

Soviets become convinced they must retaliate as soon as they detect missiles headed their way from our country or Western Europe. It doesn't matter if the missiles are armed or carry nuclear warheads when the Soviets decide they cannot afford to wait for the missiles to land.

I think the most promising way to begin reversing this dangerous escalation is to press for an immediate freeze on the deployment of nuclear weapons. The large, highly accurate land-based missiles pose one of the most serious first-strike threats, and their deployment can be verified relatively easily.

RICHARD L. KAUFMANN
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7/81

Unique insight of physicists

Edward Teller's editorial in February (page 136) elicited some very interesting thoughts. His observation of worry about the future and concern about change and its effects is something that has occurred throughout all recorded time. In fact, the matrix of expectation in both space and time is one of the most fundamental forcing functions in the behavior of the human mind and thus of society. We physicists possibly have unique insight into this because of the way in which we were simultaneously trained and educated. So, we physicists are affected by everything and can effect change in many areas beyond our own expertise in science and the organization of its manifest knowledge into technologies.

Teller's comment that the most significant discoveries are those that cannot be predicted is one of the most important concepts that can be elucidated. The organization and bureaucratization of science which has occurred at an increasing pace during the past 20 years is one of the greatest deterrents to progress, not just in things, but in thinking. Good science, like the human mind, is stifled if directed and possibly is obliterated if many of its degrees of freedom are directed.

The spark of individual initiative which often is ignited by needs of the times (that is, observation) has been a prime factor in moving this nation to its present state of advance. But, the slowing down of our achievements in basic science has been a noteworthy precursor for our slowing down in other areas. The advent of mission-oriented research in the 1960s was one of the greatest strategic disasters for the entire nation and for the future of human well-being.

Yes, as Teller indicates, initiative can lie with physicists for many things

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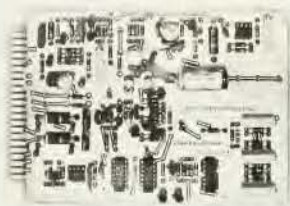
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letters

in many areas. I believe that physics embodies a way of looking at situations and a way of approaching analyses of them as well as being a body of knowledge.

BRADLEY L. JACOBS
Orange County Assessor
Santa Ana, California

7/81

Role of PHYSICS TODAY

In the June editorial "Nuclear War: Facing Reality" (page 104) Harold Davis briefly echoes the call stressed by Andrei Sakharov—a call for noble, striving, concerned physicists to implement the concentric task of "speaking out for truth and the best interests of mankind." Although I'm sure no noble, striving, concerned physicist would avoid this challenge, I'm equally sure that noble, striving, concerned physicists everywhere are tired of having this aria resonate in their heads.

Davis has implied that the physics community is to blame for their lack of obedience to this universal cause. It is my opinion that physicists everywhere are dedicated and projecting their concerns to those who will listen. Governments, agencies, and monopolies are to blame for their obvious avoidance and suppression of the ideas and beliefs of the physics community. It is the duty of scientific journals to amplify the ideas and opinions of the physics community to inform the non-science oriented person, as well as to break the barriers built by governmental and economical superpowers. *PHYSICS TODAY* has always been a journal that has answered such a call, informing the public about the realities that physicists everywhere emphasize, and must continue to set the example for every scientific journal to follow.

GREGORY D. McADOO
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7/81

Manpower study

As a former physicist who had been forced to leave the profession due to lack of employment opportunities, I feel that the optimistic conclusions of Suzanne Ellis' manpower study must be viewed with caution, particularly in regard to academically oriented physicists. It is comforting to learn that only 2% of graduating PhD physicists received no job offers (except perhaps to the unemployed 2%). However, academic physicists have usually found it easy to find an initial postdoc position, and only ran into real difficulty when trying to land a tenure-track academic

position two years later. It goes without saying that an assistant professor, at any but a handful of elite institutions, is virtually unemployable if his institution denies him tenure. The fact that "In each case the number of theorists receiving no offers was triple that of experimentalists" is merely another indication of the refusal of the federal government to adequately fund theoretical research, in comparison with the enormous amounts of money spent on experimental work.

I do not even regard the increasing number of foreign students as a panacea. The number of foreign students is dependent on economic and political conditions in a very volatile part of the world. I do not have to reiterate that colleges counting on an increasing number of Iranian students have been greatly disappointed.

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THE AUTHOR COMMENTS: My "optimistic conclusions" are based on the improved job market for new physics doctorate recipients. The Graduate Student Survey report, which Yaes apparently refers to, states that 2% of the 1980 doctorate recipients were without immediate job offers; the follow-up survey of this group six months later reduces that figure to 0.5%. Two major factors responsible for the steady improvement since 1970 are: 1) the annual decline in doctoral-level graduates from 1545 in 1970 to 912 in 1980 and 2) the positive change in attitude of many recent doctorate recipients toward "non-traditional" employment.

Doctoral physicists have certainly taken advantage of expanding nonacademic opportunities during the past decade; however, in a recent AIP survey, nearly 40% of the physicists holding degrees from the 1970s were currently found to be employed in non-postdoctoral academic positions.

Although Yaes does express some valid concerns, it is important to recognize that changes have and continue to occur. Perhaps job satisfaction in addition to traditional goals are needed to guide evaluation of career opportunities.

SUSANNE D. ELLIS
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Correction

The 4th IEEE International Pulsed Power Conference will be held 6-8 June 1983. It will occur in Albuquerque, New Mexico. The person to contact is J. T. Grant, Research Institute, University of Dayton, Dayton, Ohio 45469. Abstracts must be received by 4/9/82. □