

would then have early notice of the work. This would not only discourage the difficulties discussed above, but would save people from wasting money and effort on work which, under the current system, they learn was completed six months ago. If someone urgently wants the paper he may write to the author. Further, it would lessen the anxieties of an author whose paper has run into difficulties with the referee. He could afford to carry on lengthy correspondence to clear up disputed points in the paper with the assurance that the rest of the world was at least aware of his work. Journals like *The Physical Review* can then remain what they should be, a permanent repository of properly refereed work free of defects caused by too rapid publication.

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Program for physicists

Today the physics community is facing very serious economic problems. A significant number of mature physicists are out of work with their future careers threatened. A large number of recent PhD graduates can not find positions as physicists, nor as engineers. (If anyone knows *any* specific job opening where the employer is willing to hire a physicist with a PhD let me know about it and I will have at least 10 of them after the job! ... and probably many more.) Many graduate students have delayed submitting their theses for more than six months because they can not find jobs. Our talks with officials of the government lead us to believe that we face more cuts in federal research funds in the future. This, coupled with the present declining economic activities, has produced a very difficult situation.

Physicists as a group need to work to improve their own professional and economic standing. While such an effort clearly includes improving working conditions and salaries of physicists we, as a profession, are intrinsically married to the welfare of science and our society as a whole. Therefore, besides acting in part in our own self-interest, we must also accept the larger responsibility of acting in the interest of our society. I believe physicists are capable of such actions.

With this broader view in mind let us proceed to some of the actions that we as physicists should follow. These are programs The American Physicists Association (APA) plans to pursue. The degree and speed we work on these will depend upon the support we receive from individual physicists.

One of the first actions we need to take is to reduce the annual growth of the number of physicists from the current rate of approximately 9% per annum to a more reasonable 3 or 4% rate. This cut calls for more than a 50% cut in our current rate. This reduction can be brought about by *decreasing the subsidization of students* to study physics. These funds could be better spent by supporting already trained physicists in productive jobs.

We need to separate research in the academic world from the training of physicists. A physicist in a college or university should be funded to carry out research on its own merit, not just because he is training graduate students. We should train the physicists needed by our society, and we should also do the research that is needed. But this research does not need to be tied to the training of graduate students. Research is carried out in federal and industrial research laboratories without graduate students. It can be done in the academic world also.

Because of the increasing technological basis of our society we need to develop physics courses for non-physics and non-science majors. We must identify new "consumers" and "package" our product to serve their needs and then sell it. The March issue of *PHYSICS TODAY* has a series of valuable articles on this general subject. The Commission on College Physics should be continued because it has done excellent work in this area.

With the reorientation of public priorities we must justify our cost to our society. If we can not do this we should not be supported. However, APA has great confidence in the value of science to society, and physics is fundamental to most of the sciences. Thus, one of APA's main goals, as a spokesman for physicists, is to lobby for the support of physics research at a healthy level.

APA intends to complement the services offered to the physics community by the American Institute of Physics, the American Physical Society and the other professional societies with this lobbying activity. For this we should all work together. We hope to work

as closely with the other societies as we can without jeopardizing their tax standing.

For use in our lobbying activities APA needs to develop a portfolio of arguments justifying the study of physics and physics research. We need concrete specific examples of how particular research efforts have benefitted or can benefit society. I am requesting anyone who can give such an argument, or anyone who would like to contribute to this activity, to write to me at:

PO Box 19343,
Washington, D.C. 20036

We will use this type of material and the counselling of experts, including those outside the field of physics, to formulate this material for consumption by Congress, the Administration and the general public. Our success will depend upon your support.

RICHARD L. SMITH
Chairman
American Physicists Association

Complaint about employers

Despite the heavy coverage already given to the problem of employers' stated needs and the capabilities of young professional physicists entering the job market I feel compelled to offer my little squawk. In 1967, when I was actively looking for a job, of the 10 or 12 industrial firms I interviewed at least half had in mind a specific position for a person with a very specific background. Never once in all my interviews and correspondence was it mentioned to me that there might be a place for a person with typical PhD training in physics who was interested in various sorts of work not necessarily related to his dissertation topic. This all leads me to believe that a lot of these industrial representatives are guilty of talking out of both sides of their faces when they complain about overspecialization in our training.

In nearly every graduate physics department across the country a PhD student takes strong courses in optics, electricity and magnetism, thermodynamics, quantum mechanics, and applied mathematics. Surely these subjects are basic to *every* other area of physics. In addition, an experimentalist usually has to learn how to get along with electronic gear or vacuum systems or computers or machine shops, or perhaps all of these and more besides. Now how in the world can this sort of training be called narrow?