

editorial

Physicists in the public arena

The recent reports of the three energy-study groups sponsored by The American Physical Society are good examples of the kinds of contributions that physicists can make in helping to solve the problems of today's society (see page 38 for summary of the study on reactor safety). This increasing involvement by physicists raises anew the old question of the proper role of physicists and other scientists in the public arena.

For instance in the discussion of the APS report on reactor safety it was proposed that the scientists who worked on this report need not agree on the conclusions that would be presented—that different subgroups might present their own views about the implications of the results.

I believe this is exactly the wrong thing to do in a scientific study. I am pleased to note that all of the members of the reactor safety study group agreed that the text and conclusions in the final report represented the consensus of the group.

The proper role of physicists in public service is to honestly assess the capability of physical systems. The use which is then made of these physical systems is not solely a scientific decision but a political, social and economic decision. Scientists themselves, using the same set of facts, can differ in their personal opinions as to what should be done. However, objective statements can be made about physical systems on which all physicists agree, no matter what their political affiliations. A reputable physicist will feel obligated to present all of these facts, whether or not they support his personal feelings about what should be done.

Many physicists who are active in the public arena are using techniques developed by lawyers, politicians and public-relations men to present their case. They have observed that these techniques are very effective and therefore assume that their use will improve the arguments that physicists can offer. In my opinion, this approach diminishes the scientific contribution made. If it continues, the physicist will lose his credibility with the government and the public.

Physicists have gained their reputation for honesty by steadfastly presenting the scientific results, whether they help or hinder anyone's cause. They should continue to regard this role as the only ethical one for a scientist to follow.

In speaking to the public, the physicist must qualify his statements, being careful not to claim more than his data justify. He cannot state flatly that a reactor is safe or unsafe, because this statement has no physical meaning. He can, however, compare the probability of the average citizen being injured by a reactor accident with the probability of his being injured in an automobile accident, or in some sport like tennis or skiing. Statements of this kind have meaning.

The uncertainties that qualify the results presented by the physicist may be much larger than anyone would like to see. However, it is the role of the physicist to identify these uncertainties and explain their significance. By contrast the lawyer earns his fee by making highly dogmatic statements in court and presenting all the evidence he can find that is favorable to his client. He ignores all unfavorable evidence, leaving the gathering of such evidence to the opposing attorney. Similarly, the lobbyist always emphasizes the best aspects of his client's position. The politician, of course, has to demonstrate that he puts the interest of his constituency ahead of any other interest, otherwise he will not be reelected. A politician may very well vote for something he recognizes as of little value in the long run simply because it has immediate benefits for the people in his district.

We all recognize and accept the motives of the lawyer, the lobbyist and the politician; but these are not appropriate motivations for physicists when they address the public. I am *not* saying that the average physicist should avoid his obligations as a citizen. Physicists do have more specialized knowledge, and their political conclusions are often based on much sounder analysis of the evidence than can be made by the general public. In these instances, it seems to me that physicists are obliged to do what they can to see that the public is acquainted with all the facts.

When physicists enter the public arena as representatives of the physics profession, they assume a serious obligation—an obligation to behave like physicists and resist the temptation to adopt tactics of the lawyer, the lobbyist or the politician.

WILLIAM W. HAVENS, JR
*Executive Secretary
The American Physical Society*