

Double blind peer review

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Editorial

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Working double-blind

Should there be author anonymity in peer review?

Double-blind peer review, in which both authors and referees are anonymous, is apparently much revered, if not much practised. The Publishing Research Consortium (PRC) has assessed attitudes towards peer review among 3,000 academics in an international survey across the sciences and humanities. The results, released last month¹, strongly affirm the value of peer review. They also highlight that 71% have confidence in double-blind peer review and that 56% prefer it to other forms of review. Support is highest with those who have experienced it (the humanities and social sciences) or where it is perceived to do the most good (among female authors). The least enthusiastic group is editors. So is it time for editors, and those at Nature in particular, to reconsider their position?

If referees know the authors' identities, it may leave the latter vulnerable to biases about them or their previous work, their gender, their nationality or their being new to an area of research. But the PRC survey supports the contention of Nature and others that identifying authors stimulates referees to ask appropriate questions (for example, differentiating between a muddled technical explanation and poor experimental technique). Knowing author identities also makes it easier to compare the new manuscript with the authors' previously published work, to ensure that a true advance is being reported. And knowing rather than guessing the identities of authors encourages reviewers to raise potential conflicts of interest to the editors.

Is there evidence that double-blind peer review presents a better alternative? It would do so if it generated more constructive comments in the minds of editors and authors, or if the identity of authors were truly protected, or if biases were reduced. So far, the jury is out. Although at least one study in the biomedical literature has suggested that double-blind peer review increases the quality of reviews, a larger study of seven medical journals^{2, 3} indicated that neither authors nor editors found

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significant difference in the quality of comments when both referees and authors were blinded. Referees could identify at least one of the authors on about 40% of the papers, undermining the *raison d'être* for double-blinding. The editors at the Public Library of Science abandoned double-blind peer review because too few requested it and authors were too readily identified.

The one bright light in favour of double-blind peer review is the measured reduction in bias against authors with female first names (shown in numerous studies, such as ref. 4). This suggests that authors submitting papers to traditionally minded journals should include the given names of authors only on the final, published version.

The double-blind approach is predicated on a culture in which manuscripts-in-progress are kept secret. This is true for the most part in the life sciences. But some physical sciences, such as high-energy physics, share preprints extensively through arXiv, an online repository. Thus, double-blind peer review is at odds with another 'force for good' in the academic world: the open sharing of information. The PRC survey found that highly competitive fields (such as neuroscience) or those with larger commercial or applied interests (such as materials science and chemical engineering) were the most enthusiastic about double-blinding, whereas fields with more of a tradition for openness (astronomy and mathematics) were decidedly less supportive.

Where does this leave journals? Editors have the responsibility to provide a neutral bridge between referees and authors and so may help to better shield authors from bias. Easily said! The evidence of the PRC survey suggests little faith in that impartiality, but editors ? certainly at Nature and its related journals ? take that responsibility seriously.

Nature's policies over the years have generally moved towards greater transparency. Coupling that with the lack of evidence that double-anonymity is beneficial makes this journal resistant to adopting it as the default refereeing policy any time soon. But many of our readers are referees as well as authors. We welcome their views on author anonymity from both vantage points. To that end, this Editorial will be posted for comment at http://blogs.nature.com/peer-to-peer/2008/02/working_doubleblind.html.

1. Publishing Research Consortium Peer Review in Scholarly Journals (Mark Ware Consulting, Bristol, 2008); available at <http://www.publishingresearch.net/PeerReview.htm>
2. Justice, A. C. et al. J. Am. Med. Assoc. 280, 240-242 (1998).
3. Cho, M. K. et al. J. Am. Med. Assoc. 280, 243-245 (1998).
4. Budden, A. E. et al. Trends Ecol. Evol. 23, 4-6 (2008).