### letters

when we need their help most because they limit themselves to filling jobs. The agencies represent companies rather than job seekers simply because the companies pay the agencies' fees. The difference shows up clearly in the attitude of the agency when jobs are So, if job seekers want the agency to represent them, then they must expect to pay the agency's fee directly. One suspects that they have always paid at least part of this fee indirectly, anyhow. If the agencies represented the job seekers, perhaps they would beat the bushes for jobs with the same diligence that they formerly used in contacting physicists on behalf of their client. The agencies tried to keep us moving around, forgetful of the rest of the game of musical chairs—the part where the music stops and there are fewer chairs.

If organizations such as the AIP Placement Service can revive the lost art of finding jobs for people, perhaps the professional agencies will come back to us. Meanwhile, it takes someone who knows what physicists' capabilities are to convince potential new employers that a PhD in physics is not necessarily a total loss. How did we get such a bad image anyway? Could it be that people have been listening to what we have been saying about ourselves? Maybe the public-relations expert who gave Mr Nixon his new image (and new job) will be available late next year to undo the damage for us.

Thomas R. Lawrence Wayland, Mass.

#### New emblem for AIP?

John Rigden ("Reshaping the image of physics," October 1970, page 48) gives the example of a salesman thinking that physics is "A pulley and an inclined plane." If, as Rigden suggested, we want to communicate "some of the excitement, beauty and uncertainty of the subject," AIP might make a humble start by considering a change in its weight-ruler-pendulum emblem.

There is no doubt today that there is "uncertainty" in physics. The physicist is finally down to earth hustling for a job like most other wage earners.

M. W. Valenta University of Vienna Vienna, Austria

## Rapid publication

Seymour Keller, John Hensel, Frank Stern and the AEC are to be congratulated for the speedy publication of the Proceedings of the Tenth International Conference on the Physics of Semiconductors, Cambridge, Massachusetts, 17-21 August, 1970. A time lag of less than four months between the closing of the conference and delivery of the proceedings must be some kind of record. They have established a standard against which future conferences will be measured.

J. E. Fischer Michelson Laboratory China Lake, California

### Responses to Zernik

Wolfgang Zernik's letter "Judging the value of physics research" (December, page 9) is a good illustration of how unlikely it is that physicists are going to be able to solve their economic problems independently of the rest of society.

In demanding that the value of physics research be proved by essentially utilitarian criteria of worth to society, Zernik is asking for a standard that would be disastrous if applied to nearly any area of economic activity in the US. For the fact is that the "needs" of America in their natural state are not nearly adequate to keep any area of the economy occupied now on a full-time Of course society does not "need" so much physics research, or so many automobiles, or so much air conditioning, or so much professional football! All the "needs" that keep these areas of the economy working are artificial, continually stimulated by advertising, and largely dependent upon a subjective, essentially non-economic, sense of need that would not exist in the absence of agressive salesmanship.

As long as physicists, and US society in general, cling to the myth that "productivity" is the primary goal of human life, this internal contradiction will continue to haunt us. When and if US society is able to broaden its definition of the "national Welfare" to include more than economic and military components, then physicists, like other people, will have a chance to be rewarded for a day's work without feeling privately dishonest about it.

David Montgomery The University of Iowa Iowa City, Iowa

With reference to Wolfgang Zernik's letter I am very disappointed that any physicist would analyze the present research and funding situation and conclude that the job crisis will exist and grow worse "until the output of physicists becomes commensurate with their The suggestion that physics support and the GNP are unrelated Zernik's own point that is absurd. "historical development" is of critical importance itself negates his suggestion. Many examples exist in which scientific research and development has contributed to the GNP and reciprocally,

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