LETTERS

Let's not pay referees

The letter by Richard J. Weiss in the August issue of PHYSICS TODAY presents a totally erroneous concept of the role of the referee for society journals. Refereeing is done by the whole community of physicists. Our American Physical Society uses about 1500 different referees in a year; every author is a potential referee. Refereeing is a professional responsibility performed voluntarily by all who wish to keep the publication standards high. If it were changed into a paid consulting job most of our prominent referees would not be interested, and we would be left with a handful of mercenaries. Moreover a charge for referee services will not act as a deterrent but will merely discriminate against small institutions.

Weiss also asserts that any paper quoted less than a dozen times should have remained unpublished. This statement is in direct contradiction with results obtained by the Technical Information Program, directed by M. M. Kessler at the Massachusetts Institute of Technology. In a report of a thorough investigation based on all the footnotes in 36 volumes of *The Physical Review*, Kessler and F. E. Heart print the following emphatic warning:

> "CAUTION. Any attempt to equate frequency of citation with worth or excellence will end in disaster; nor can we say that low frequency of citation indicates lack of worth."

S. A. GOUDSMIT
Brookhaven National Laboratory

Free thought, paid referees

The letter by Richard J. Weiss PHYSICS TODAY, August 1967), suggesting salaried referees and a $500 publication fee, can probably be implemented if and only if *The Physical Review* is divided in two parts, one charging $500 (and paying referees) and the other free (and not paying the referees).

That way, the free expression of scientific thought would continue unhindered, while valuable time need not be lost on cheap articles.

Eventually, one section might be discontinued, in a way that would indicate which is better.

On that basis, in all probability, the main writers of cheap articles would read only the expensive ones, while writers of expensive articles would feel a greater responsibility to read the cheap ones.

In any case, the procedure would indicate which projects have the financial backing, without providing an excuse to neglect publication by saying it is too expensive.

KENNETH J. EPSTEIN
Chicago

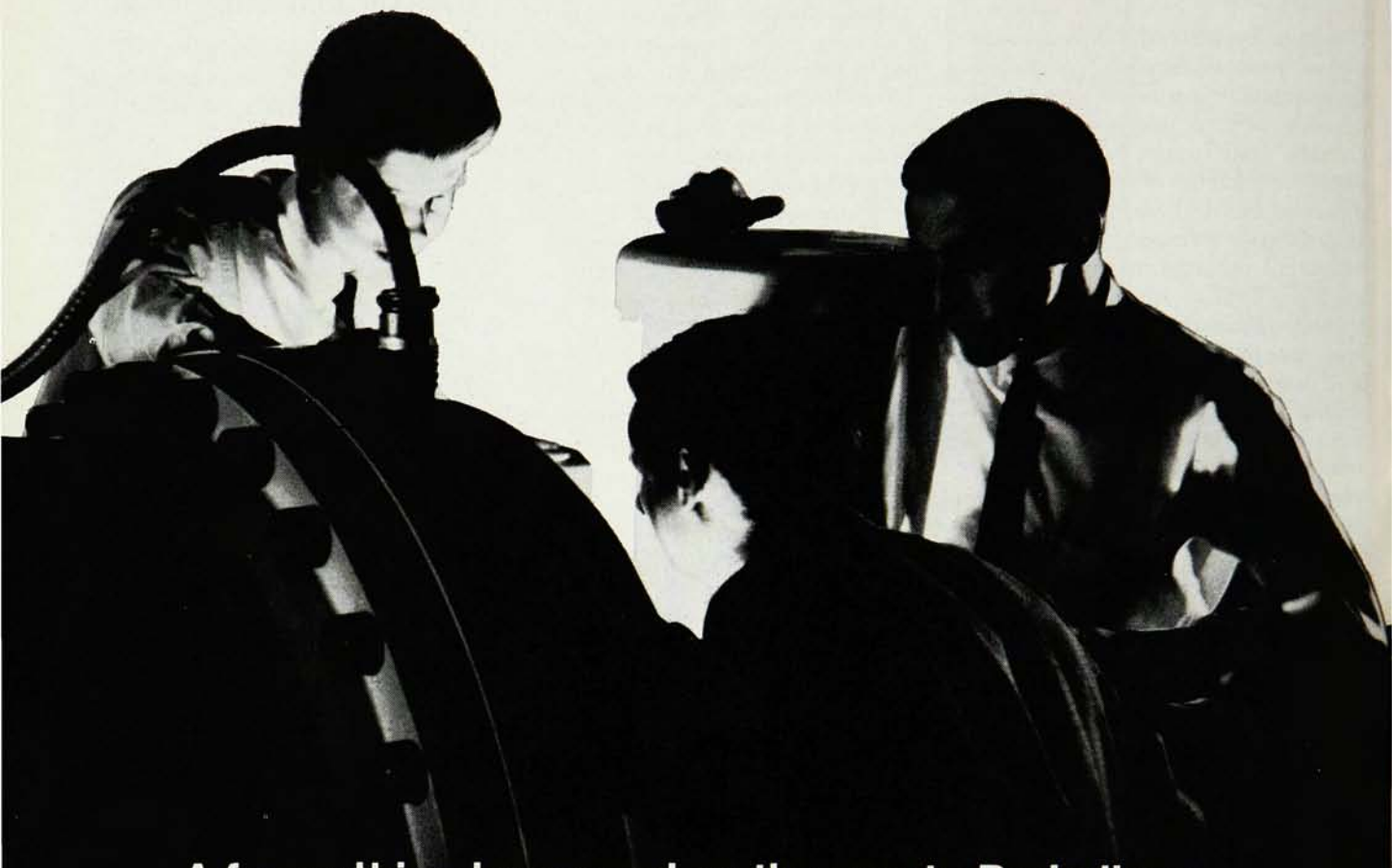
For want of the fee . . .

After reading Richard Weiss's letter in the August PHYSICS TODAY I dusted off my crystal ball and looked to see what *The Physical Review* would be in a few years. Here are my findings:

From: Editor Richard J. Weiss, *The Physical Review*
To: A. Onestone
Dear Dr Onestone:

We recently received your communication on electromagnetic theory. Unfortunately since your sponsoring agency, the patent office, can not make a deposit of $500.00, your work must go unpublished. We hope that you understand that only through very careful reviewing will it be possible to uphold the quality of our journal. In the past few years we have received far more papers than ever before, no doubt due to the recent advances in theory and the refinement in experimental technique.

Our editorial policy has certainly paid off. *The Physical Review* now is published once monthly and has an average length of 12 pages. We admit to some drawbacks. Last year all of our articles did not merit Nobel prizes. This year, during the bad summer months, we will probably have to print some reruns from a few



A funny thing happened on the way to Berkelium

The smallest of the modern Van de Graaff accelerators won't get you to Berkelium. (It produces particles up to 400 KeV, and that's not enough.) What it will do, though, is start you and your physics department on the way. And funny things begin to happen.

A lot of graduate students become nuclear physicists, for example.

The way to Berkelium is paved with Helium, Lithium, Fluorine, Phosphorous, Sulphur, and Iron, as well as Gold. And to get started, the smallest Van de Graaff is a rich and fruitful source of controlled-by-you protons, deuterons, alpha particles, electrons, neutrons, and photons, at a variety of energies.

But that describes the new Van de Graaffs as teaching machines — and they are more than that.

Actually, they are the least expensive accelerators a physics department can buy and still do fundamental research. (The smallest costs less than $25,000.) Many a Ph.D. thesis is based on original work performed with one.

Modern Van de Graaffs come big, too. Up to 32 MeV for the giant tandems. Those take you all the way up to Berkelium.

HIGH VOLTAGE ENGINEERING

The complete line of Van de Graaff accelerators is described in our General Catalog.
Write High Voltage Engineering Corporation, Burlington, Massachusetts, or Amersfoort, The Netherlands.

years ago. We are also exploring further reductions in the number of articles printed to upgrade our prestige percentage.

Perhaps in the future, should your sponsoring agency prove more wealthy, you can resubmit your communication. We are sure that the extensive review performed by a large organization would assure acceptance of your work. Should it pass such a critical editing, it would be sufficiently diluted, no doubt, to contain nothing revolutionary or offensive to anyone.

With regrets we are,
Yours truly,
EDITORIAL BOARD

FRED L. WILSON
Houston, Texas

Indian institutes—who gains?

Everett Hafner, in his sensitive account of a summer physics institute in North Bengal (PHYSICS TODAY, June, page 44), raises a fundamental question. With so many Indians settling into the US academe, which culture is being served by AID's efforts in India?

If we concentrate our efforts on educating India's gifted sons to an awareness of sociological problems, perhaps Hafner's problems of communicating with the Indians will dissolve. The summer institutes will be run by those best qualified: western-trained Indians who feel the need to invest an occasional six weeks in the terribly needy country they are so well equipped to serve.

HERBERT F. HELBIG
Clarkson College of Technology

Naming the new elements

The article "The Search for Element 102" (PHYSICS TODAY, Sept., page 25) presents a welcome clarification of the many problems that have beset the characterization of this enigmatic element. In addition Ghiorso and Sikkeland have given a valuable description of the multitude of experimental difficulties associated with detection of the heaviest nuclides—ranging from the need for increasingly sophisticated electronic and mechanical systems to the tedious details of the isotopic purity of target materials.

The controversial history of element 102 and the increasing complexity of such experiments suggest that perhaps the procedures for naming new elements should be revised. At present the Commission on Atomic Weights of the IUPAC accepts the name suggested by the initial discoverer. This has introduced a considerable amount of international politics into the heavy element programs and has contributed to a tendency to emphasize direct discovery of a new element, on occasion at the expense of the nuclear physics involved in the studies.

The properties of element 102 now seem well established. However, the next such dispute is already in sight, as is noted in Ghiorso's and Sikkeland's questioning of the identification of $^{260}104$ by the Russian group. I would like to suggest that the IUPAC consider the following steps to lessen the confusion stemming from such conflicting experimental findings. (1) The first of these should not be difficult, that is, acceptance of a name for future elements should be postponed until the initial results have been verified independently by a second group. (2) The second is less practical, but worth considering. The suggestion is that the IUPAC Commission assign names to new elements prior to discovery. The elements up to $Z = 114$ can, in principal, be produced even if lifetimes and quantities are below current detection levels. The present trend is to name new elements after outstanding scientists. While to date this prerogative has been used with discretion, it would be hoped that a more universal criterion might be found for selecting scientists to be so honored.

A second point I would like to mention regards the implication of the authors that spontaneous fission (SF) half lives decrease linearly with neutron number after $N = 152$, as indicated in their Fig. 4. From the point of view of further heavy-element production, the existence of such a trend would strongly preclude the observation of many additional heavy nuclides. However there is another interpretation of the irregularities in nuclear properties at $N = 152$ that gives a