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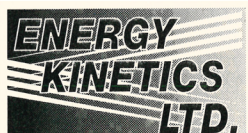
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as the century closes out? In medicine we lack a Feynman to locate the center of gravity in the vast mass of knowledge and technology cast upon newly trained physicians. They therefore tend to lack the confidence to take on the responsibility of the entire field of medicine, and the wisdom of how to train them to do so is a very scarce commodity. At each turn, the initiate's slightest oversight is judged by the standards of the narrow subspecialist. So, as in other fields, the new physician seeks refuge in narrowness and the proximity of an army of similar narrow experts to cover his or her rear end. Sound familiar? Of course the reality is a bit more complicated, and the specialty of family practice was created to answer just this problem. The reasons it has not succeeded in doing so are only compounded by the complications I have just described.

Though it was probably not intended, Bartlett has managed to disparage the memory of one of the great figures of 20th-century physics. The supreme irony is that he couldn't have singled out a less appropriate person as the cause of a social phenomenon for which there is no one to blame.

ARTHUR L. GROPPER
Glendale, California

2/92

I have just been reading the Opinion column by Albert A. Bartlett and wish to make further comment.

I agree with Bartlett that in physics the student must be thoroughly familiar with such "elements of classical physics" as the conservation of momentum and energy in both linear and rotational form and with the laws of Newton, Gauss, Faraday, Ampère and so on to begin to *understand* the more advanced work. One way to safely bring many of the advanced topics in is to have a two-year general physics course. Another way is to strengthen physics in the secondary and elementary schools.

Twenty years ago, when the dropout rate began rising from about 10% to more than 30% in my general physics classes, I began trying different approaches. One of the most successful means of keeping students was to include discussions of everyday applications of the material. The most common comment after I did that was that the course "came alive." Students could see a reason, other than college requirements, for taking the course. I also included some humor and many demonstrations in my lectures. Outside assignments included "Where have you seen this principle applied?" questions. During the last ten years the dropout rate in

my classes has fallen to about 10%, and my students' performance in their advanced classes has improved. This approach takes effort and time away from research, but I feel strongly that it is well worth it.

DONALD E. SHULT
2/92 University of Nebraska at Omaha

Regarding Albert A. Bartlett's Opinion column "The Feynman Effect and the Boon Docs": *Amen!*

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and Technology
3/92 Gaithersburg, Maryland

Biographical Bait for Budding Bardeens

The April issue of *PHYSICS TODAY*, devoted to the life and accomplishments of my friend and graduate school bowling partner John Bardeen, served to remind me that I meant to write you. When John died it was hardly mentioned on national TV, but when Sammy Davis Jr died at least two networks devoted hourlong special programs to his life. Our society is in real trouble when the highest pay and the greatest honors go to the entertainers and gladiators.

Since we physicists talk frequently about attracting the talented to science I would like to propose something that might help. The American Physical Society and American Chemical Society could help our young people understand the importance of science and the challenge of a scientific career by a program such as the following: Prepare news releases on the careers and accomplishments of outstanding scientists as they approach the end of their lives. Tell the news media that this information is available and that it will be furnished immediately when one of them dies. Put a little pressure on news reporters to use the information by reminding them that they are always talking about improving education.

The only person to win two Nobel Prizes in the same field and the coinventor of the device that changed the world would, I believe, have been someone TV would have featured if the information had been immediately available.

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Correction

September, page 23—In figure 1, receiver sites are indicated by red, not black, circles. ■