

ably good estimate of how many physicists will be needed four to six years later. Controlling the output of physicists accordingly may be next to impossible, but at least the prospective student can be warned of what to expect.

It has been claimed that, even if his graduate study does not get him a job as a physicist, at least it makes him a more educated person in the broad sense. This is an ideal, not a fact. I have not seen anyone become a better human being by working toward an advanced degree in physics, and I do not see how taking qualifying examinations and then, say, measuring some cross sections can have this effect. All they teach him are perseverance and hard work, which he can learn in the nonacademic world too.

Graduate work does have one salutary effect. It destroys illusions. If the student thought research was an adventure of the mind, insight into the mysteries of the universe and so on, he finds out that this is true only for Einsteins and Fermis. For others it is more likely to be a rat race. If he thought studying physics would give him a better understanding of the physical phenomena he could see, he finds that that phase ended with his senior year. Now he essentially studies applied mathematics or electronics. His work for his thesis, as likely as not, actually reduces his interest in research, especially if it does not proceed smoothly. After all, not every advisor shows as much concern for his student as one might think. Ask any fresh PhD how much enthusiasm he now feels for his thesis topic, and the answer probably will be a wry face.

I am not pleading for sympathy, but let us be realistic so that perhaps later generations of students will find advanced education in physics more like what it can and ought to be.

D. R. DRUGI
University of Calgary
Alberta, Canada

You requested reports from former physicists on our new careers. I am now hard-core unemployed. More precisely, in the four months since expiration of my appointment as Visiting Scientist at CERN, my total in-

come from wages, salaries, tips and so on has been 30 US dollars and 83 cents.

It is not that I am unwilling to work. I have spent much more than the above sum in applying to prospective employers. Nor am I completely unable to work. Only a very few employers have suggested that I might be fully effective only after a brief learning period. Instead, the verdict I hear most often is "overqualified." I have not yet figured out what this means, but clearly if it is allowed to mean anything it is incurable. Occasionally an employer will say: "With all the wonderful opportunities open to you, why do you look at a job like this?" If I suggest, ever so subtly, that the only opportunity in physics is starvation, the session ends abruptly on grounds that applicant has shown acute mental derangement.

Name withheld

Views on Schwartz

Although I can add little to Charles Schwartz's comments (February, page 13) I would like to register complete agreement with him.

Simple logic tells any physicist that if any chain of events are possible there is a probability of their occurrence. Now it is up to the educated members of our society to examine these probabilities and determine whether the dangers they represent are a necessary peril to ward off a catastrophic situation. Every scientist must ask himself the question, am I contributing to an unnecessary increase in our perilous circumstances? The answer to this question can not be made in a social and political vacuum. It can only be arrived at within a socially responsible atmosphere that can be created through constant discourse through whatever medium happens to reach us. This is where Schwartz's suggestion could help. Though this kind of communication is seldom interesting and enjoyable it strikes me as a necessary addition to our busy lives if our children are to inherit a world worth living in.

GEORGE GLASS
Seattle, Washington

I could not help but notice the gross inconsistency in the January 1970 APS "Bulletin" in the form of Charles Schwartz's pledge and J. V. Kane's

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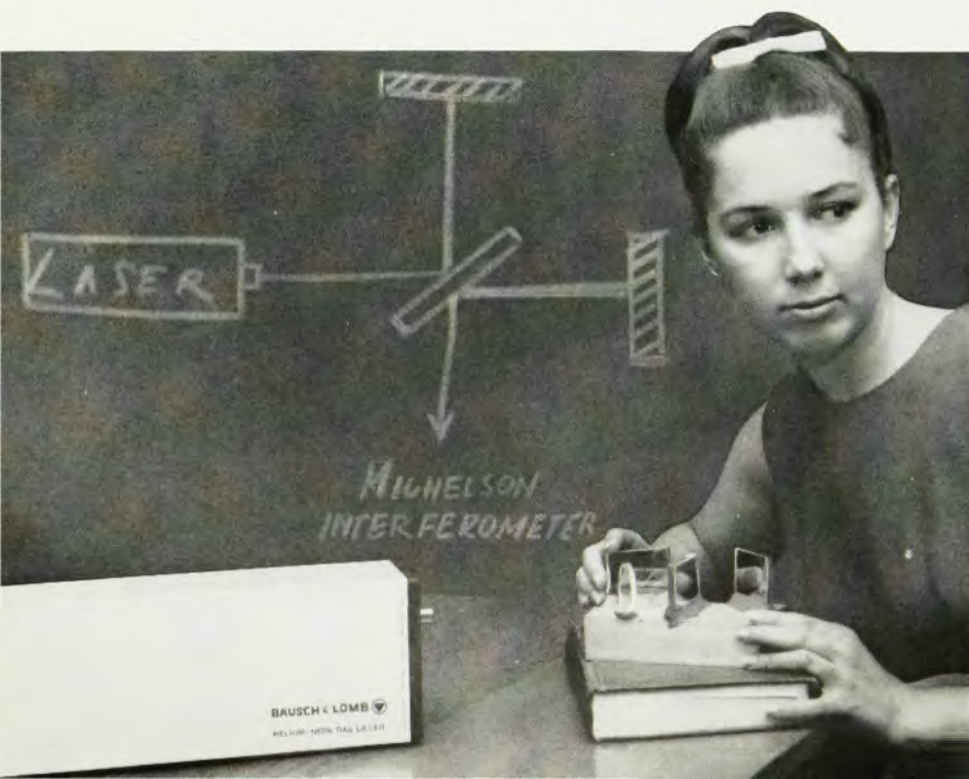
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problem. The inconsistencies lie in the fact that although both may be classified as "strong interactions" they lack the scientific tenor of the remaining 12 abstracts listed under session AG. Another contradiction of editorial policy is the inclusion of a figure in Schwartz's abstract. Examination of this issue and about two dozen previous issues shows no drawings or figures accompanying abstracts. I believe emotional outbursts of this type can be better vented through more compatible religious or protest groups.

PERRY POLLINS

Lexington, Massachusetts

Case for "real" UFO's

Gerald Rothberg's review of several recent books on UFO's (including the Condon Report) mentions once again a common notion about explanations—a notion that has only today struck me as clearly flawed. Rothberg says: "The point of view of the project report is that all but a small percentage of UFO reports can be reasonably explained, including some that seem very strange. Therefore it is plausible that the residue of unexplained reports could also be explained if more information were available. . ." This was, in fact, the officially expressed point of



view of the Air Force's Project Blue Book, and it has been expressed in nearly the same terms by many scientists who believe that there are no interesting UFO's.

The flaw in this argument that has just occurred to me is so elementary