Peer Review -- RCR

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Overview

- 1. Peer Review – definition, purpose, history
- 2. Settings – institution, journal articles, grants
- 3. Responsibilities and obligations
- 4. Ethical issues of reviewing
- 5. Scenarios
Peer Review – What is it?

- Definition of peer – professional equal
- Purpose – select articles meriting publication, grants meriting funding, i.e., quality control, gate-keeping
- Not to detect fraud
- Not infallible – it’s human, after all
- Why use it? Like democracy – it’s flawed, but nothing’s better
History

- Scientific Revolution – 1550-1700, from Copernicus to Newton
- By Newton’s time, mid 1660s, – a mess
- No organized journals, professional societies
Researchers feared publishing because others might lay claim to their ideas and findings in other publications.

They communicated via letters, secret codes, or simply wrote but didn’t publish (e.g., Isaac Newton).
Henry Oldenburg, Secretary of the Royal Society of London

Henry himself
Oldenburg established

1. the Society’s journal, *Philosophical Transactions of the Royal Society* in 1660 (still publishing)

2. a guarantee to authors that the Society would support their priority in claims of discovery and authorship

3. the practice of peer review, sending manuscripts to experts for review prior to publication
Peer Review is

☐ Still the Gold Standard

☐ For institutional decisions (promotion/tenure, merit, etc.)

☐ For journal publications

☐ For grant applications/funding
Peer Review consists of:

- Soliciting professional opinion of experts about quality and suitability of manuscripts for publication/grants for funding
- 2-4 reviewers, editor/grant panel and program officer combine recommendations and decide
What peer reviewer will do

- Read and comment on everything!
- Judge lit. review, your logic, your methods, your data analysis, your conclusions, your writing style, strength of contribution (novel? Advance the field? Fit the mission of journal?)
- In short, does this merit publication?
Functions of Peer Review

- Establish level of quality in published record
- Reduce number of errors in literature
- Provide a fair way of allocating limited journal space/ grant funding
- Help editor/grant agency make good decisions
- For journals, help author communicate accurately and effectively
Responsibilities, obligations

- Be knowledgeable enough to review
- Be punctual, meet deadline for review
- Disclose/ avoid real or possible Conflict of Interest (COI) and bias, personal, professional, financial
- Be thorough, and effortful – do your job
Ethical issues

- Confidentiality – the manuscript/grant is privileged information
- Respect for intellectual property of author (you can’t swipe the ideas)
- COIs – bias, rivalry, favoritism, etc.
- Professionalism – tone of review
Anonymity vs. identify self?

- Double-blind review
- Single-blind review
- Disclosed author/reviewer identities
- Follow, don’t fight, journal/agency policy
“Open” review – identify reviewer, publish reviewer names w/ article

- Prevents “enemies” from rejecting manuscripts
- Makes reviews more tactful, constructive
- Prevents unscrupulous reviewers from suppressing pubs
- May improve reviews
Ethical Violations

- Confidentiality (Reviewers must treat submitted manuscripts as confidential, privileged)
- Professionalism (Reviews should be written in a tactful, responsible, constructive tone)
- Bias (Reviewers must set aside personal/professional bias and preferences)
- Insider Knowledge (Reviewers have advanced knowledge of new developments and ideas)
Scenario 1

- Dr. A (for Author) submits a manuscript, and Dr. R (for Reviewer) is asked to review it for the journal. Dr. R finds several citations to the published literature that he didn’t know about, tracks them down, and starts using them in his own research. He does not credit Dr. A.

- Ethical?
Scenario 2

☐ Dr. R is fascinated by the methods and results in a paper he’s reviewing. He writes a very positive review, sends it to the editor, then revises and submits his own manuscript based on those methods and results. He fails to cite Dr. A (Author).

☐ Ethical?
Scenario 3

- Dr. R likes Dr. A’s methods and results so much, he just contacts Dr. A directly and tells her so, without clearing this with the editor of the journal.

- Ethical?
Scenario 4

- Dr. R waits until the editor accepts Dr. A’s manuscript for publication, then with the editor’s permission contacts Dr. A about collaborating.

- Ethical?
Scenario 5

☐ Dr. A’s manuscript is under review. Then he receives Dr. B’s manuscript to review – B’s manuscript quotes and disputes Dr. A’s own “under review” article. Dr. A writes to the editors of both journals, saying that Dr. B has violated the principle of confidentiality.

☐ Dr. B is (choose one)
☐ 1. an upstanding, ethical researcher
☐ 2. Pond Scum
Scenario 6

- The journal editor notes some “rough” language in Dr. R’s review; R says “The author seems to be ignorant of important recent developments,” “the author makes several rookie mistakes in data analysis, and writes like a freshman.”

- What should the editor do, if anything?
- Has Dr. R helped or hurt his reputation?
- What should the author say to the editor about the review?
Dr. C’s grant proposal was turned down last year, and now she notices that a well-known researcher, Dr. R, has switched research directions, and is using methods very similar to those C proposed in last year’s grant proposal. Dr. R was on last year’s grant review panel.

Did Dr. R swipe C’s ideas?

What should Dr. C do?
Dr. A had a heated debate with Dr. B in the literature several years ago, and they disagree on many issues (B is Pond Scum, by the way).

Dr. A is now on a grant panel, and is assigned to review Dr. B’s proposal. What should Dr. A do?

Choose one answer.

1. Review B’s grant and kill the sucker once and for all. (Revenge is sweet!)

2. Declare a COI; do not review the grant. (Wear the white hat.)
How to Do Peer Review

- Act honorably
- Tell the editor/program officer
- Sign your review – or write as if your name would be on it
- Do good work – be knowledgeable, conscientious
- Why? – what goes around comes around, you’ll be Dr. A too, and your reputation will be important
Why are we doing all of this? (This RCR stuff)

- “The scientific enterprise is built on a foundation of trust.
- “Society trusts that scientific research results are an honest and accurate reflection of a researcher’s work.
- “Researchers equally trust their colleagues.
- “When this trust is misplaced and the professional standards of science are violated ... the base of their profession has been undermined.
- “This would impact the relationship between science and society.” (from On Being a Scientist, 3rd ed.)
Thank you.
Resources on Peer Review

- Here are a few articles from the Chronicle of Higher Education on peer review that might be of interest.

- Two useful websites:
  - Univ. of New Hampshire: http://www.unh.edu/rcr