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Scholars Propose Methods of Improving the Peer Review of Articles

Written by Angus Paul

“There are many problems with the peer-review system. Perhaps the most significant is that the truly imaginative are not being judged by their peers. They have none!”

So writes Rosalyn S. Yalow, senior-medical investigator at the Veterans Administration and chairman of the department of clinical sciences at Montefiore Hospital and Medical Center in the Bronx, N.Y.

Ms. Yalow, who won the 1977 Nobel Prize in Physiology or Medicine, is one of more than 50 scholars who have contributed commentaries to a symposium in this month’s issue of *The Behavioral and Brain Sciences*, a journal edited by Stevan Harnad.

The symposium primarily concerns the peer-review system as it influences the publication of articles in scientific journals. The commentaries center on an article called “Peer-Review Practices of Psychological Journals: The Fate of Published Articles, Submitted Again,” by Douglas P. Peters and Stephen J. Ceci.

Peer review is important to the scientists not only because it helps to determine whether journal articles are accepted or rejected, but also because it affects the distribution of grants, awarding of prizes, selection to learned societies, and hiring and firing.

Insofar as it affects publishing, however, the system has come tinder some criticism from scholars who say reviewers (or “referees”) of journal articles are frequently biased against new ideas, women, or scholars from less prestigious universities. Often, they add, different reviewers of the same article apply different standards in judging it.

Those criticisms and others, as well as a number of proposed remedies, are aired in the symposium in *The Behavioral and Brain Sciences*.

In their article, which is the focus of the issue, Mr. Peters and Mr. Ceci write that they chose “12 already published research articles by investigators from prestigious and highly productive American psychology departments.”

Mr. Peters is associate professor of psychology at the University of North Dakota, and Mr. Ceci is assistant professor of human development and family studies at Cornell University.

After slightly altering the 12 articles and changing the names of the authors and their affiliations, Mr. Peters and Mr. Ceci resubmitted the manuscripts “to the

journals that had originally refereed and published them 18 to 32 months earlier.”

Only three of the resubmissions were detected, and, of the other nine, eight were rejected.

Mr. Peters and Mr. Ceci argue that reviewers’ bias against non-prestigious institutions accounted for the eight rejections, since the authors’ affiliations had been changed from well-known universities to such places as the “Tri-Valley Center for Human Potential.”

Although a great many of the contributors to the symposium, including Mr. Harnad, the editor, found fault with the methods employed by Mr. Peters and Mr. Ceci, many also agreed that reviewer bias is a fact – even if the Peters-Ceci study failed to prove its existence.

“On the basis of my own experience,” writes William M. Honig, of the Western Australian Institute of Technology and editor of *Speculations in Science and Technology*, “I find that there *is* indeed a definite preference and prejudice for papers from elite groups.”

On the other hand, write Richard M. Perloff and Robert Perloff, “reviewers may be resentful, jealous, or envious of psychologists from a Harvard or a Stanford” and may not have those feelings when reviewing work by a scholar from a less prestigious institution in which case they may “apply a more lenient standard.”

Richard Perloff is assistant professor of communication at Cleveland State University, and Robert Perloff is professor of business and psychology at the University of Pittsburgh.

Some contributors disagree, however, that bias in favor of highly regarded institutions impedes either careers or fresh ideas.

Daniel Perlman, professor of psychology at the University of Manitoba in Canada, writes, “The vast majority of published articles are written by people with lesser affiliations [than Yale or Stanford, for example]. Thus, the frequent citation of scholars at elite institutions undoubtedly reflects a pluralistic judgment of the value of work done at high-status institutions.”

“I am in full sympathy,” writes Ms. Yalow, “with rejecting papers from unknown authors working in unknown institutions. How does one know that the data are not fabricated?”

Bias against young scholars and women is also believed by some to exist, since most reviewers are men, middle-aged and older, who have established themselves in academe.

For example, after the Modern Language Association instituted blind reviewing, a system whereby the author of a paper is unknown to the reviewer, “there was a dramatic rise in the acceptance of papers by female authors,” writes David F. Horrobin, research director at the Efamol Research Institute in Nova Scotia.

Blind Reviewing

Blind reviewing is frequently mentioned by contributors to the symposium as a way of combating bias. While acknowledging that the content of a manuscript often reveals who its author is, supporters of the concept believe enough authors would escape identification to make blind reviewing a significant improvement, if not a cure-all.

David S. Palermo, professor of psychology at Pennsylvania State University and editor of the *Journal of Experimental Child Psychology*, writes he may insist on blind review in the future since, in today’s tight job market, “many very competent young scientists are taking academic positions at institutions they would not have considered a few years ago.”

On the other hand, he says, “I, and some other editors, have a policy of applying more lenient criteria for first submissions by young authors, regardless of their institutions.”

Using from five to fifteen referees, instead of the usual one to three, is designed to elicit a larger range of viewpoints, and thereby to counter bias. Cyril Belshaw, professor of anthropology at the University of British Columbia, generally gets about seven to twelve reviews of manuscripts submitted to the journal he edits, *Cultural Anthropology*.

A greater number of referees makes it more likely that methodological errors and potential breaches of copyright (involving prior or simultaneous publication of an article elsewhere) will be detected, Mr. Belshaw writes. He added in an interview that such a system was also better at ferreting out instances of plagiarism.

Lack of agreement among reviewers is another question raised in the symposium. Some contributors argue that the failure of referees to agree with one another about the merits of a particular article indicates that those reviewers may be using different criteria for judging the work. Such a situation renders the peer-review system unreliable, they write.

Suggestions for dealing with this problem include requiring referees to use standard rating forms and to participate in reviewer-training programs.

Some contributors argue that reviewing a manuscript is too complex a task to be handled within the confines of a form.

Finding “Crucial Flaws”

As for reviewer training, John Cone, professor of psychology at West Virginia University, writes “crucial-flaw-discovering is a skill that can be objectified and taught along with other components of the ‘artful’ reviewer’s repertoire.” Other contributors believe capitalizing on referees’ differences makes more sense than trying to increase agreement among them.

“Frequently,” writes J. Scott Armstrong, associate professor of marketing at the University of Pennsylvania’s Wharton School of Finance and Commerce, “the review itself provides useful information.” So, “for important issues, referees could publish their review along with the paper.”

As another option, it is suggested that an author might be the person to decide if his or her article is published, the only proviso being that all its reviews must be published, too. This, says R. A. Gordon, of the physics laboratory at the Technical University of Denmark, would put more responsibility where it belongs – on the author.

“Few authors,” he writes, “whether from well-known institutions or not, would lightly decide to publish a manuscript accompanied by a thorough, carefully reasoned criticism or reservation.”

Poor judgment, unfamiliarity with the literature in their fields, and other kinds of reviewer incompetence were also mentioned in the symposium.

“In my own experience,” writes Mr. Horrobin, “about one-third of referees’ reports are accurate, comment on important issues, and are fair in their recommendations; about one-third are accurate but obsessed with the trivial and recommend revision or rejection on inadequate grounds; and about one-third are inaccurate and can be demonstrated to be so on objective grounds.”

A frequent suggestion in this regard is that authors be given the chance to respond to reviews before a decision is made to accept or reject their articles.

Many scholars argue that not all the faults of the peer-review system lie with the reviewers.

Editors, some say, should be more careful about screening reviewers before assigning them manuscripts, participate more actively in the decision to publish an article (instead of merely tabulating referees’ suggestions), and enlist enough co-editors to deal adequately with the number of works submitted.

Another view holds that while referees may not have the time to do an adequate job, they would make the time if they were paid for their efforts. Nor are authors blameless, argue some of the contributors to the

symposium, since they frequently fail to make the changes in their manuscripts suggested by reviewers, or don't participate in referee evaluations.

Still others speculate that peer review creates a kind of vicious circle, with authors writing to please the current, biased system.

“Author's Formula”

Mr. Armstrong of the Wharton School postulates an “author's formula” for success in the quest to have articles accepted for publication by scholarly journals. In part, the formula recommends: Choose unimportant problems, agree with current beliefs, advocate one hypothesis rather than present multiple hypotheses, write confusing prose, use complicated methods, and avoid full disclosure of methods and data.

Other proposals involve eliminating review altogether.

Richard Perloff and Robert Perloff suggest “not entirely facetiously” that there be no review process at all; any article would be published if its author paid the cost.

“The articles that catch fire and are cited might come from beggars, thieves, princes, or future Nobel laureates. Let it all hang out: the garbage, mediocrity, and the crown jewels.”

Some say the new information technologies would make this possible. Finally, there is considerable feeling that the connection between peer review and journals is not important because, if bias and incompetence lead to the rejection of a good article by one journal, eventually it will be published by another.

According to a number of contributors, such problems as general mediocrity of research and the effect of peer review on the distribution of research funds are more crucial.
