in a group would sooner or later find intolerable incongruities in rank. Another alternative of assigning key technical officers to similar jobs but in different organizations results in expensive readjustments.

Nearly every technical agency in the Federal Government is wrestling with these problems both as they affect their own operation, and as they affect the agencies on which they must depend to get the contractual help they need. There have been sincere attempts to resolve the difficulties and evolve a workable plan. Selective Service has had a group of advisory committees at work for some time. The Department of Labor has established an Office of Defense Manpower which is dealing with some phases of the problem. The Interdepartmental Committee on Research and Development has been one rallying point for coordination of effort. The Office of Scientific Personnel of the National Research Council is another. This office has provided leadership in the effort to coordinate the views of the four scientific and technical groups, the National Academy, National Research Council, the American Institute of Physics, the American Chemical Society, and the Engineers' Joint Council, who have been asked to advise with respect to manpower.

Resolution of the problem lies within the province and may lie within the power of the National Security Resources Board. But it is evident that the total supply of manpower is inadequate, that many important areas of effort must go shorthanded, and that the best solution is obscure. Therefore, it may be necessary to take the problem to the Congress, which, while not necessarily infallible, is the court of last resort in a problem so basic to the American people. The special problem of the physicists will be presented, we hope in its true light, and we may expect that a workable, if not entirely satisfactory, solution will be found for this group.

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Notes and Comments

To one working in the country's weapons program, and rather used to having such efforts described as being degrading and immoral, it is a little new to have them called *passé*. For this novelty we have to thank Professor Morse, seasoned evaluator of the country's weapons systems. Under the heading: Must We Always Be Gadgeteers? (*Physics Today*, Nov. 1950) Professor Morse has given a sort of prospectus for work in operational research. He justly argues a great need for work in that field, and explains how a physicist who does not particularly wish to stay very close to physics could be effective there. Unhappily, in the course of this argument he invents a class of characters: physicists "whose overwhelming desire is to make more gadgets". He then points at his invention with scorn.

Now Professor Morse knows perfectly well that the physicists who, in trying to find and make an appropriate response to the present political situation, have given what time they could to these programs, have performed a very necessary service, and that ways must be found to increase the number of people available to these laboratories. (He knows, too, that an incidental by-product of such work is to add some interest and urgency to the problems of the operational researchers and thus indirectly contributes to their solution by making it easier for him to drum up recruits.)

When we in the weapons program might write for the help-wanted column we could say that though weapons work is not entirely physics, it is rather more specifically dependent on the information and techniques at the disposal of a person trained in the physical sciences and provides a more certain opportunity for the application of these than does operational research. We would be slow, however, to suggest that this was the only thing a self-respecting intellect might undertake in the way of government service. To do so, we would fear, would be a little too "unsymbiotic".

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There seems to be a twofold reason why physicists are often active in a field different from their own. One of them is the uneasy feeling that perhaps the normal pursuit of science ("gadgeteering" as Dr. Morse would have it) is at the present time perhaps not the best way to serve our country. The other is the widespread belief that for some reason scientists are especially qualified to make important contributions on all subjects from economics to religion. Physicists, who are so much "in vogue" these days, have been frequently victims of this point of view although many of them succeeded in making indeed important advances in these distant fields. It is very gratifying that Dr. Morse so clearly indicates the usefulness of a physicist in operations research. This suggests the old statement that "physics is not a science but a state of mind". To many physicists this new field of work may bring much satisfaction at the present time. The main issue, however, seems to be not whether each scientist is "doing his bit", but rather whether he is "doing his best bit". Some, perhaps most, physicists should keep on teaching and doing pure fundamental work, others should lean toward more applied problems, still others should enter such fields as operation research, etc.

This problem of greatest usefulness is not unrelated to the more general subject of the nature and support of true creative research as opposed to mass production of data. It thus appears that the main issue: when is a particular man most useful? still remains unanswered. Moves are underway to help clarify this situation, and it is perhaps appropriate to appeal here for more discussion of this increasingly vital topic.

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