letters

who is credited with proposing this experiment, did not use the unsound argument criticized above.

LESLIE E. BALLENTINE
Simon Fraser University
Burnaby, B.C.
Canada
7/25/77

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Leslie Ballentine's criticism of Luschikov's article is absolutely correct. The crux of the matter is that the purely classical relation $\Delta v \Delta t \approx 1$ is often combined with the Einstein relation $\Delta E = h \Delta v$ and the resulting $\Delta E \Delta t \approx h$ is then mistakenly called a Heisenberg uncertainty relation. A careful distinction between the Heisenberg uncertainty relations and the relationship between energy and time is drawn by M. Bunge in *Foundations of Physics*, Springer-Verlag (1967).

P. D. MILLER
W. B. DRESS
Oak Ridge National Laboratory
Oak Ridge, Tennessee
10/25/77

Scientists out of the closet

To Frank von Hippel's essay on scientific freedom: Bravo! The time has come for scientists to come out of their closet-like laboratories. For centuries science has been at the beck and call of the slavish desires of self-seeking elements of society. Science, like other professional fields, must control its own destiny. The world must know the true humanity of science, as the soporific seventies become the eager eighties.

RICHARD A. RODMAN
Falls Church, Virginia
10/20/77

Referee standards

In view of the dedication of The American Physical Society to the advancement and diffusion of the knowledge of physics, I wish to remind members of the APS and other interested readers of two ongoing and pervasive situations that threaten these goals. It has been my misfortune in recent months to have come face-to-face with these situations in two separate instances.

The first point I wish to raise again concerns the standards applied by referees to judge the suitability of papers for publication. The variability of these standards among referees has been a subject for discussion (and lament) on many occasions. The issue of its desirability, and the separate issue of whether or not the physics community can change this variation, depend to some extent on the degree of variation under discussion. Small-scale variations are probably desirable, and almost certain to be found. On the other hand, large-scale variations are both undesirable and destructive, and no less certain to exist.

By large-scale variations, I am referring to referees whose standards are either extremely exacting or very lax. For example, the referee who will not approve a paper unless it represents a truly major step forward, and the referee who approves papers with elementary mathematical errors, represent large-scale variations. Both are destructive, especially the latter. The former referee excludes material useful to workers in the field. The latter, however, permits diffusion of work that represents a bad example, and serves to diminish the quality of work of the journal's readership. The argument that bad work in the literature sharpens the wits of the readership is, I believe, false. Bad work is generally believed as readily as good work by many readers, except in extreme cases. The referee who approves work containing logical, mathematical or conceptual errors of an elementary nature does the community a great disservice, and I would urge all potential referees to be more vigilant than the community as a whole has been in the past.

Some papers in this category contain an error of the type where one or two results are quoted to support an idea or method, whereas several others to which the idea or method applies, and which tend to discredit it, are ignored. These papers exhibit especially poor research, and I hope that we can minimize their appearance, or better still, eliminate them altogether.

The second point I wish to make concerns a style of politics that has recently appeared. In recent years, the emphasis in funding has moved towards "relevance." By this I mean that the proposed work must be shown to assist the efforts of the agency to complete its mission. Not all agencies have missions, but more and more those that do are requiring proofs of relevance. Consequently, we see efforts by some to show that work that is either wrong or controversial or just irrelevant is in fact the Crux of the Matter. Unfortunately, sometimes these claims are sufficiently well orchestrated to require a careful and thorough response. From my own experience in recent months answering such groundless claims has taken time away from other work that I feel is important. Again, referees can help here. Also, the community as a whole, through contract monitors and reviewers, can help to minimize or eliminate this problem.

On the other hand, the suppression of good work, whether it disagrees with one's point of view or not, is highly undesirable. The basic point I wish to make is that time, effort and frustration can be saved by eliminating from circulation work that contains elementary mathematical, logi-

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