Not to leave the impression that economists alone face inner obstacles when they try to do scientific work, let me recall a few derangements from which most of us suffer in some degree. We have our personal likes and dislikes that make it hard for us to assess impartially the scientific contributions of our fellow workers. Often these emotional aberrations take the still more irrational form of living or disliking large groups of people whom we don't know but about whom we imagine things. Who among us maintains a strictly scientific attitude toward what is called the race issue, either in the form that is acute in Germany or in the form that is acute in the United States? To be more offensively personal, is there any one so free from vanity that he can be strictly scientific about critical appraisals of his own work? And on a higher level, are not most of us conscious of an unreasoned predilection for certain types of scientific inquiry balanced by an equally unreasoned tendency to depreciate the value of other types?

I should hesitate to talk in this vein to any company not composed of scientific investigators. Just because other groups would probably have more biases per gram of gray matter than can be found in this room at present, it would be futile to dwell upon their intellectual limitations. Little but annoyance could result. But we who profess to follow the scientific ideal can face even our own deficiencies and lapses from grace in a scientific spirit. And the firmer our scientific temperaments, the readier we are to overcome so far as human nature allows the inner obstacles to scientific work.

We have, indeed, a high calling, and much depends upon how we acquit ourselves. Progress in human well-being is conditioned by progress in discovery in both the natural and the social sciences. Scientific discoveries are made by gifted individuals; but these individuals have to be conditioned for their work, and this conditioning is a social process. Even more patently, the application of scientific discoveries to human uses, good or bad, is work in which thousands share. Many citizens of the future have their most vivifying contacts with science through us. We do not expect to make many of them scientific lights, but we do expect to give most of them some impression not only of what science has accomplished but also of the spirit in which scientific men work, thus to influence their future attitudes toward science, and to promote the social processes that favor scientific discoveries and their applications. The most effective way to exercise this influence upon others is to cultivate the scientific spirit in ourselves.

SCIENTIFIC EVENTS

THE NEW GEOLOGICAL GLOBE AT THE SOUTH KENSINGTON GEOLOGICAL MUSEUM

IT is reported in the London *Times* that a geological globe, 5 feet 11 inches in diameter and electrically rotated at the rate of one revolution in 2½ minutes, was formally set in operation at the Geological Museum, South Kensington, on October 10, by Sir Frank Smith, secretary of the Department of Scientific and Industrial Research. This globe, which is believed to be the largest yet prepared to show both surface relief and the distribution of geological formations, was modelled by C. d'O. Pilkington Jackson and was colored by the museum staff, the painting being carried out by Mr. C. Keefe under the direction of Mr. A. J. Butler.

The scale adopted is approximately 1 in 7,000,000, or one inch to 112 miles. Mountain heights are exaggerated 20 times, and one of the most striking impressions which the new globe creates, according to the *Times,* is that of the comparative insignificance of even the loftiest mountains, for in spite of this exaggeration the summit of Everest projects scarcely more than an inch above sea-level. The globe rotates on its polar axis nearly 600 times as fast as does the earth, but the actual speed of a point on the surface of the earth is about 12,000 times that of the corresponding point on the model.

The various rocks of the earth's surface are shown by a graded series of colors, ranging from deep purple for the oldest rocks, formed perhaps 1,000,000,000 years ago, through shades of blue, green and yellow to a flesh-pink for the large areas covered by deposits laid down during and since the Ice Age. The igneous rocks are colored scarlet and orange. Ice-caps, rivers and lakes are also marked.

PERMANENT SCIENCE FUND OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES

INCOME from the Permanent Science Fund, according to agreement and declaration of trust, shall be applied by the American Academy of Arts and Sciences to such scientific research as shall be selected ". . . in such sciences as mathematics, physics, chemistry, astronomy, geology and geography, zoology, botany, anthropology, psychology, sociology and economy, history and philology, engineering, medicine and surgery, agriculture, manufacturing and commerce, education and any other science of any nature or description whether or not now known or now recognized as scientific; and may be applied to or through public or private associations,

societies or institutions, whether incorporated or not, or through one or more individuals."

Applications for grants under this indenture are considered by a committee of this academy on stated dates only. The next such meeting will be to consider applications received in proper order on blank forms furnished by the committee on March 1, 1939. Correspondence, including requests for application blanks, should be addressed to the chairman of the Committee on the Permanent Science Fund, Professor John W. M. Bunker, Massachusetts Institute of Technology, Cambridge, Mass.

Grants-in-aid from this fund were voted by the academy on October 19, 1938, as follows:

Professor D. C. Carpenter, New York State Experiment Station, Geneva, N. Y., $300, toward the purchase of optical equipment for an investigation of the effect of neutral salts on amino acids and proteins.

Dr. V. I. Cheadle, instructor in botany, Rhode Island State College, Kingston, R. I., $300, toward the cost of technical assistance in the preparation of material for the study of the conductive system in a group of the Monocotyledonae.

Dr. S. R. Gifford, Northwestern University Medical School, Chicago, Ill., $500, toward the cost of technical assistance in a study of the relation of the physical change of protein molecules in cataract of the eye.

Professor W. L. Gilliland, University of Maine, Orono, Maine, $250, toward the purchase of precision equipment for use in studying certain equilibria in Grignard reagents.

Professor F. L. Humoller, Loyola University School of Medicine, Chicago, Ill., $400, toward the cost of animals and materials in a study of the chemistry of a toxic fraction prepared from *Salmonella enteritidis*.

Dr. Valy Menkin, instructor in pathology, Harvard Medical School, Boston, $500, toward the cost of an investigation of the nitrogenous substances in areas of injury.

Professor Gregory Pincus, Clark University, Worcester, Mass., $800, for technical assistance and supplies in the further study of the development of artificially activated mammalian ova *in vivo* and *in vitro*.

Professor G. W. Prescott, Albion College, Albion, Mich., $175, toward the expenses of an investigation of phytoplankton in the Panama Canal Zone.

Professor Christianna Smith, Mount Holyoke College, South Hadley, Mass., $200, for the purchase of animals in a study of the origin and differentiation of red blood corpuscles.

Dr. Oswald Tippo, instructor in botany, University of Illinois, Urbana, Ill., $75, for the cost of text figures necessary for the effective publication of a monograph on the Moraceae.

Professor Dorothy W. Weeks, Wilson College, Chambersburg, Pa., $500, for technical assistance in extension of the analysis of the spectrum emitted by neutral iron atoms.

LEIGH HOADLEY,
Corresponding Secretary

AWARD OF THE HOOVER MEDAL OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

JOHN FRANK STEVENS, civil engineer of Baltimore, Md., who is now eighty-five years old, has been selected as the third recipient of the Hoover Medal, according to an announcement made by Dr. Gano Dunn, chairman of the Hoover Medal Board of Award. The medal will be presented to Mr. Stevens during the annual meeting of the American Society of Civil Engineers in New York City, which will be held from January 18 to 21, with the following citation:

> John Frank Stevens, engineer of great achievement as illustrated in his work on the Panama Canal, who, in his dealings with the Inter-Allied Forces in Siberia in the Great War, demonstrated those broader capacities for humanitarian public service beyond his calling which have earned for him the recognition of the Hoover Medal for 1938.

Mr. Stevens was born in West Gardiner, Me., on April 25, 1853. After serving as assistant engineer of the City of Minneapolis from 1874 to 1876, he became chief engineer of the Sabine Pass and North-Western Railway, followed by engineering service on practically every railroad in the Northwest, including the Chicago, Milwaukee and St. Paul, the Canadian Pacific and the Great Northern. Then in 1905 he was appointed chief engineer of the Panama Canal and later chairman of the Isthmian Canal Commission. From 1907 to 1909, he was vice-president in charge of operations of the N. Y., N. H. and H. R. R. Following this, he became president of several West Coast railroads.

In 1917, Mr. Stevens, then sixty-four years of age, went to Siberia as chairman of the Commission of Railway Experts to assist the Russian Provisional Government in the reorganization and operation of its badly organized railways. The Armistice and the Soviet ascendency stopped this work. However, Mr. Stevens remained in Manchuria and, with the collaboration of the American Ambassador to Japan, formed the Inter-Allied Technical Board, becoming president of it. Amidst revolution, disease and famine, Mr. Stevens and a band of devoted American railway men operated the crippled railways and kept open "the back door to Russia." As a result, the Allied troops in Siberia were withdrawn successfully, the railway operations maintained in the face of physical and personal difficulties, supplies and foodstuffs provided and the lives of thousands of natives saved.

In 1927, he was elected president of the American Society of Civil Engineers. Mr. Stevens has had awarded to him the John Fritz Medal for "great achievements," the U. S. Distinguished Service Medal and the Gold Medal of the Franklin Institute. He is