

will also be ready to advise Colonial Governments on technical questions. Its formation is regarded only as a first step towards a wider organization which, it

is hoped, will include both teaching and research in its scope, and will cooperate closely with workers in the Colonial Dependencies.

## DISCUSSION

### FREEDOM IN SCIENCE

IN conversation with scientific colleagues in this university, I have heard the opinions expressed that the American Association for the Advancement of Science could fulfill in the United States the functions of the British Society for Freedom in Science and that the vigorous opposition recently shown to the Kilgore Bill by scientific organizations is an indication of the support that the ideals of this society would receive in this country. On the former question, of course, nothing can be said until the association itself goes on record either for or against, but it is the conviction of the writer that the second opinion is unduly and perhaps dangerously complacent.

It seems reasonable that the article by Professor P. W. Bridgman<sup>1</sup> on the British Society for Freedom in Science expresses a point of view likely to receive more support in this country than in Great Britain, where the general tendency towards socialization has been developed and extended more fully. Necessary as such a development may be in twentieth century political economy, it is clearly dangerous to attempt to extend it to cover every phase of human activity. The only question that an investigator should ask is "Is it true?" and the question "Is it socially useful?" is irrelevant to science.

Because of a resentment towards social controls over the advancement of science many persons engaged in pure or academic research are in agreement with Dr. Vannevar Bush<sup>2</sup> when he says: "(Any government) support (of pure science) should be divorced from governmental control of the scientists and laboratories themselves, or it will stifle rather than expedite their true accomplishments." This statement was made in connection with the Kilgore Bill. But while opposed to the Kilgore Bill on the grounds of too great externally applied control of science, pure scientists found themselves in the company of others who were opposed to it for reasons totally different: whose freely admitted motives are "public good and corporation profit."<sup>3</sup> Neither of these motives, important as they are, is primary with the pure scientist and consequently, sooner or later, he will be in opposition to those with whom he was previously allied against this bill. He can, therefore, take no comfort from the

opposition shown to the Kilgore Bill: he was not responsible for its vigor. The fact that the membership of the British Society for Freedom in Science is only 134, after three years of existence, shows how pitifully few he can muster in his support.

Almost the first schism that one can foresee between pure scientists and scientists who rely on private industry for their livelihood is likely to be on the question of whether or not the Government should be encouraged to spend greatly increased sums of money for the support of research. The negative attitude of industry towards Government sponsored research has been pointed out quite clearly on page 147 of Bernal's book, "The Social Function of Science" (Macmillan, 1939). In the original Kilgore Bill<sup>4</sup> the sum of two hundred million dollars is appropriated to carry out the purposes of the act. Solely from the point of view of the advancement of human knowledge it is highly desirable that this sum of money, or even greater sums, be spent on scientific research, both pure and applied. While opposed to the terms of the Kilgore Bill for the administration of this money, most pure scientists would yet encourage the scientific advance that its expenditure would create. Nevertheless the opponents of the bill that have so far been heard are in favor of its total rejection rather than of some constructive counter-proposals for the administration of the money.

These general remarks are intended to point out to persons engaged in academic research that the opposition expressed by men of science to the terms of the Kilgore Bill is not necessarily a sign of wide-spread public sympathy with the ideals of the British Society for Freedom in Science.

SYDNEY ROSS

STANFORD UNIVERSITY,  
CALIFORNIA

AN article by Dr. P. W. Bridgman in the issue of *SCIENCE* for July 21, 1944, considers the need for support in the United States of the British Society for Freedom in Science. In his introduction to a statement by the founders of the British Society, Dr. Bridgman notes that in the United States there exists to-day a growing tendency toward "totalization" of science and that there is a need for support of a society dedicated to combating this trend. The state-

<sup>1</sup> *SCIENCE*, July 21, 1944.

<sup>2</sup> *SCIENCE*, 98: 2557, 577, 1943.

<sup>3</sup> *SCIENCE*, 97: 2529, 554, 1943.

<sup>4</sup> *SCIENCE*, 97: 2523, 407, 1943.

ment of the British Society for Freedom in Science, embodied in Dr. Bridgman's article, states that "J. D. Bernal's book, 'The Social Function of Science,' became a keystone of the movement against free science." It is said further that "the Association of Scientific Workers adopted the movement as a part of its policy, and has worked energetically on its behalf ever since, both privately and in public."

As a founding member and past vice-president of the American Association of Scientific Workers (A.A.Sc.W.), I am much interested in the reference to the British Association of Scientific Workers. It is not my intention to enter into the merits of the British controversy, though, to put it mildly, it seems unfair to portray the British Association of Scientific Workers as the enemy of all free science. I shall, however, appreciate an opportunity to explain what, to me as an individual, seems to be the place of the American Association of Scientific Workers in this debate. While friendly to the British Association of Scientific Workers, the American Association of Scientific Workers is a wholly independent organization.

No one who has witnessed the developments of the past decade can deny that research in applied science, dedicated to the solution of specific problems affecting human welfare, will have a prominent place in the postwar organization of scientific research. It is inevitable, and probably not to be deplored, that in future years planning and cooperation in science will become increasingly important. The first article of the aims of the American Association of Scientific Workers states unequivocally that the organization will support developments along these lines. This does not, however, imply that the American Association of Scientific Workers will favor, desire or tolerate the suppression of pure research. If there are members of the American Association of Scientific Workers who hold such views, I am unaware of their existence. The fourth article of the aims of the American Association of Scientific Workers states that the organization is dedicated to "safeguarding the intellectual freedom and professional interests of scientists."

Dr. Bridgman's introductory paragraph refers to the original Kilgore Bill. An official pronouncement on this bill by the American Association of Scientific Workers was made by the Boston-Cambridge Branch, which issued a three-fold report on this controversial but highly important bill. After discussion of the Kilgore Bill by the membership, three subcommittees were appointed, one composed of members favoring the bill, another of those favoring the bill with certain definite modifications, the third of those opposing the bill. Each committee prepared its report, and the three reports together were then released publicly. In

the American Association of Scientific Workers there is room for divergent views. In the past four years the organization has profited by the lessons learned from certain errors in the first two years of its existence.

While not saying so outright, Dr. Bridgman's article implies that American scientists should band together to protect freedom in science. I can see no need for such a course. The existing professional societies, from the American Association for the Advancement of Science and Sigma XI, to the American Association of Scientific Workers, form a wholly sufficient bulwark against possible encroachments upon the rights of freedom in science. A new society dedicated exclusively to the defense of freedom in science has little positive contribution to offer. Greater benefits can result from the support of organizations that attempt to analyze and appraise with care various proposals relating to the place of planning in postwar scientific research in the United States. This is not the time for a return to the "ivory tower."

BART J. BOK

HARVARD COLLEGE OBSERVATORY

#### VISITING RESEARCH PROFESSORSHIPS

THE ranks of retired professors are increasing at an astonishing rate. This calls for some sort of inventory of the contributing factors and a legitimate forecast in higher education. Among the contributing factors to the availability of distinguished professors are the following: (1) rising longevity and improvement in physical and mental health; (2) rise in the number of professors retiring for age in colleges and universities; (3) rise in the number of institutions providing retirement pensions; (4) increase in superior facilities for intensive and sustained projects in research; (5) increased emphasis on research in American universities; (6) prevailing frustration at the time of forced retirement; (7) need of recognized status at this stage; (8) growing recognition of individual differences in health, interests, skills in research and leadership; (9) the tragic need of supplementing the bread-and-butter provisions of retirement plans with opportunities for rounding off a scholarly career in creative work.

In view of these facts it is timely to ask, in the interest of advancement of knowledge and learned service to mankind, what can be done to encourage continuity in creative scholarship on the part of distinguished professors after retirement on an adequate pension plan. One of the first steps for leaders, authorities and associations in higher education might be to recognize this new group by giving them academic status in the continuation of their scholarly pursuits.