

require the presence of long range order.

The recent work of N. F. Mott, Owens, and Hubbard in England, of the late A. F. Ioffe, B. T. Kolomiets, and A. I. Bugarov in Russia, of Kubo in Japan, of Jan Tauc in Czechoslovakia, of D. Turnbull, M. H. Cohen, and Stuart A. Rice here in this country shows the growing interest in this new field and the fact the questions raised are indeed of fundamental nature.

The development in this field is strongly related to the quality and novelty of the experimental information available. In contrast to crystalline solids many elegant and fruitful experimental techniques cannot be employed in disordered structures because of the extremely short mean free path of the electrons in these materials.

The high electric field phenomena observed by Mr S. R. Ovshinsky and reported in the paper submitted to you, constitute important new contributions in two respects.

First, Ovshinsky's discovery is, I believe, the first nondestructive electrical breakdown phenomenon in a homogeneous solid. This is of great interest to physicists like J. Bok (France), B. K. Ridley (England), K. W. Böer, B. Ancker-Johnson, and E. M. Conwell (USA), who have worked in the field of instabilities in solid state plasmas.

Secondly, Ovshinsky's work represents a new experimental tool for the study of amorphous semiconductors. As a result of this, and after hearing about these phenomena at the 1968 Gordon Conference, N. F. Mott has included a session on switching phenomena in the program of the International Conference on Disordered Structures to be held at Cambridge, September 1969.

I hope that these arguments are of help to you for reconsidering your decision and that you will accept Mr Ovshinsky's paper for publication in the *Physical Review Letters*.

The other was similar. Both writers are experts in this field who had often served as competent referees. We have no reason to doubt their judgment and sincerity, and we believe that any editor would have accepted the paper on the basis of these recommendations.

Second, and perhaps much more important, is the question of the editors giving in to pressure. We do not regard ourselves as having done so. When we described the letter writers as "prominent fellows," we meant to imply only that they were men who had been recognized by the society for their achievements in physics, corroborating our recognition of their expertise by our using them as referees. They did not and do not hold positions that would enable them to exert pressure on the editors. We have never been exposed to any attempt at undue influence on our functioning as editors; we would resent and resist it if we were.

In sum, we feel that nothing we have done in this affair should cost us "the confidence of the physics community."

S. A. GOUDSMIT

GEORGE L. TRIGG

Physical Review Letters

Unsupported publication

The "new policies for unsupported publishing" adopted by the American Institute of Physics and the American Physical society (*PHYSICS TODAY*, February, page 69) appear to be reasonable and promise to be helpful in increasing support of publication expenses. However, one secondary consideration should enter to some extent in the administration of the new policies.

Delay of publication of unsupported papers tends to pose a greater hardship on some authors than on others. Those whose direct research support and departmental support do not permit payment of publication costs will suffer more than those sufficiently well funded to pay them. Better supported authors and departments would have the option to pay and get rapid publication or not to pay. Those with less support would not have this option.

The policy could be modified to reduce this hardship.

The editor of a journal could say to each author of a manuscript, after the manuscript had been judged acceptable, "We find that your manuscript is worthy of publication. We would be pleased to publish it. For it to be published, however, the costs of its publication must be supported. Please indicate the complete address to which these costs are to be billed. If you have no available source of

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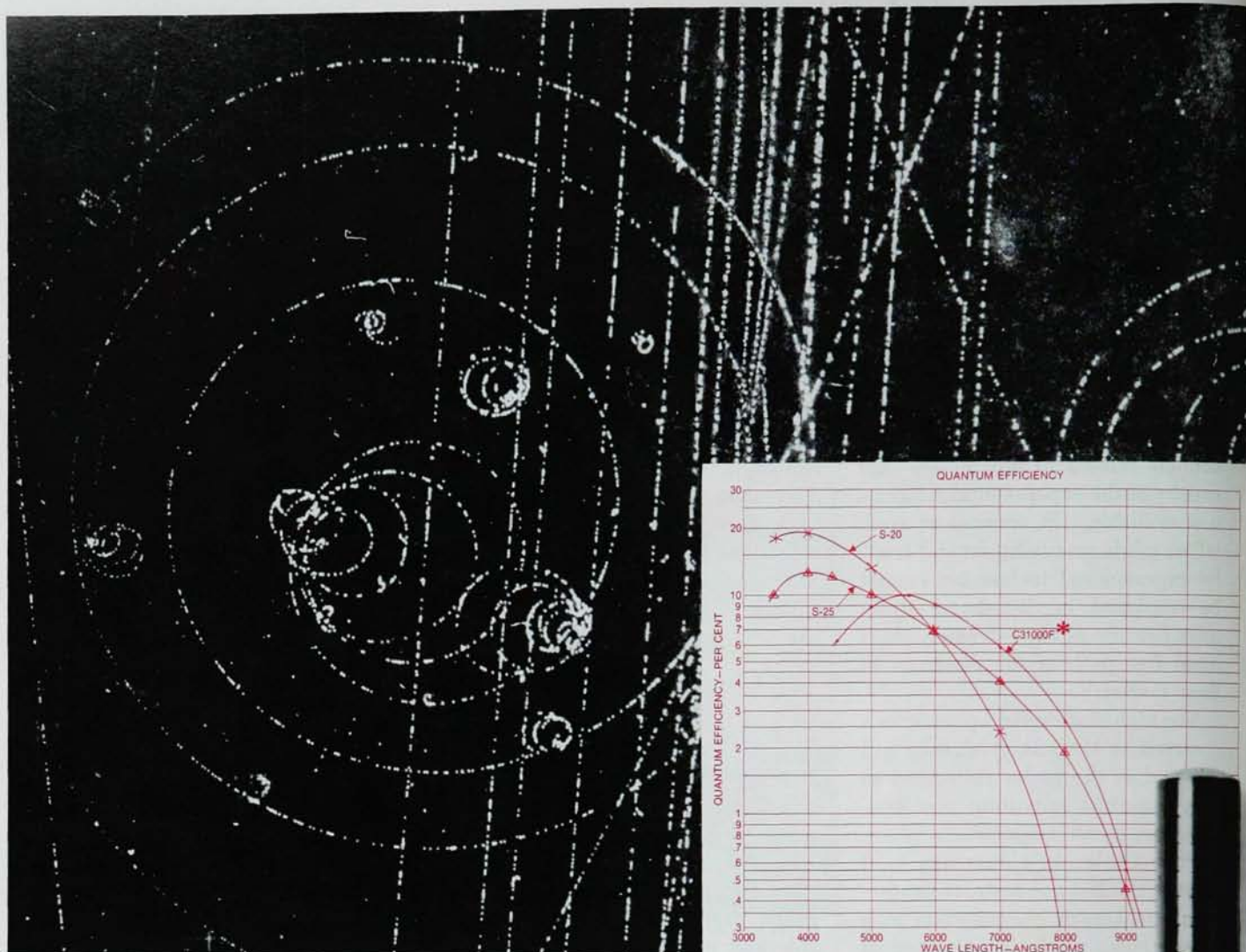
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funds to support the publication, you may request support from [... name of journal or journal-supporting organization]. If your request is approved, it is understood that an appropriate acknowledgement will be included within the published paper."

In AIP and APS journals formal acknowledgement of publication support would supplement, but not alter, the recently announced new policies.

It is my opinion that the simple expedient of formal acknowledgement of publication support can accomplish several things. On the one hand authors with federal project grants capable of supporting costs of publication and departments with institutional grants for such things would prefer to use these funds for that purpose rather than formally admit in the published paper that they "pleaded poverty." (At present only one's editor knows for sure.) On the other hand the author and department that really can not pay the publication costs would be delighted, I believe, formally to acknowledge support of publication costs.

Perhaps if a substantial fraction of our scientific journals were to require inclusion of formal acknowledgement of publication support in those papers subsidized by the journals, an additional source of publication funds might develop. There is an attractive possibility, for example, that private foundations, industries and even federal agencies that do not have funds or inclination to support the massive costs of academic research might be willing or even eager to support publication of finished pieces of work that interest them.

I believe that support of publication costs (and acknowledgement of that support) could and should be viewed as independent of the support of the research itself. Were it to become more generally viewed in this way, additional funds and sources of funds might develop to strengthen generally the publication of science in the US.

KENNETH E. COLLINS
Williamsville, N. Y.

I wish to express my strong disapproval of the recent decision by the American Institute of Physics and the American Physical Society to delay publication of articles in *The Physical*

Review and other physics journals if the authors can not pay the publication charges.

A scholarly scientific journal is, by definition, I believe, one in which all decisions concerning publication are based strictly on the merit of the article subject to reasonable limitations on length. A journal that treats articles differently depending on the affluence of the writer or his backers can no longer be considered an independent scholarly journal but rather some kind of advertising medium. In particular this decision implies that the journal is designed to serve the author or his backers rather than the readers.

I know of no other scholarly journals that have a policy of the type now adopted by the American Physical Society. Can it be that we have become so accustomed to our recent prosperity that at the first sign of financial difficulty we are willing to abandon our principles as scholars?

LINCOLN WOLFENSTEIN
Carnegie-Mellon University

Excellence, truth and beauty

May I comment on your April editorial titled "The Practical Need for Beauty"?

Dirac and Einstein have always held that the search for beauty and the search for truth go hand in hand. Ugly theories are not likely to contain much valuable truth. Obviously this is a debatable point of view, but an editor (and the writer of an editorial) is certainly entitled to express his own point of view; if he has illustrious allies, so much the better.

I feel that to convey a sense of beauty, and of excitement, to all our students—ranging from physics majors to those nonscience students who are coming for a "look-see"—is one of the most important tasks facing us. To raise our standards of excellence or, as the editorial expresses it, to "encourage a few to achieve excellence" requires, first of all, that we attract to our field those who are intellectually curious and who are looking in college for something more than training for a career that promises a living. These students will be attracted to a field that is presented as high adventure for the human mind and that is relevant to the future of mankind as well. But these are precisely the same messages that I, for one, should like to convey to all my students, in-

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