

letters

have personally been in a country outside the US, Canada, Japan or Europe, whereas an average of 4.3 other faculty members in their departments have visited such a country.

► 36% have considered spending a sabbatical leave in an LDC.

► There are approximately some 800-1300 graduate students, originally from an LDC, now studying physics in the US.

► Six departments already have some experience with bilateral links with overseas institutions.

These conclusions strengthen the arguments made in my article "Physics in the Developing Countries," (September 1972, page 40) and further indicate that the time has arrived for some action in the area of science development.

MICHAEL J. MORAVCSIK
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Textbook errors

During the last few months, I have read several articles that commented on the mistakes appearing in textbooks used at the elementary and secondary levels in the public-school system. In connection with courses I have taught, I have examined two such textbooks in some detail.

I found *Energy and the Atom*, by John Gabriel Navarra, Joseph Zaffaroni and John Edward Garone, Harper and Row, (a textbook widely read at the junior-high level) to be full of mistakes and misrepresentations. A few of the most flagrant are catalogued below in direct quotes:

Page 146: "An electric current is measured in volts and amperes."

Page 147: "An electric charge moves a force through a distance."

Page 159: "An electric current flows past a point at the rate of a certain number of amperes per second."

Page 337: "The electron is an inexhaustible source of energy."

The situation was the same in *Science for the Elementary School*, E. Victor, 1970, Macmillan. For example:

Page 277: "The moon keeps revolving around the earth because two forces are acting on the moon at the same time ..." (it goes on to say that one force is the earth's gravity, the other the force of inertia).

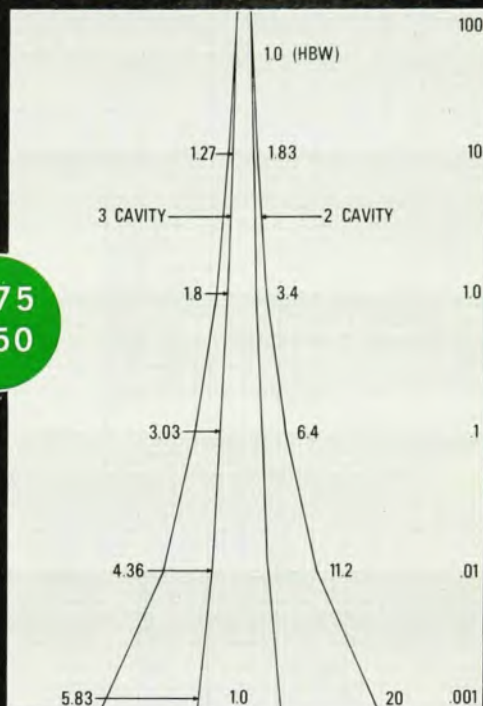
These quotations are only a few of the things I have noticed in a somewhat cursory reading, but I saw enough to make me realize that there were many mistakes. However, completely aside from the many errors, there was something else that bothers me even more. The textbooks seemed to me to be a

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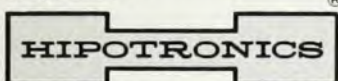
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letters

mere cataloguing of facts. As I read through sections on material that I was not very familiar with, very little interest or desire to learn more was aroused. In short, I would like to suggest that the physics community should begin taking a hard look at these textbooks (and the people who write them).

JERRY WEBB

University of Arkansas
Monticello

Revise NSF evaluations

Very often a system that operates is never improved because folks are too busy operating the old method. As an improvement in one system, I wish to suggest a change in how NSF evaluates proposals. Presently, they obtain criticism from different referees. Then NSF assumes that referees are infallible and conclude their evaluation with this information. However, referees are human, so errors in judgement or ignorance may occur. Why not let the principal investigator write a rebuttal to the comments of the referees *before* a non-commutable life-or-death decision is reached about a proposal?

The above suggestion is not radical or impractical. The presently established system of reviewing articles for journals includes a return of the article and the referee's comments to the author so that misunderstandings may be clarified by the author. Because the referee's review is analyzed by the writer, and vice versa, wrong opinions can be corrected. With regard to the review of contracts, there is no feedback to the author before a final decision is reached. Thus, misconceptions or hastily formed opinions can never be corrected. One may also complain that a rebuttal procedure would require too much time; but when a six-month interval expires between submission and evaluation of a proposal, another month is negligible if you obtain a system that is less subject to error. Can the government afford not to select a more honest approach with its services to the people?

ROBERT L. CHAPLIN
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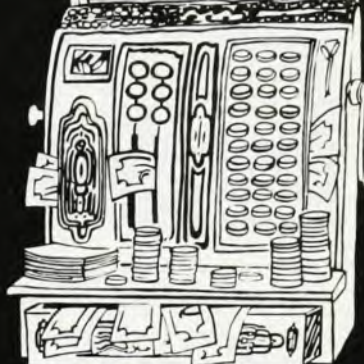
Corrections

September, page 65—The new book listing for *Mechanics, Berkeley Physics Course, Vol. I* should state that it is the second edition, revised by A. C. Helmholz and B. J. Moyer.

page 96, first column, line 20 from bottom—"third electron" should read "3d electron."

page 96, second column, line 8 of last paragraph—"this particular discipline" should read "his particular discipline." □

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