

Vibration Isolation Table uses air suspension

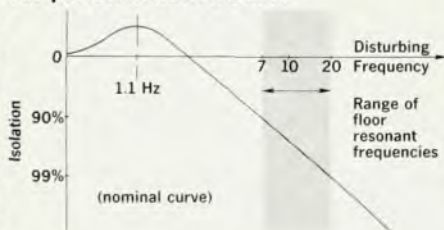


70.401
Vibration
Isolation
Table

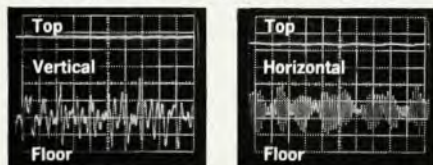
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- Stiff, portable honeycomb top is 12' long
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Air piston isolation curve



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letters

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and that the graduate schools themselves must change with the times. I am left wondering whether, if PhD candidates are to be "encouraged to select thesis topics dealing directly with environmental or sociological problems," they will be supervised in their research by senior physicists who have abandoned careers in, say, axiomatic quantum field theory to pursue the shining star of the newly relevant disciplines. . .

HARVEY S. PICKER
University of Maryland
College Park

International opportunities

PHYSICS TODAY should be complimented on finally dealing with international opportunities for physicists (September, page 37), and in that connection with the problem of science development in the emerging countries. As someone with an active interest in this area for the last eight years, both individually and through organizations such as the Committee for International Education in Physics (CIEP) of the American Association of Physics Teachers, I would like to add some general remarks.

Science development in the emerging countries, a problem of foremost priority, should only benefit from the temporary excess of physicists in the developed countries, provided efforts are made to smooth out the interface. In fact, a considerable amount can be done in this area without the outlay of any substantial new funds,¹ and with the existing manpower available in the sciences. Four general types of activities might be mentioned:

1. Coordination of existing resources. When it comes to filling positions available in the developing countries, to providing visitors and lecturers in those countries, to repatriating young scientists from abroad, to providing minimum requirements for scientific survival in the developing countries, and to many other aspects of scientific activity, often the potential is present on both sides, and what needs to be done is to distribute the relevant information and coordinate the needs on the two sides. The CIEP is beginning to make a dent in this problem but much remains to be accomplished. It is important to emphasize that *coordination* does not mean *centralization*. Nothing could be more damaging to the cause than to impose on it a cumbersome international bureaucracy.

2. Slight modifications of existing organizations to fit actual needs. A perceptive recognition of existing needs (even if they are not communicated without solicitation) and of existing opportunities must lead to a modification

of the existing organizations to fit the actual situation. This remark is also relevant to some of the organizations described in the article. It is precisely the tendency toward rigidity that has handicapped some of the past efforts. Science development in the emerging countries is not a science, perhaps not even an art, and only a highly pragmatic approach will make any inroads at all.

3. Experimentation with new programs. It follows from the previous point that constant experimentation with new ideas and new programs is a must. This can often be done on very little money.¹ It requires, however, the participation of enthusiastic people experienced both in the sciences and in the context that the developing countries offer.

4. Extra-organizational, individual initiative. Much can be done, and in fact can be better done, by individuals or groups of individuals, not associated with formal organizations. Bilateral arrangements between university departments fall into this category. Another example is the Physics Interviewing Project (see September, page 76). In fact, without such initiative the large programs also dry up eventually. Easier availability of minimal funds for such initiatives would therefore be advisable.

Whereas the CIEP is neither omniscient nor omnipotent, it construes its purpose to be of maximal assistance to physicists interested in international activities. It can be contacted by writing to me at:

Institute of Theoretical Science
University of Oregon
Eugene, Oregon 97403

Reference

1. M. J. Moravcsik, *How to Help With Modest Resources* (Lecture given at the meeting of the British Association for the Advancement of Science, Durham, September 1970) and *Minerva*, Spring 1971 (to be published).

MICHAEL J. MORAVCSIK
University of Oregon

Society's responsibility

I am much astonished by Ashley Grayson's comment in the October issue (page 11) to my earlier letter proposing that the government train surplus physicists for jobs in other fields (July, page 13). Almost definitely, he misunderstood my intention.

First, my suggestion was particularly aimed at newly graduated PhD's or PhD candidates now in training. As mentioned by Stephen Paley on the same page of the October issue, "According to the American Physicists Association, based on assumptions that

have already been exceeded, one fifth of the total number of PhD's in the nation will be unemployed by 1973!"; and Wayne R. Gruner's reply in the same issue (page 13), "A recent study sponsored by the National Planning Association provides an important illustration. Economic consequences of shifting \$20 000 million per year in federal expenditures out of defense and aerospace and into consumer industry and social-welfare programs were examined"; the shift of the national expenditure or goal is much faster than the response of the educational institutions to this shift. My suggestion was to aid the educational institutions in accelerating their shift of priorities.

Secondly, the newly graduated PhD's or PhD candidates did not realize that there would be an oversupply of PhD's when they finished their training. They should not be penalized for their "mistake" in choosing a PhD or even a BS in physics rather than choosing a future as a sanitation worker or a social-welfare worker. Both society and the people who educated them have the responsibility to help them. Otherwise, the society is wasting its taxpayers' money.

This is common sense that applies to any field or profession and to any country. It is neither idealistic nor realistic. Let's face facts.

S. J. TAO

*The New England Institute
Ridgefield, Conn.*

Corrections

Some points that appeared in the published version of my article on Brian Josephson (November, page 23) require clarification:

The article states that I served as nominal head of the Solid State Theory Group at the Mond Laboratory in 1961-2. I could not have done this as a visiting lecturer, and the Mond Laboratory is a subdivision of the Cavendish Laboratory specializing in low-temperature experimental physics and has never had a formal theoretical group. The group of which I am now head is a division of the Cavendish Laboratory of which Brian Josephson is now a member.

I am employed both by Bell Telephone Laboratories and by Cambridge University.

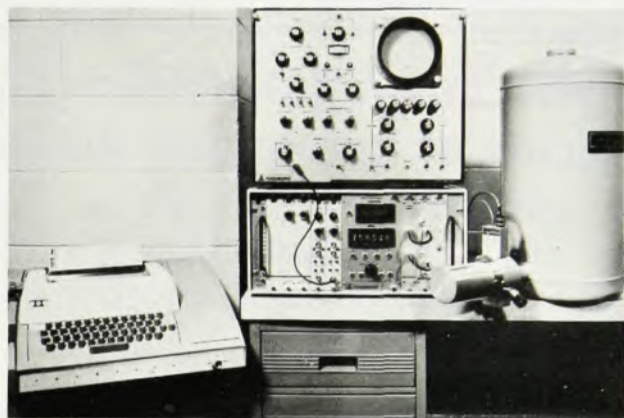
I travelled to Kyoto to attend and speak at the meeting and was therefore asked by Josephson and the committee on the London prize to accept it for him, since he was unable to, and to give an appreciation of his work, which was the source of the PHYSICS TODAY article.

P. W. ANDERSON
University of Cambridge □

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