
Despite Problems With Peer Review, Science Publishing Is Healthier Than Ever

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In *The Scientist's* Sept. 6, 1993, edition (page 11), Penn State's Rustum Roy discussed today's science publishing environment. Although the thought-provoking essay carried a broad headline—"Science Publishing Is Urgently In Need Of Reform"—Roy's criticism centered on the comparatively narrow subject of peer review by scientific journals. There, at the heart of it, is where he wants to see reform.

Using dramatic generalizations in characterizing the process of judging a research paper's worthiness, he suggested that peer review—as practiced by some journals—both reflects and sustains a number of social problems that exist within the scientific community. He assailed the process as an unfair, time-wasting, and potentially humiliating ritual that frequently inhibits rather than catalyzes the dissemination of valuable research findings. He lambasted the "peers" who do the reviewing, suggesting they are apt to be, at best, unqualified or irrelevant, or, at worst, motivated by bias and self-interest.

Well, I empathized with his point of view and acerbic candor. The peer-review process isn't perfect, and, undoubtedly, Roy's objections

resonated in the minds of many readers who, like me, have experienced arbitrary or inordinate delays in publication or have been subjected to flippant, unsubstantiated comments or unreasonable demands for additional work on a report. (Recently, I responded to such treatment by sending my manuscript to an alternative journal, where it was immediately accepted.)

Instances or patterns of sloppiness in peer review certainly call for reform; all communities, including the science community, need continually to reexamine their traditions—no matter how venerable or widely accepted—to make sure they are properly serving their inhabitants. However, I cannot go along with the notion, as expressed in the headline given to Roy's essay, that all "science publishing" urgently needs reform. And I wouldn't want *The Scientist's* readers to think that I do.

As Roy noted, today's world of science publishing embraces a wide array of specialized journals, science-oriented magazines, newspapers, and so forth. They serve audiences comprising everyone from the dedicated researcher to the reader with a pure fascination with,

if little knowledge of, sophisticated science. Indeed, for my part, I experience a sort of love-hate relationship with the stack of back reading that always seems to confront me in my office and home study. I would love to read all the publications, cover to cover, and I hate to give up the pleasure and enrichment they offer because of a lack of time or energy.

Add to this the steady flow of engaging and important books from publishing houses around the globe, and you have a universe of "science publishing" that, at least in terms of the information it provides to scientists and the lay public, appears to be getting more robust and valuable by the day. This is not a phenomenon or process generally in need of reform!

For that matter, as far as the prohibitive or delaying nature of peer review goes, it is difficult to argue that a scientist having significant research to communicate will find it impossible to get a report published

today, when enough journals exist to accommodate an annual output of more than a million papers. And there's another emerging component in the "science publishing" category these days that promises to speed up the dissemination of research findings: Many scientists are finding electronic publication of preprints and the distribution of fax copies as a quick and efficient means of rapidly making their findings known to colleagues and thus establish their priority of discovery or intention.

If the peer review process is deficient and needs correction in the case of one publication or another, let's address the matter with a dedicated desire for improvement. Let's not allow our impatience with peer review's imperfection to obscure the fact that in a world increasingly needing to be informed on scientific issues and activities, science publishing overall is making a monumentally valuable contribution.