Reviewer’s perspective on
How to publish a world-class paper

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To publish a world-class paper is not the problem
The problem is to write a world-class paper
To write a world-class paper is not the problem
The problem is to generate world-class data

- Novelty
- Timeliness
- Significance

are the issues

Preliminary remarks
• Reviewers and bibliometrics
• Review of my own “world-class paper”
• Life and times of a reviewer
• Properties of a world-class paper
Reviewers are blinkered by bibliometrics

Novelty needs time

In the first 3 years after publication novel papers are cited less than “middle of the road” papers

Measure of novelty: unusual combination of cited journals in the reference list
• Researchers: stop relying exclusively on short-term citation counts and journal impact factors in guiding the choice of topics and where to submit
• Reviewers: resist seeking out and relying on metrics, especially when calculated over less than a three-year window
• Editors: reject shoddy metrics used to evaluate journals. Advocate for metrics to be assessed over longer time spans.

Recommendations from Paula Stephan, Reinhilde Veugelers and Jian Wang (Nature 27 April 2017)
Don’t ignore bibliometrics

- Don’t take bibliometrics too seriously
  - Reputation of the group
  - Network position (conferences)
  - Social impact

- But take them seriously
  - Others do
  - It helps your career very much
  - Science is competitive in its very nature

- World-class science scores high on bibliometric indicators

Don’t ignore bibliometrics
My most cited paper (2008)

- High-impact journal (IF 13.0, 2nd Ecology)
- Review paper
- Relevant and significant topic
- Well written
- Highly cited (985 times)

- It wasn’t reviewed very thoroughly
• Journal OK (IF 5.4, 36th Environmental Science)
• Experimental paper
• Relevant and significant topic?
• Well written?
• Little cited (27 times)

• It was reviewed very thoroughly

My best paper (2008)
How does anyone become a reviewer?

• Frequent reviewers are reviewers who
  • Respond quickly when asked to review
  • Submit reviews in time
  • Provide reviews that are thorough and critical
  • Are knowledgeable and authoritative
• Reviewers are not necessarily the world’s experts in the field
• Reviewers are scientists like yourself or your professor
• Reviewers just try to help you
• If reviewers misunderstand your conclusions, you most likely have not presented them well
• Reviewers often pay considerable amount of their time to your paper
• Reviewers are one of the few scientists that read your paper very well
• Reviewers advice the editor, they don’t take the decision

Bear with reviewers
• About 50 reviews per year
• Many from journals for which I serve in the editorial board
• Many from all kinds of journals
  • Nature Reviews Genetics
  • The European Journal of Soil Biology
• Advice rejection about 40%
• Advice straightaway acceptance about 10%
• Bad papers cost much more time than good papers
• Sometimes really pressing

My life as a reviewer
How do reviewers judge?

- **Novelty**
  - Have we seen similar outcomes before
  - Could the work have been done 5 years ago
  - Is the technology up-to-date

- **Timeliness**
  - Are we waiting for these results
  - Does the work link to issues of today
  - Has the work an element of surprise

- **Significance**
  - Is this work relevant outside the study system
  - Is it more than statistically sound
  - Do I get inspired or bored?
• Wrong interpretation of data
• Insignificant, boring results (even when statistically sound)
• Limited, provisional or incomplete data
• Old-fashioned or inappropriate methodology
• Wrong statistics, not fitting experiment design
• Neglect of recent relevant literature

Prohibitive issues
• Too much speculation (lengthy discussion, limited results)
• Results are blown-up, made more important than justified
• Paper is too long, uses too many words
• Abstract reflects only the introduction, not the results

• Ugly figures, missing units, wrong units
• Many spelling mistakes or bad grammar
• The study system has general appeal
  • Birds over Collembola
• The problem has general appeal
  • Climate change over osmoregulation in fish
• One of your co-authors has published a world-class paper before
  • One Nature publication opens up many doors
What reviewers should not do

• Point out that some of their own papers have been missed and insist that these are cited
• Base their judgment only on the statistical analysis of the data, without providing an assessment of the contents
• Reject the paper because of spelling mistakes or poor English style
A world-class paper

• Novel, a great idea
• Significant, raises wide interest
• Timely: now we finally know…

• Complete story, no open ends
• Evidence, no speculation
• Solid, well done, replicated
• Modern research technology