

# to the editor

## Keeping up with retraining

Your file on aerospace retraining (SN: 3/13/71, p. 180) needs to be brought up to date. The Florida State Manpower Training Divisions and the U.S. Department of Labor have been running a pilot program for seven months as a joint effort with Florida Institute of Technology, Florida Technological University and the Brevard (County) Community College.

It would seem that the program is seven months ahead of itself. Or that someone is seven months behind the times. But you're excused—aerospace technology moves rapidly and it's very difficult to keep up with the state-of-the-art, even in unemployment.

*Elmer C. Carlson  
Carlson Electronics  
Cocoa, Fla.*

## Polygraph and acting

Let me take friendly exception to some of the language in your article, "A challenge to the lie detector," (SN: 3/13/71, p. 182). The copy reads that "the validity of the practice of lie detection may be seriously challenged. . . ."

Yet the "validity" of the polygraph as a "lie detector" has, in fact, never been established, as attested by the fact that the results of polygraph interrogation (or examination, if one prefers that wording) have not been admissible in a court of law.

It is refreshing, though, to see that—at last—one scientist is willing to fly in the face of the popular press by somewhat debunking one of its icons. Perhaps Dr. Stern would agree, as a psychologist, that many a criminal is a compulsive Stanislavsky Method actor.

*George A. Whittington  
Chicago, Ill.*

## Advantages overrated

I was interested in Fortunato Comunale's letter (SN: 2/20/71, p. 124). In spite of what Mr. Comunale has said, I cannot help but feel that the advantages of spillover from the space and defense projects are overrated. That many important technological advances resulting in a better standard of living for many people have resulted from these programs is indisputable. However, I think that this method of obtaining these advances is a most uneconomic allocation of our resources. How many more advancements in TV, Hi-Fi, computers, etc. could have been made if this money was directly allocated for these purposes in the first place. It would have been far better to have spent this money on projects

of social consequence to begin with rather than to justify the whole program from the small amounts of indirect benefits which may have resulted from an over-all misallocation.

*Lawrence R. Brandt  
Assistant Professor of Geography  
Wisconsin State University  
Stevens Point, Wis.*

## Photon rest mass

Regarding Mr. Ampulski's letter to the editor (SN: 3/13/71, p. 176), he stated, "If the photon mass were not zero however, no harm would come to the special theory of relativity. . . ." I disagree. If some such measurement could be made, it would totally invalidate Special Relativity. Ignoring the absurdity of talking about a "photon rest mass" to begin with, since all evidence points to the fact that photons, by their very nature, cannot be at rest, one merely has to realize that a finite rest mass for the photon would mean that light could not travel at the "speed of light," so that substituting the measured value of  $c$  into Lorentz's and Einstein's equations would yield incorrect experimental predictions (which has not been noted). More important, anything going less than the "speed of light" in one inertial frame of reference will (in general) be measured to have a different speed in another inertial frame of reference moving relative to the first (by application of the simple Lorentz transformation of velocities that freshman physics students learn). Thus, since the speed of light is presumed less than the "speed of light," the speed of light would be measured to be a different value in different inertial frames of reference—which contradicts the entire philosophical basis for Special Relativity. Special Relativity is a metaphysical theory of absolutism, and does not admit of distinctions between two inertial frames of reference (other than relative velocity).

The fact of the matter is that when scientists look for a "photon rest mass," what they are really looking for is a possible experimental disproof of Special Relativity. If they should discover such a disproof (and in my opinion they never will) however, they should not interpret it as a photon rest mass, but only as an indication that Einstein was wrong (and that some new theory must be offered to take the place of his).

*David Solan, Ph.D.  
Department of Chemistry  
University of Southern California  
Los Angeles, Calif.*

## Off the beam

I think that you are way off the beam in the article "A time of torment for science" (SN: 1/2/71, p. 5). The scientist does not build things on a manufacturing scale, it is the engineer. The true scientist is a seeker of truth; he pursues the flame of research to wherever it leads. The crux of the problem in pollution is this: Modern manufacturing has assumed such vast proportions that its waste products are threatening the ecology of the entire globe. A solution to this can be met by science in the total elimination of waste products and closed cycle manufacturing methods. In this however, we have to fight human greed, evasion, selfishness, indifference and downright hostility. This is not even remotely understood by the programmed automations wielding placards.

*H. Lantz  
Scarboro, Canada*

## On transit innovation

Unfortunately, there was a major change in my recent paper for the Highway Research Board between submission of the original draft, on which your article was based (SN: 1/30/71, p. 82), and presentation of the final draft at the HRB meeting. The change came about because of the appearance of new statements and plans from the Department of Transportation which made the earlier version inappropriate in certain places. In particular, the quotation constituting the second paragraph of your article [criticizing the R&D effort proposed under new urban mass transit legislation as focusing on "incremental and relatively minor improvements" and lacking mention of "major conceptual innovations"] had become inaccurate and accordingly was eliminated.

There remains, however, an urgent need for transit innovation, and a shocking gap between political promises and engineering realities in the new Federal transit program. I tried to bring this out in my final presentation and paper for the HRB.

*William F. Hamilton II  
Director, Social Systems Dept.  
General Research Corp.  
Santa Barbara, Calif.*

## Wrong university

In "Another confirmation of Murchison amino acids" (SN: 3/27/71, p. 210), Drs. Cronin and Moore are from Arizona State University at Tempe, not the University of Arizona.—Ed.