evaluation of the scholarly merit of the researcher(s)' or creator(s)' intellectual product.

Peer reviews provide recommendations to research funders, journal editors and book publishers, creative work producers, etc.

# US ORI states that

“the most respected research findings are those that are known to have faced peer review. Most funding decisions in science are based on peer review. Academic advancement is generally based on success in achieving peer-reviewed publications and funding...In short, research and researchers are judged primarily by peers.”

# Who is a Peer?

Someone who is recognized as having scholarly standing which includes the following criteria:

- Achieved accredited education and training
- Contributed to the field through peer-reviewed research grants, productions and publications,
- Acquired professional employment and promotion as recognition that one is a credible evaluator of the literature of others in the same field.

# Historically, Peers have been Central to:

- The hiring and promotion of university faculty
- The funding of scholarly research
- The evaluation of the scholarly products of research, such as, articles, monographs, juried art exhibits and, importantly
- All of these evaluations have been construed as collegial because these are evaluations by peers within the same fields of specialization

# Models of Peer Review

In a recent COPE discussion paper, “Who Owns Peer Review?” the following models of peer review were identified:

- Traditional double-blind review – neither reviewers nor authors know the respective identities of either – double anonymity
- Traditional single-blind review – peer-reviewers know identity of authors but authors don’t know who the reviewers are

- Open – both authors and reviewers know each other's identity
  - in some journals with open review processes, accepted manuscripts are accompanied by the publication of reviews while in others this is not the case
- Transparent – similar to Open, the contents of reviews are openly available though the reviewers remain anonymous

- Interactive or Collaborative – exchanges between reviewers and authors take place to facilitate reviews, either anonymously or with identities known



# Other Peer Review Mechanisms

Another traditional type of peer review is the publication of post-publication responses where

- Other authors comment on the publication – sometimes these comments are in the form of rebuttals but they may be expansions or complementary pieces which add to the discourse on the topic. These responses are also frequently but not always also peer-reviewed. Minimally, they are editor-reviewed

# Also...

- Many publishers now use transferable prepublication reviews where, if the reviewer agrees upfront, reviews may be transferred to other journals within a publisher/consortium.

# Standard or Traditional Norms in Peer Review

- Peers should only review articles that are fully competent to review
- Confidentiality of peer reviews and matters regarding the manuscript and author should be protected during and after the review
- Peers should avoid and declare conflict of interest in reviewing manuscripts where appropriate including seeking editor clarification where necessary

- Peers should be objective and fair in assessments and not be influenced or biased by such factors as race, gender, ethnicity, country of origin, religion, etc.
- They should conduct thorough and constructive reviews and
- They should be timely

See COPE expectations for complete guidelines

# More recently and as a Break from Tradition

- Websites and blog-sites have been developed which host post-publication commenting and critique, such as, PubPeer or PubMed Commons. These may be anonymous or not.
- This is a radical departure from journal-controlled review. In some cases, anonymous post-publication reviews appear without consent or even communication with the journal where the article appeared or with the author(s) of the article.

# Further...

Times are changing and so are critical attitudes toward peer evaluation. Part of these changes are illustrated by the emergence of sites like Retraction Watch, PubPeer and individual blogster sites which in some cases there is harsh criticism of authors as well as the peer review process and editors. And, recently, the actions of some authors and reviewers have violated norms of confidentiality. Questions about who owns peer review have started to be posed.

# Changing Attitudes of Author/Scholars: COPE Case 1

Author's manuscript was rejected by one journal where author was made aware of identity of reviewer. Author subsequently had the same article accepted and published by another journal. Author publicly circulates reviewer's comments, identity and includes notifying the press in a critique of the reviewer. Reviewer reports receiving abuse from people, including members of his own department. Question arises: Who owns peer review?

# Further...

- What is a reviewer committing to when they agree to provide a review?
- Does an author have the right to circulate your confidential evaluation widely to the public?
- Do reviewers have copyright of their reviews?



# COPE Case 2

Author has manuscript reviewed and rejected by Journal A. Author revises manuscript and submits to Journal B with content from a reviewer from Journal A included verbatim in the revised manuscript with no acknowledgement. Reviewer for Journal A complains to Journal B that this is plagiarism. Question arises again? Who Owns Peer Review? When reviewers write manuscript reviews are they seceding authorial control over their reviews?

# Other Peer Review Issues

Fake Reviews  
And  
Predatory Journals

# Fake Reviews

A newly discovered phenomenon, particularly over the past two years, where authors (and, in some cases, editors) make up false identities and bogus email addresses and create fake reviews of articles

- Early famous cases, see Hyung-in Moon, a South Korean researcher, made up email addresses so he could do his own peer review. Led to retraction of 35 articles (details in references)

While this is a problem for all of us and has happened in many countries, this has been an issue for academics in China. In 2015, The Wall Street Journal noted that Springer Publishing retracted 64 articles and BioMed Central retracted 43 articles due to fake reviews and that many of these articles came from China. Felicia Sonmez (with contribution by Hu Xin, August 25, 2015)

# Reasons for the Fake Review Problem

1. It was possible because many publishers ask authors to suggest experts in their field as potential reviewers. This is because choosing reviewers is labour-intensive and time-consuming and also because editors are not experts in all sub-specializations in their fields.
2. Like much misconduct, the pressure to publish, particularly in Rank A prestigious journals, makes it tempting to try to “game” the peer review system.

## And, finally

3. The pressure to publish is exacerbated by increased internationalization of education and research, including the international rankings of universities and scholars. Thus, the increased number of universities and academics conducting research and submitting manuscripts has led to more competition and more misconduct.

# Predatory Journals and Fake Peer Review

This could be a topic on its own so I will just briefly note its relationship to peer review issues.

Predatory journals are variously defined but generally they are considered to be fake or very bad journals with fake or no legitimate peer review system which accept articles for cash payment. There has been a flood of such journals over the past decade.

The worst of these are JUST fake journals, that is not only is the review fake, there is no actual journal. So called editors and publishers take money without the existence of any kind of real publication. Just plain fraud.



In November 2016, Tom Spears, a reporter at Canada's paper, the Ottawa Citizen, wrote a series on predatory journals, a concern in Canada after two publishers of medical journals were bought by OMICS, a company in India, known for being one of largest predatory publishers in the world.

Spears wrote and submitted a gibberish, fake article, with made up words and with plagiarism of Aristotle which was accepted for publication in the Journal of Clinical Research and Bioethics, Volume, 7, Issue 5, 2016

Predatory journals with fake peer review are creating some chaos in publishing, particularly among junior academics trying to find legitimate venues for publishing their research

Image: Gideon Burton



[publicationethics.org](http://publicationethics.org)

# **Some say that the Peer Review System is Broken**

# What are the Main Complaints?

- Variability in Quality of Reviews
- Variability in Standards, Guidelines and Expectations Across Journals or Lack of Awareness by some Editors about COPE standards
- Concerns about Bias or Conflict of Interest by reviewers or editors
- Lack of Training for Some Reviewers or New Editors
- Delays and Slowness of Review Process

# Further...

- Dependence on volunteer labour with volunteer reviewers and volunteer editors
- Lack of recognition of importance of editing and reviewing with consequent reluctance of some academics to serve as referees or editors
- Reviewers generally get neither recognition of their valuable service to the profession by their institutions nor financial compensation from editors and publishers

# So, is Peer Review Broken?

Well, the majority of editors, researchers, funders, universities, publishers and governments don't think so.

While many believe that there is room for improvement, the majority of stakeholders think that the peer review system is critical to the guardianship of the creation and dissemination of scholarly knowledge and of the creation of peer-reviewed art and music.

## The 2012 publication of the 2009 large scale SenseAboutScience study

“The study found that the peer review process is highly regarded by the vast majority of researchers and considered by most to be essential to the communication of scholarly research. Nine out of 10 authors believe that peer review improved the last paper they published.” Respondents also believed that

“double-blind peer-review [was]..the most effective form of peer review.”



# Who Are the Main Adherents of Peer Review?

- Editors
- Authors, Readers
- Universities
- Learned Societies and Associations
- Academic Publishers
- Academic Researchers
- Government and Research Funders

**But if the majority of those of us  
In the field of  
Academic Scholarship  
And Dissemination  
Believe fundamentally  
In the Peer Review System  
Where do we go from here?**

# So, what do we need to do to improve peer review?

1. Invest in education for peer reviewers
  - Standardize education for editors and reviewers
  - Educate the academic community to understand the importance of:
    - Peer review as Service to Knowledge Creation and Dissemination
    - Respect for reviews and recognition that peer reviewers do not lose the copyright of their reviews when they review manuscripts

- Formally recognize the economic and social value of volunteer labour in the dissemination of knowledge through peer review
- Clarify journal guidelines regarding confidentiality requirements for authors and reviewers
- Have clear policies on journal webpages concerning guidelines, timelines, standards and expectations for authors, reviewers and editors and facilitate dialogue among universities and academic journals for mutual benefit and understanding

- Lobby for increased accountability and civility among academic blog sites.

# COPE

- Many of these recommendations are part of the work of COPE
- In fact, our website is rich with policy, discussion papers, guidelines and frameworks to address publication ethics
- COPE has an exciting new pilot project which we hope will lead to university memberships in COPE in future. We believe that it is critical to get us all on the same page, even or especially, if it is an e page and move forward together to create a better system to enhance the important project of publication ethics and accountability.

# Further Reading

COPE: [www.publicationethics.org](http://www.publicationethics.org)

Council of Science Editors: [www.councilscienceeditors.org](http://www.councilscienceeditors.org)

Curno, M. (2016). *Challenges to ethical publishing in the digital age*. J. of Information, Comm and Ethics in Society, 14,1,4-15.

Ferguson, C., Marus, A., and Oransky, I. (2014). *Publishing: The Peer Review Scam*. Nature, 515, 7528, 480-82, November 26. DOI:10.1038/51580a.

Haug, C. J. (2015). *Peer-Review Fraud – Hacking the Scientific Publication Process*. New England Journal of Medicine, Dec.7, 373223393-2395. DOI:10.1056/NEJMp152330.

International Society of Managing and Technical Editors: [www.ismte.org](http://www.ismte.org)

Mulligan, A., Hall, L., Raphael, E. (2012). *Peer review in a changing world: An international study measuring the attitudes of researchers*. Journal of the Association for Information Science and Technology. December 4. DOI: 10.002/asi22798.

# Further Readings

Sonmez, F. (with contributions with Hu Xin). (2015). *Fake Peer Review Scandal Shines Spotlight on China*. The Wall Street Journal, August 25.

Spears, T. (2016). *Owner of Canadian Medical Journals Publishes Fake Research for Cash*. The Ottawa Citizen, November, 22.

United Kingdom: *Peer Review in Scientific Publications*. (2012). House of Commons: Science and Technology Committee.

United States Office of Research Integrity: <https://ori.hhs.gov/>



Thank you for your kind attention,  
Deborah

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*I would like to thank all of my colleagues at COPE who comment, contribute and create our Website and the materials I utilized for this presentation.*

Questions? Comments?

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