

On Blindness

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Wine, when it is judged at competitions, is judged blindly. Musicians auditioning for coveted orchestra spots are judged blindly. The old Coke-versus-Pepsi taste test was blind. Even love is blind. But, alas, mathematics manuscripts, when judged for acceptance by journals, are subject to a bias: the author's name and school affiliation are attached to the submitted manuscript for no apparent reason other than to influence the referee.

Some referees blanch at the idea of blind refereeing. Their usual defense of this position—author name and institution affiliation somehow help the referee render a judgment about the quality of the manuscript—at once undermines their stance, by acknowledging precisely that this information *does* influence the referee.

But this is not surprising. Reading a mathematics manuscript carefully is demanding and time-consuming. The typical referee must work hard to find the time—between writing his own papers, teaching his classes, serving on committees, *ad nauseam*—just to *glad-hand* all of the manuscripts that editors send his way, to say nothing of actually reading them thoroughly and carefully. The temptation to cut corners is overwhelming. Imagine the typical time-pinchd referee with two manuscripts on his desk, one from, say, Alotta Reputation at The Hugh G. Goes University of the Rather Impressive, the other from Joe Feeblepuss at Southeast State University of Agronomy. The poor referee has little time to devote to these manuscripts. The editor has reminded him (twice!) that the reports on both manuscripts are long overdue. Is it a stretch to imagine this frazzled referee will be inclined to give a *pro forma* scanning of the A. Reputation manuscript before rubber-stamping a positive review, while reserving the full powers of his mordant scrutiny for the feckless Feeblepuss manuscript? Or, perhaps, also give a

pro forma scanning of Feeblepuss's manuscript before rubber-stamping a negative review? ("The mathematics in this manuscript *seems* to be correct, but it is probably too *specialized* to be of interest to a wide audience.") The occasional delusional referee may seduce himself into thinking that he can judge manuscripts this way without bias (yea, right, and lobbyists' money doesn't influence politicians); the rest of us know that, *of course*, referees are influenced by the manuscript author's name and school affiliation.

Now it's true that if feckless Feeblepuss submits a rare manuscript of exceptionally high, award-winning quality, it will probably be accepted by a reputable journal. Eventually. But not many mathematicians, not even "big name" mathematicians, often do award-winning research. Aside from a tiny handful of mathematicians from each epoch, most of us do mostly good competent work that is not particularly monumental. Most of us are worker bees, quietly going about our business of filling in small gaps in the theory, making computations that support or refute conjectures, etc. There are only a few queens. But the publishing process is blind to this fact. It treats far too many workers like queens, and treats the rest of the workers cavalierly. It doesn't even get the partition—into queens and workers—right: Galois's manuscript was rejected by a referee suitably unimpressed with the young Frenchman's name and pedigree.

The American Mathematical Society experimentally used blind refereeing for its *Proceedings* once for a year—the experiment was discontinued [2]—but other fields often use blind refereeing, e.g., *The Journal of the History of Ideas* asks its authors to omit their identity from submitted manuscripts [4]. Not only is this obviously fairer (Shaugnessy [8] notes that "some papers are published because of the rep-

utation of the authors or institutions . . . editors or reviewers let inferior papers 'slide' if they are submitted from a prestigious researcher or institution"; see also [1] and [6]), it also improves the quality of the papers that are published. For instance, in their landmark study, Peters and Ceci [7] evaluated 12 psychology journals that used non-blind review by resubmitting manuscripts that had previously been published in the same journal two years before, changing only the names of the authors and their institutions. Only 2 out of 16 reviewers felt that previously published *but unrecognized* papers were suitable for publication. Witness also the conclusions of Fisher, *et al.* [3]: "Blinded reviewers and editors in this study, but not nonblinded reviewers, gave better scores to authors with more previous articles. These results suggest that blinded reviewers may provide more unbiased reviews and that nonblinded reviewers may be affected by various types of bias." And finally, consider the results of Labland's and Piette's massive study [5]: "Articles published in journals using blinded peer review were cited significantly more than articles published in journals using nonblinded peer review . . . Journals using nonblinded peer review publish a larger fraction of papers that should not have been published than do journals using blinded peer review. When reviewers

know the identity of the author(s) of an article, they are able to (and evidently do) substitute particularistic criteria for universalistic criteria in their evaluative process."

Herewith then, a modest proposal to realign the mathematical manuscript submission ritual with both fairness and excellence:

1. Author selects journal and sends manuscript to editor.
2. Editor forwards manuscript, *sans* author's name and school affiliation, to referee.
3. Referee carefully reviews manuscript and sends recommendation to editor.
4. Editor uses referee's report to inform his decision about whether or not to accept manuscript.

I suspect, though, that mathematics manuscripts will be reviewed with flagrant bias for some time to come. The people who have the power to improve the process—journal editors—are themselves "name-recognizable" and among those who have the most to lose by making the process fair and increasing the quality of their journals. I imagine it would be difficult for them to relinquish their prerogative to exercise their own shallow bias.

When Oedipus, King of Thebes, found out he'd married his mother, and

(probably) killed his father, the only logical action for this "blind" man to take was to gouge his eyes out. I'm not suggesting that the editors of mathematics journals, blind though they are to their own bias (and its concomitant advocacy for less than the best papers in the pages of their journals), gouge their own eyes out. I am suggesting that the rest of us help them see—remove their blindness—rendering self-mutilation unnecessary. Towards that end, and in summary, a simple argument:

if attaching the author's name and school affiliation to the manuscript influences the referee, this is obviously unfair bias and should be avoided; if attaching the author's name and school affiliation to the manuscript does not influence the referee, then there should be no objection to removing them.

REFERENCES

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