als are among the most sensitive persons in our society. Any group of individuals, however, no matter how delineated, cannot be presumed to represent the interests of a larger population.

If Davis wants a voice in government circles for the scientific community, let scientists hire professional lobbyists or, even better, solicit public support and involvement. Davis's editorial theme can be construed as an example of the type attitude, discussed by R. N. Chan [Bull. APS **17**, 74 (1972)] that encourages short-circuiting public involvement in the making of technological decisions.

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Physics for children

I was delighted to see the June issue devoted to physics for children. For the last four years or so, I have been fooling around with the idea of scientific creativity in very young children. I even spent some time in kindergarten and pre-school settings, including one labeled "emotionally disturbed," experiencing the joy and challenge of little kids.

I'd like to share with your readers a statement attributed to J. Robert Oppenheimer by Marshall McCluhan *et al* in the book *The Medium is the Massage*:

"There are children playing in the street who could solve some of my top problems in physics, because they have modes of sensory perception that I lost long ago."

KENNETH FOX
The University of Tennessee
Knoxville

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As a physicist who is presently teaching 8th grade physical science, I am somewhat disturbed by your notion of the role of the physicist in elementary and secondary education. In your June editorial (page 84) you suggest that the role of the physicist could be that of a science advisor, who trains and motivates teachers in developing programs and materials. While I do not dispute the fact that there is a crying need for the continued education of existing teachers, I seriously question the physicists' ability to step in as some "Deus ex Machina" to train and advise educators. However it seems to me that this is what you are suggesting, even though you readily admit that many physicists would not belong in the classroom with young children.

It is my strong contention that before the physicist can make meaningful contributions in the area of pre-college education, he must first have extensive experience as a secondary or elementary school teacher. To support this contention I can offer my own experiences in the classroom with 8th grade students. I have learned in my two years of teaching many things that I was totally unaware of concerning the everyday life of a teacher. What, for instance, does an individual, inexperienced in secondary teaching, know about classroom management, range of abilities, motivation, learning disabilities, and the psychology of the exceptional child? Is such an individual even aware of the effectiveness of present science teaching methods? Does he possess the intangible, intuitive ability to communicate and relate to young children?

Educators would certainly welcome any physicist who desires to enter their profession. Nevertheless let the physicist be aware that it is he who must be retrained by virtue of direct contact with young children. Then, and only then, can he make lasting, relevant contributions to the area of pre-college education.

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Deformable particles

In a recent letter (May, page 11) Howard Robbins raises the question of whether or not a charged tachyon could have a trajectory that is consistent with relativity. He points out that motion must be accelerated because of Cerenkov radiation and that rectilinear, accelerated motion is not an invariant concept and thus the trajectory of a charged tachyon could not be predicted with knowledge of its position and velocity at any one time. This question has also been raised in some detail by H. K. Wimmel[1] who concludes that no satisfactory answer exists at present.

It should be pointed out, however, that this problem is not unique to tachyons but arises in any problem that includes radiation reaction as a significant ingredient. In such cases the differential equation of motion includes the time derivative of the acceleration, and hence the initial value of the acceleration must also be given (this is the "new dynamical quantity" suggested by Robbins).

It can be shown[2] that a properly Lorentz invariant classical theory of Cerenkov emitting, charged tachyons may be given in terms of an extended, Lorentz deformable particle. Such a

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