Science Legislation

Scientific Training

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In his recent radio address to the nation, President Truman gave more attention to the things Congress is not doing than to the things which are getting done. Scientists may take their cue from the President and give thought to one vital question to which altogether too little consideration has been given, namely, the replacement of scientific and engineering personnel lost during the war years.

The question is critical. Many scientists were drafted—commonly late in the war period after the use for their skills was no longer urgent and deferments were cancelled. Numerically, the most serious losses were caused by the drafting of 18-year-olds who would have entered the colleges and technological schools. Some of these men may undertake belated training when they are discharged from military service, but many will not. Meanwhile postwar projects lag for lack of men to handle the technological problems involved. Meanwhile, too, the nation is fast losing to other far-sighted countries the technological pre-eminence which was a major factor in victory.

Congress cannot be criticized for not attending to this problem, much less solving it, for scientists themselves have done little about it. The American Chemical Society tried, with only a little help from other organizations, to obtain deferment for new recruits in essential scientific fields. One bill was introduced into Congress (H.R. 2827) to achieve this purpose, but it died in committee. Our scientific personnel, both actual and potential, was expendable, but unlike expendable military personnel, no one assumed any responsibility for replacing it.

Now, five months after hostilities have ceased, the situation is unchanged. Selective Service, though it may defer students who are partially trained in scientific and technological fields, encounter few 18-year-olds in that category. Universal military service, as proposed, will continue the same indiscriminating policy, if adopted. The shortage of scientists and engineers, though it may be partially offset by returning veterans, will be increased rather than corrected.

During the past few weeks representatives of the engineering societies, the physicists, chemists, and the Association have met to consider corrective measures. The drain of trained or partly trained men has been checked but not stopped. It is now imperative to correct the deficit through immediate changes in Selective Service and through specific provisions in the Universal Military Service bill, if the latter is adopted. It may be just as vital to insure replacements of scientific and technological students if Universal Military Service is not adopted.

As a basis of immediate action twelve organizations phrased a resolution which contains a program adaptable to Selective Service and to Universal Military Service if passed. With some modification it can be effectively utilized if Universal Military Service is rejected. Indeed, the unique importance of science and technology in war and peace has prompted the suggestion by one Senator with whom the program has been discussed that the resolution may be the only program which can effectively prepare us at once for the grim requirements of war and the expanding needs of peace.

Twelve organizations have endorsed the resolution:

The American Association for the Advancement of Science
The American Ceramic Society
The American Chemical Society
The American Institute of Electrical Engineers
The American Institute of Mining and Metallurgical Engineers
The American Society of Civil Engineers
The American Society of Mechanical Engineers
The Electrochemical Society
The Engineers Council for Professional Development
The Engineers Joint Council
The Engineers Society of Western Pennsylvania
The Institute of Radio Engineers

They are sure others will recognize its importance and will want to take similar action. It is published herewith for the consideration of scientists and scientific societies that recognize the gravity of the current situation and foresee the still more serious problems of the future.

WHEREAS national security and public welfare are dependent upon and vitally affected by the quality of scientific, engineering and technological research, both fundamental and applied;

WHEREAS fundamental and applied research are entirely dependent upon ample reserves of trained and experienced manpower;

WHEREAS the ranks of scientists and engineers have been seriously depleted since 1941 by the requirements of military service;

WHEREAS the normal flow of students into the colleges and the engineering, technical, and graduate schools has almost completely ceased during the period from 1941 to 1945;

WHEREAS the alarming deficit in highly trained technical personnel will be further increased if Selective Service is continued without full recognition of the fact that technical personnel is as vital to national security and welfare as military personnel;

THEREFORE BE IT RESOLVED that the imperative and immediate need of replenishing scientific and engineering manpower be called to the attention of the President and the Congress;

BE IT FURTHER RESOLVED that the Congress be asked to take prompt legislative steps to insure a flow of scientific and engineering personnel through the colleges and the engineering, technical, and graduate schools adequate to national security and the public welfare;

BE IT FURTHER RESOLVED that such legislation as may be required be based upon principles consonant with the democratic methods embodied in Selective Service and with the tested methods of the institutions of higher learning; that to this end the following provisions be incorporated in such legislation:

1. Young men who have attained their eighteenth (18th) but not their twenty-sixth (26th) birthday shall be allocated to the colleges, universities, and technical schools after induction rather than through deferment;

2. Such men should be chosen by recognized and established selective processes, as far in advance of induction as possible;

3. The selection of these men should be administered by the appropriate government agency, which shall determine from year to year the number of young men who may be admitted to the training program, so as to bring the total anticipated output of trained personnel at least to prewar standards;

4. The young men so selected shall be assigned to accredited colleges and institutions of their own choice;

5. Such colleges and institutions shall not be obligated to impose on these students any requirements other than those normally imposed upon civilian students; but no provision contained in this plan shall exclude said students from enrolling voluntarily in reserve officer training programs maintained by the Army and Navy in the institutions in which they enroll;

6. The duration of the training period shall be identical with that designated in the Selective Service training program; the academic calendar for training shall not exceed nine months in any one year, the remaining three months being available to the Army or Navy for military training;

7. Financial support for trainees during this period shall not exceed that awarded to trainees under the Servicemen's Readjustment Act (Public Law 346);

8. Failure on the part of any trainee to meet the scholastic requirements of the institution to which he is assigned shall result in immediate transfer to regular military duty;

9. Trainees admitted to this program shall be subject to the same obligations for subsequent public service as may later be incorporated in a plan of national scholarships and as applied to a training period of equal length;

BE IT FURTHER RESOLVED that the acute shortage of scientific and engineering personnel in the colleges, in government agencies and in industry be immediately alleviated by adoption of those provisions of the Vannevar Bush report (*Science, the endless frontier*) relating to the release of scientists and engineers now in the armed forces; and

BE IT FINALLY RESOLVED that full cooperation of the legislative and executive branches of the Federal Government be solicited, not only in the implementation of this emergency program which is designed to correct the deficit (now estimated at approximately 150,000) of scientific and technical students, but also in assuring a future supply of trained manpower, adequate in numbers and in skill to meet the involved problems of national progress, welfare, and security.