

OSI 2016: Peer Review

Peer review is the worst form of evaluation
except all those other forms that have been tried
from time to time

--with apologies to Winston Churchill

We recommend....

- a move to greater transparency and inclusiveness
- exploring separating evaluation of rigour from its interest/originality to speed time to publication
- that new approaches must lessen rather than increase burden of reviewing and decrease wastage
- increasing evidence-based analysis of peer review
- addressing incentives/motivations for peer review

We recognize...

that there are differences among disciplines,
publishing models, generations, platforms, etc. that
affect the practicalities of implementation.

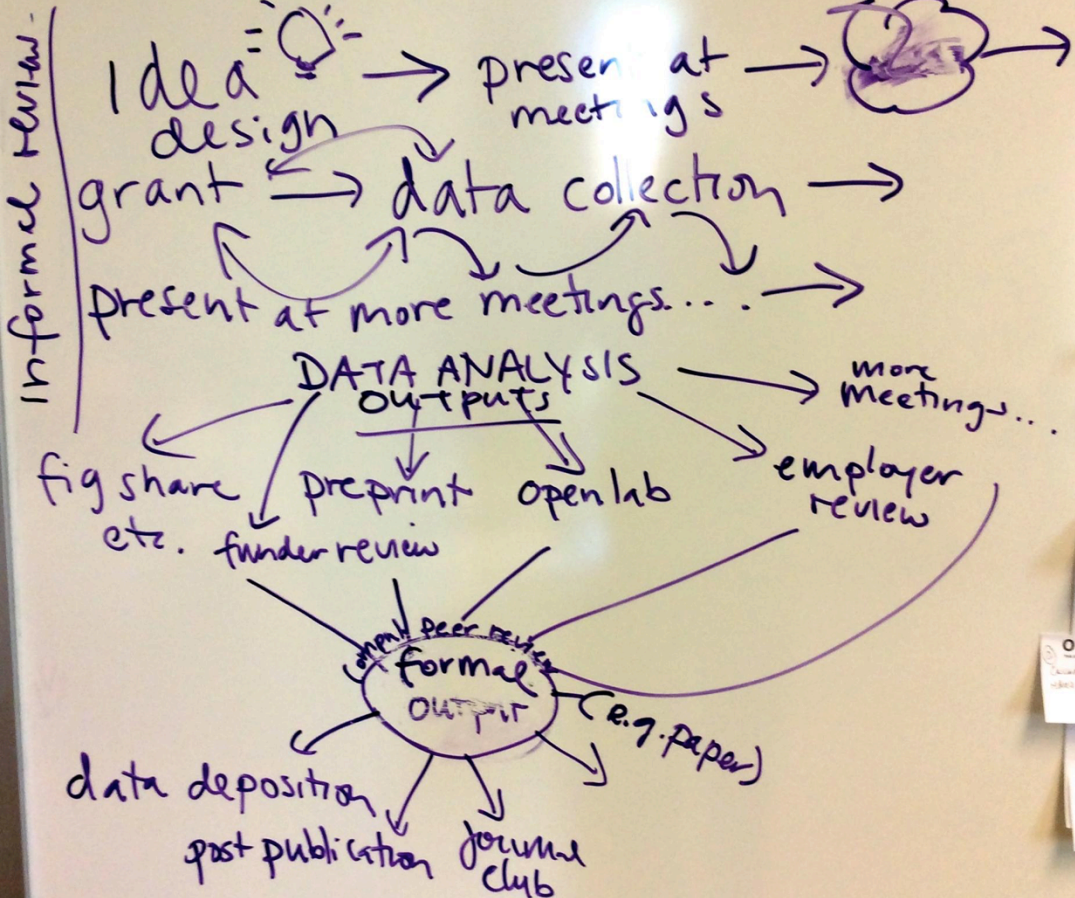
What is peer review?

It is **critical evaluation** by **relevant, non-biased experts** who give **constructive feedback**.

It provides **validation** of the scholarship with the goal of its **improvement**.

It includes **judgment** of **impact** on and **interest** to field.

continuous Life Cycle of Peer Review



It's not just the gatekeeping of the scholarly process.

Recommendations: “pre-publication”

Encourage all stakeholders to use preprint servers so that work is available sooner to enable a wider review.

Develop a more flexible, nonlinear process of peer review that facilitates many kinds of scholarly engagement and collaboration.

Caveat: The type of review will depend on the output, its timing, and the stage at which it ought to be reviewed.

Benefit: Establishing priority and increasing the speed at which information is disseminated, encouraging collaboration.

Recommendations - “traditional” process

Work toward culture of open-ness. We need to hear from authors and the complete spectrum of stakeholders to do this.

Explore problems, real and perceived, with transparency in peer review.

Consider decoupling publication of reviews and disclosure of reviewer names.

Are there areas where openness would not be appropriate, e.g. for ethical reasons?

Recommendations: post-“publication”

May work best if it's a FORMAL part of the process (vs. informal commentary)

Version 1: F1000 model: swift technical check followed by full peer review after publication (pubmed after 2 peer reviewers)

Version 2: Post-publication review of traditional publications (e.g. incentivized crowd system that prevents trolling)

Post-publication review may help with fraud detection and improving the literature, but also raises issues about versioning, citations etc.

Have we addressed weaknesses?

Bias

Doesn't protect from fraud

Delays publication

Conflicts of interest

No incentive (e.g credit)

青青的草 怕您的脚

KEEP OFF THE GRASS
YOUR FEET ARE DREADFUL



Issues....

Wait--should we hear from the authors?

Open = info overload?

Validation of review?

Are we technologically ready for flooding preprint servers?

Will this kill journals? Or what will the role of the journals be? Societies vs publishers?

What is the sweet spot in the timeline for the open review? Is it field-dependent?

Cost....is shifted rather than reduced. Versioning costs?

Can we kill the version of record? So things can be updated and re-reviewed.

We need to see what is lost by these changes.

SWOT - Strengths

Relies on trust/goodwill
Trusted by researchers
Peer review adds value
Provides some level of validation by experts
Mostly trusted by most research communities
Imperfect, but the best system we have to date
It does work within its limits
Voluntary/free
Encourages care and rigor
Filters for a target audience
Expert scrutiny
Often leads to improvements or discovers flaws
Adds credibility to published works
Can sometimes spot flaws
Improves papers when it works properly
Improves science and stimulates thinking
Sets criteria for acceptance, thereby
 motivating authors to improve quality (Ware, p 5)
Favors discussion and feedback
Tried and tested
Careful reading is a benefit

Weaknesses

Lack of openness hides bias
Bias: gender, affiliation, country, discipline
Bias and empowering of certain views and/or paradigms
Not transparent – biases go uncovered
Current system allows bias to interfere with impartial analysis
Reviewer COIs, Editor COIs
Biases can interfere
Single-blind peer review allows reviewers to veil criticism behind anonymity (Ware, 6)
Not 'blind' enough
Unintentionally promotes conservatism (especially grants, but that's a different conference perhaps...)
Doesn't promote innovation
Negative/inconclusive papers not published
Dependent on trust- which is eroding
Relies on trust/goodwill
Perceived credibility
No credit for reviewing
Not designed to identify misconduct
Not designed to detect fraud
Doesn't protect from fraud

SWOT - Weaknesses continued

The current system doesn't do a great job of addressing research misconduct

Data in supplementary material often overlooked

Complex methods in multidisciplinary papers

Review of only one research object (article) at one time period

Some faculty / ??? feel that OA = pay to play and therefore unethical

Little training for peer reviewers

Increasingly difficult to find reviewers

Open access journals may not attract quality reviewers

Reviewers review for journals and editors, not for their peers

Element of chance- only 2 or 3 reviewers out of many potential opinions

No independent scrutiny and analysis

Too few eyes

The longest part of the publication process

Can be time-consuming, slow

Delays publication (Ware, p.6)

Takes too long

Time delays

Takes too long – important data withheld from public/researchers

Reviewers at some journals delay publication by imposing burdensome/non-critical demands on authors

Scooping

Unwieldy system for managing is cost- and resource-intensive

Peer review stops on publication

Doesn't add value

SWOT - Opportunities

Pre- or post-publication review could be a new model
Fully transparent post-publication review for journals
Fully transparent pre-publication review for books
Becoming more public
Open, post-publication peer review
Credit/recognition for reviewers an essential part of scholarly ecosystem
Cascade review can reduce inefficiency (Ware, p. 19)
Automation/de-skilling of some elements--leave it to people to judge results
Quality/science/impact
Better tools for matching qualified reviewers to content
In an online environment it is possible to make peer review more of an ongoing process
Open review promotes transparency (Ware, p. 13)
Portable peer review
Remove shackles of print/mail and develop existing system for digital world

Threats

Peer review is an attention portal that adds value, so changing it could be threatening
It is unclear whether researchers will continue devoting time to peer review if they are not incentivised to do so
If not done by the journal where does that leave the journal? Does it matter?
“Managing peer review” becomes commercial product
People thinking it’s fixed
Novel ideas and emerging subjects disadvantaged
Throw everything online and hope for the best leads to lots of shoddy information
Flawed research still gets published, e.g. STAP, Benveniste etc
Closing the scientific mind
Gaming/fraud/cheating
Bias
Corruption
Time (waste of extensive amount of time finding reviewers)