

3. A. A. Tyapkin, *Lett. Nuovo Cimento* **7**, 760 (1973).

E. W. SILVERTOOTH
Olga, Washington

9/93

KRISHER REPLIES: The JPL experiment is indeed similar in spirit to that of R. Cialdea, but *not* to the earlier MIT experiments (which involved the comparison of laser cavities). However, there are three distinctions:

▷ The JPL experiment uses atomic frequency standards instead of lasers.

▷ The frequency standards are separated by several kilometers instead of only a small distance (less than 2 meters).

▷ Greater sensitivity is now possible.

A. A. Tyapkin's conclusions were refuted by Reza Mansouri and Roman U. Sexl (see the second paper of reference 1).

The relevancy of the JPL experiment, and certain others, was addressed in a detailed analysis performed by Clifford M. Will² (which evidently went unread by E. W. Silvertooth, although I cited it in my previous letter). We are only seeking funds sufficient to perform the experiment at its full potential; the technology has already been developed at JPL under other programs. The main improvements planned are to replace the hydrogen masers with more stable trapped-ion standards, to isolate and correct sources of systematic error and to allow the Earth to rotate for 100 days or more to maximize the sensitivity of the experiment.

References

1. R. Mansouri, R. U. Sexl, *Gen. Relativ. Gravit.* **8**, 497 (1977); **8**, 515 (1977); **8**, 809 (1977).

2. C. M. Will, *Phys. Rev. D* **45**, 403 (1992).
TIMOTHY P. KRISHER
Jet Propulsion Laboratory
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11/93

Refereeing Reform Recommendations

In his satirical letter (June 1993, page 15) Mark Azbel points out that "bad, irresponsible referees are the single most hazardous thing to any [author]." This judgment is confirmed by the 1989-1990 report of a review panel for *Physical Review Letters*, which states that authors gave a grade of C+ to the quality of refereeing. Moreover the panel reports that the time delay from receipt to acceptance of articles submitted to

PRL is up to *twice* that of most competing journals. The report points out that the reason for this delay at *PRL* is that the editors of competing journals (such as *Physics Letters* and *Europhysics Letters*) are all *active in basic research* and consequently they are also capable to adjudicate. Therefore the review panel suggested that the divisional associate editors start to play a more active role in the refereeing process. However, since this recommendation was made there is no evidence that any improvement has taken place.

I believe that this failure is due to the fact that the divisional associate editors are generally involved only at the end of the review process, and then only when an appeal has been filed. (I understand that this is not the case for papers in particle physics, which are treated differently because *PRL* has had strong competition in this field from other journals and consequently has implemented requests for improvements.) I propose that in all fields (not just in particle physics) the divisional associate editors be involved at the very start of the review process and that they take a central role in selecting referees as well as in reviewing their reports. To avoid excessive work the number of divisional associate editors should be increased, and they could be rotated more often. In many cases the divisional associate editors could determine whether a paper satisfies the special *PRL* criterion of "broad interest" and decide promptly whether it should be sent to a referee or be rejected without further review. As a bonus, I expect that over the years this procedure would lead to a more responsible attitude on the part of referees, because their reports would become known to some of their peers.

At the turn of the century the chief editorial overseer for *Annalen der Physik* was Max Planck, who succeeded Hermann von Helmholtz, while the editor of the journal was Wilhelm Wien.¹ Ultimately the quality of a journal is determined by the caliber of the editorial staff.

Reference

1. J. L. Heilbron, *The Dilemmas of an Upright Man: Max Planck as Spokesman for German Science*, U. Calif. P., Berkeley (1986).

MICHAEL NAUENBERG
University of California,
Santa Cruz

9/93

THE EDITOR OF *PHYSICAL REVIEW LETTERS* REPLIES: Michael Nauenberg raises a number of concerns that I share. However, his letter does not
continued on page 80

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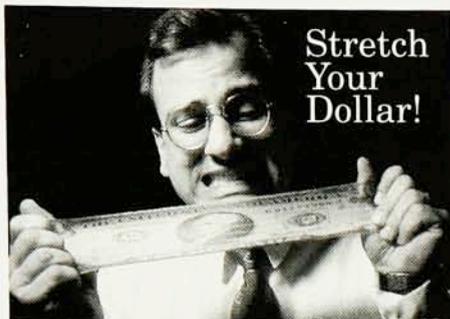
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do justice to the changes that have been made at PRL.

Incidentally, while the questionnaire results quoted in the report of the PRL review did give a C+ as the authors' view of refereeing, it should be remembered that PRL rejects 60% of the papers submitted, so there may be some tendency, for example, for authors to feel referees don't understand their work. The expert members of the review panel, in reading an unbiased sample of 148 files, gave grades of 98 good, 34 fair and 16 poor to the quality of refereeing. The expert panel also gave high marks to the final editorial decisions.

We have tried hard to involve the divisional associate editors in all stages of the review process. The total number of divisional associate editors has gone up from 31 prior to the report to 47. Despite the increase, the average work load of divisional associate editors has increased. We have not been able to send every paper to a divisional associate editor in all fields, as we do in particle physics and some other fields, but we have tried to learn the divisional associate editor's views on the choice of referees. Even an *ex post facto* opinion is useful, as it informs future choices. We have also worked in a variety of ways to learn the views of the divisional associate editors on the appropriateness of papers for PRL, including using the divisional associate editor as a first-stage "filter."

Rotating divisional associate editors more often is a possibility. However, there is a learning period, and there is substantial "overhead" in finding and appointing a divisional associate editor.

We have improved the time from receipt to acceptance since the review panel report by instituting the "one bounce" rule: Decisions are now made on papers after a maximum of one return to the author. An author can appeal a rejection, and this has increased the burden on the divisional associate editors. For the majority of papers, however, the rule has accelerated the process. The single biggest challenge to lowering (or even maintaining) the time to acceptance is the steady growth (about 8% per year) in submissions to PRL. This growth places an increasing stress on the resources available to PRL.

Finally, I would like to address the question of whether the editors should be working physicists rather than full-time editors. For a journal like PRL, which attempts to cover all of physics and which receives around 5000 manuscripts a year, we would need something like 20 to 30 part-time editors.

It would be very difficult to maintain the uniformity of standards among different fields under such conditions. The complexity of such an operation would be great for our organization (APS), devoted as it is to fairness and freedom from individual biases. Assuring that the full-time editors are current in their knowledge of the relevant physics (and physicists) is important. We address this first of all by our system of divisional associate editors and their close working relationship with the editors. Second, the editors maintain their contacts in physics by attending meetings, conferences, relevant divisional activities and so forth.

I think our system has worked fairly well. As Nauenberg points out, it could work even better, and we are trying to accomplish that.

JACK SANDWEISS
Physical Review Letters
Ridge, New York

11/93

In a recent letter Mark Azbel shows how peer reviewing probably would have stopped Columbus from getting to Isabella's front door. I think he is optimistic: Peer reviewing probably would have questioned his ability to walk or required him to fly.

The way I see it, there is really only one major problem with peer reviewing, and that is the anonymity. Not only should the identity of the referees be made known; they should appear on the published paper, perhaps even in the by-lines! This has a great many advantages. It would give the referees more reason to do their best, since they would like to see their names in print, especially after having slaved over a difficult paper. At the same time they would be much more careful, not wanting to be caught mandating garbage, and furthermore it would soon become clear whom an author should request to be excluded as a referee.

I seriously believe that this whole matter should be put to a vote in some form or other to all members of the APS, and that perhaps a revised form of refereeing should be implemented for all journals published by the American Institute of Physics.

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Ecole Polytechnique Federale de Lausanne
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Correction

February, page 89—The line "Not with a bang but a whimper" is from T. S. Eliot's "The Hollow Men." ■