All the News…

When you consider that the time between submission of a journal paper and its publication is about the same as it takes to birth a baby, it would seem somewhat of a stretch to describe the contents of these papers that we publish as "news." But news it is. Our papers provide, or should provide, information on new insights and techniques for those working in the field. And while our authors do not provide cigars and candy, as newly blessed parents do, there is a cause for celebration.

Although *Optical Engineering* is considered a peer-reviewed journal, it could be described as a technical news magazine and the staff and editorial board as technical journalists. But our brand of journalism is quite different than the kind that provides day-to-day coverage of the times we live in. In this type of journalism the question to be answered is: What in the world happened? Whereas technical or scientific journalism asks: What happens in the world? The distinction that might be made is that one type values speed of reporting with a possible loss of accuracy while the other insists on accuracy over speed. For news journalists, accuracy is determined by the author in collaboration with his or her editor. The reward sought is a "scoop," the initial publication of a newsworthy event or disclosure. Scientists and engineers, including Newton and his contemporaries, seek publication to establish the scientific version of the scoop, priority of discovery. The time to publication is delayed while the paper is evaluated. As a measurement of priority, the date of submission, found on the front page of the paper, provides a time stamp for all to see.

But what constitutes news and what represents a scoop? Some revelations are so predictable that even when an event has just occurred, it isn't news: The sun rose this morning. Other items, while not predictable, are of such little consequence that they are not printed or they merit only one or two lines on the inside of a paper or at the end of a news program: Hollywood stars are divorcing.

The major stories and the scoops are found on the front page of papers, the initial reports on news programs, and the top of Web pages. But in technical journalism, there is, with few exceptions, no identification of major papers at the time of publication. Instead, their importance is signaled by the number of citations of the paper that are made once the paper is published. These citations may be patent citations as well as journal references.

So, how do we know what we are publishing is news? We depend upon our reviewers to tell us if there is something new in the paper they are evaluating by rating the technical quality of the paper and by making extended comments on it. Still, in a fair number of cases, some papers upon evaluation and subsequent revision are accepted despite a lack of new results. In an April 2005 editorial entitled "'Not Wrong' Papers," I described the process:

> I commented to one of the editors whose papers I had evaluated about his low-rated papers and he told me that he had some qualms. But he felt that because the reviewers had recommended that they be published, usually after the authors had made required revisions, he shouldn't decline to publish the paper. There was, in a sense, nothing wrong with the paper. Although they might not be wrong, they were not particularly compelling either. I call them "not wrong" papers.

Even with our efforts to provide reviewers with criterion-based evaluation tools, there are a number of marginal papers that are still being published in this journal. In addition to "not wrong" papers, there are papers that describe small increments of progress in the field. With figures of merit showing 2% to 5% improvements, what are the chances that any researcher is going to adopt that line of research or incorporate a technique based on such minimal results? Working in established fields (certainly this encompasses most of optical engineering), advances that can be measured and don't provide 25% or more improvement will probably be dismissed by researchers.

We are developing some strategies to weed out weaker papers at the time of submission and during the review process. By raising the bar on the quality of papers, we can help to reduce the paper clutter that is occurring in scientific journalism these days. However, when it comes to what constitutes news in your field, only you, the reader, can decide.

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