The philosophic claim is made that a single life germ might hold all the potency and promise of the entire organic world. But why restrict the beginning of life to a single germ? And why restrict the organic synthesis to one occasion? No good reason appears for supposing that the combination of forces on the surface of the mature earth was ever essentially unlike the present, and the circumstances which produced the primordial life must have been constant. This implies the probably continuous creation of organic matter to the present time. The amoeba either has retained its simplicity through countless generations of organic evolution during a vast length of time or it is of recent creation.

SCIENTIFIC EVENTS

INTELLECTUAL FREEDOM

THE following manifesto signed by 1,284 scientific workers, of whom sixty-four were members of the National Academy of Sciences, and eighty-five college presidents and deans and directors of industrial laboratories and experiment stations, has been issued:

In an article entitled "The Pragmatic and Dogmatic Spirit in Physics," which appeared in the April 30 issue of *Nature* (with strong editorial disapproval), wide publicity is given to the official Nazi position on science and scientific research. In essence the article is an attack on all theoretical physics, and, by obvious implication, on scientific theory in general. It introduces the official racialism of the Nazis to divide physicists into good, *i.e.*, non-theoretical and "Aryan," and bad, *i.e.*, theoretical and Jewish. Similar notions have appeared in many popular magazines and scientific journals in Germany, in the addresses and writings of the Minister of Education, of university rectors and deans, of scientists and non-scientists. Apart from racial theories, furthermore, science and art are subject to ruthless political censorship. These ideas have found concrete expression in the dismissal and persecution of over 1,600 teachers and scientists (by the fall of 1936) from German universities and research institutes (and now Austria and Italy too), and in the restriction of higher education to students having the "proper" political and racial qualifications.

American scientists, trained in a tradition of intellectual freedom, hold fast to their conviction, that, in the words of the resolution adopted by the American Association for the Advancement of Science, "Science is wholly independent of national boundaries and races and creeds and can flourish only when there is peace and intellectual freedom." If science, to quote the A.A.A.S. resolution again, is to continue to advance and spread more abundantly its benefits to all mankind—and who can attack that goal?—then the man of science has a moral obligation to fulfill. He must educate the people against the acceptance of all false and unscientific doctrines which appear before them in the guise of science, regardless of their origin. Only in that way can he insure those conditions of peace and freedom which are essential for him and for the progress of all mankind.

It is in this light that we publicly condemn the Fascist position towards science. The racial theories which they advocate have been demolished time and again. We need only point to the work of Heinrich Hertz in physics, Fritz Haber and Richard Willstätter in chemistry, Ludwig Traube, Paul Ehrlich and August Wassermann in biology and medicine, all German Jews and all empirical scientists. The charge that theory leads to a crippling of experimental research is tantamount to a denial of the whole history of modern physics. From Copernicus and Kepler on, all the great figures in Western science have insisted, in deed or in word, upon the futility of experimental research divorced from theory.

We firmly believe that in the present historical epoch democracy alone can preserve intellectual freedom. Any attack upon freedom of thought in one sphere, even as non-political a sphere as theoretical physics, is in effect an attack on democracy itself. When men like James Franck, Albert Einstein or Thomas Mann may no longer continue their work, whether the reason is race, creed or belief, all mankind suffers the loss. They must be defended in their right to speak the truth as they understand it. If we American scientists wish to avoid a similar fate, if we wish to see the world continue to progress and prosper, we must bend our efforts to that end now.

THE ASSOCIATION OF SCIENTIFIC WORKERS

THE resolution of the American Association for the Advancement of Science (SCIENCE, February 4, 1938) and recent actions of the British Association bear witness to a widespread interest on the part of scientific workers in the increasingly critical development of social problems. Members of the staff of Harvard University, the Massachusetts Institute of Technology and other institutions in Boston and Cambridge, Mass., have formed an Association of Scientific Workers, having as its aims: (1) to bring scientific workers together to promote an understanding of the relationship between science and social problems, (2) to organize and express their opinions on the steps to be taken towards the solution of these problems, (3) to promote all possible action on the conclusions reached.

The contribution of scientific workers to world progress is to-day larger than ever before. Nevertheless, they are faced with economic and international developments which continually become more critical. As a group they have virtually no control over the applications of science, and are without the means of expressing their opinions as to how these developments should be met. The only expressions of opinion

which reach the public are those of a few individuals whose views are not necessarily representative and in some instances grossly misleading.

The methods and purposes of the association are stated as follows:

(1) To bring scientific workers together to promote an understanding of the relationship between science and social problems.

(2) To organize and express their opinions on the steps to be taken towards the solution of these problems.

(3) To promote all possible action on these conclusions.

These aims may be brought about:

(1) By holding meetings at which speakers will present various social problems and the attitude of scientists toward them.

(2) By organizing informal study groups to examine some of these problems more closely.

(3) By giving expression to the collective opinions of scientific workers, and by taking appropriate action either individually, jointly or through collaboration with existing organizations.

The association will conduct its first open meeting in Emerson Hall, Harvard University, on December 19, when President K. T. Compton, of the Massachusetts Institute of Technology, will speak on "The Social Implications of Science." The association is also sponsoring an informal discussion group on the state of science under various social régimes. It is hoped soon to affiliate with other similar groups in Philadelphia and elsewhere. Communications should be addressed to the Secretary of the Association of Scientific Workers, Harvard Biological Laboratories, Cambridge, Mass.

THE ANNUAL MEETING OF THE UNION OF AMERICAN BIOLOGICAL SOCIETIES

THE annual meeting of the Council of the Union of American Biological Societies will be held on Wednesday afternoon, December 28, at 4:00 P. M., in the Salon of the Jefferson Hotel, Richmond, Virginia.

During the past year the union has continued to support projects of broad interest as promotion of *Biological Abstracts* and the teaching of biological sciences. Beginning with volume 13 (1939) *Biological Abstracts* will abandon the emergency subsidy plan which enabled it to maintain publication during 1938. The new plan adopted by the Board of Trustees provides for the usual monthly issue, but in addition this issue will be broken up into five sections as announced earlier,[1] which sell for $4–$9 a section together with a complete index. Other details of the plans for 1939 will be discussed at this time.

The Union's Committee on Biological Science Teaching is under the chairmanship of Dr. Oscar Riddle and includes the following members: E. V. Cowdry, F. L. Fitzpatrick, H. B. Glass and B. C. Gruenberg. It has undertaken two projects, one of which is already well advanced and is worthy of record here. This project is concerned with the formation of a national association for that group of more than 20,000 who teach biological subjects in secondary schools, and to the establishment of a journal to serve their special needs. Following meetings of the National Education Association in New York City on July 1, 1938, a National Association of Biology Teachers was formally established at a meeting called and largely financed by the committee. Fifteen delegates selected by members in twelve states took part in this organization meeting and elected officers. The first issue of the association's new journal, *The American Biology Teacher,* appeared in October, 1938. The committee continues its efforts to form local (city, regional or state) units of this national association, and thus to extend the association membership to teachers in all the forty-eight states and to a majority of all teachers of secondary biology. The present membership of approximately 1,500 comes largely from fifteen states, though forty states are represented. During much of 1938 Professor D. F. Miller, of the Ohio State University, has served as committee representative in the active promotion of this work. A grant of funds ($10,000 during 3 years) from the Carnegie Foundation for the Advancement of Teaching provides necessary and substantial support for work undertaken by this committee.

The promotion of *Biological Abstracts* and the integration of teachers of biology in a national association are activities which are obviously of interest to all member societies of the union. All living things age, and consequently the phenomena of aging are likewise basic. In 1937 the union secured the cooperation of the National Research Council and with the aid of a generous grant from the Josiah Macy, Jr., Foundation arranged a conference on the biological and medical aspects of aging at Woods Hole on June 25 and 26. The constructive exchange of ideas between the biologists and medical men who attended this conference was of assistance in the preparation of a comprehensive report on aging financed by the Macy Foundation, which will be published about January 1.

Privately endowed and operated biological institutions are at an increasing disadvantage compared with city, state and federal organizations. It has been suggested that a very important problem for the union it to formulate ways and means whereby the Federal Government may come to their support.

The union is eager to serve the member societies in any matters which are of interest to them collectively

[1] SCIENCE, 88: 294, 1938.