*conti del Circolo Matematico di Palermo.* In 1924, both the Mathematical Association of America and the National Academy of Sciences elected Moore a member of the American section of the International Mathematical Union.

Accounts of Moore's remarkable papers will appear in mathematical journals and in the "Biographical Memoirs of the National Academy of Sciences." The following classification of his papers shows that Moore devoted his first seven years of research largely to geometry, the next ten years to group theory and related topics, then six years to classical analysis, and his final twenty years to general analysis.

I. *Geometry.* Moore's first four papers (1885–88) were mainly on $n$-dimensional geometry. In 1900–04 and 1913 he wrote three more papers on geometry. More typical are his two papers (1902) on axioms of projective geometry.

II. *Groups.* When Moore came to Chicago in 1892, group theory was the fashion in the mathematical world. His twelve papers on groups (1893–1905) made fundamental advances. Moore's gift for abstract reasoning was especially effective in group theory. On the closely related topic of triple systems, he wrote four papers (1893–98). Also two papers on Kronecker modular systems (1897, 1907).

III. *Classical Analysis.* Although he was especially interested in improperly definite integrals, Moore published (in 1901) only two papers on them. His eight papers on real variables appeared in 1890, 1895–96, 1900, 1907.

IV. *General Analysis.* This subject is entirely Moore's own invention, and for the past twenty years he devoted his attention entirely to its development. In its final form, it is in MS. But with the aid of the Moore Fund (contributed by his many admirers), it is hoped that this MS. will soon be published in book form.

The oldest version appeared in 1909 in Vol. 2 of the Proceedings of the Mathematical Congress at Rome. Next came his New Haven Mathematical Colloquium in 1910. In all he published thirteen papers on general analysis (1909–22) and three closely related papers on linear integral equations (1912–13). To attempt to explain the nature of general analysis in a few words would be as futile as to do the same for Einstein. The inquisitive reader may well consult Bolza's introduction to Moore's general analysis in *Jahresbericht der Deutschen Mathematiker-Vereinigung,* 23 (248–303), 1914.

Moore's work easily places him among the world's great mathematicians. In America, his various accomplishments made him the leader. But he was a leader who was universally loved, and this was because he was at the same time a prince of a man.

L. E. DICKSON

## HARLAN WILBUR FISK

PROFESSOR HARLAN WILBUR FISK, of Kensington, Maryland, magnetician and chief of the section of land magnetic survey, Department of Terrestrial Magnetism, Carnegie Institution of Washington, died at the Washington Sanitarium, Takoma Park, Maryland, on December 26, 1932, after a brief illness. Professor Fisk was born at Geneva, Kansas, on September 25, 1869, and received his early scientific training at Carleton College, Northfield, Minnesota, where he came under the inspiring influence of Professor W. W. Payne. During the period 1899–1906 he held the professorship of mathematics at Fargo College (North Dakota) and was dean of the faculty during 1904–1906. He spent the summers of these three last years at Fargo as magnetic observer in the employ of the U. S. Coast and Geodetic Survey and in October, 1906, he joined the staff of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington in the same capacity. He was successively advanced to the positions of magnetician and chief of the section of land magnetic survey. His field work, however, did not cease with his entrance into the department, for he carried out two detailed magnetic surveys of the Bermuda Islands in 1907 and 1922, respectively, and led a magnetic-survey expedition to British, Dutch and French Guiana in 1908. He also took part in various expeditions sent out by the department to investigate possible effects on the earth's magnetism due to solar eclipses, the most recent of these being on the occasion of the total solar eclipse of last August, when he was in charge of the three parties sent to New England by the department for this purpose. During the last few years he has been engaged in important researches of the secular variation of the earth's magnetism based largely on data obtained under his supervision by observers of the Department of Terrestrial Magnetism. These studies led him to suspect that secular changes in the earth's magnetism as observed on its surface might be the reflection of changes in the earth's interior. His work along these lines was internationally recognized.

Professor Fisk was a member of a number of scientific bodies, including the American Association for the Advancement of Science, Washington Academy of Sciences and the Philosophical Society of Washington. He was also an active member of the American Geophysical Union, being secretary of its section of terrestrial magnetism and electricity during the period 1929–1932. He is survived by his widow, Louie B. Hubbell Fisk, and four children, Clarence Wilbur, Marion Sarah, Willis Hubbell and Ernest Harlan.

Professor Fisk was a man of broad interests who took a leading part in the civic and religious activities

of his community. He was held in the highest esteem by all his friends and colleagues because of his charming personality and sterling qualities of character.

JNO. A. FLEMING

## RECENT DEATHS

WILLIAM FRANKLIN EDWARDS, director of research for the U. S. Testing Company, New York City, formerly president of the University of the State of Washington, died on January 13, at the age of seventy-seven years.

DR. EDWARD N. BRUSH, professor emeritus of psychiatry of the University of Maryland and the College of Physicians and Surgeons in Baltimore, died on January 10 in his eighty-first year.

PROFESSOR JOHN GLAISTER, who held the chair of forensic medicine in the University of Glasgow from 1898 until 1931, when he was succeeded by his son, Professor John Glaister, has died at the age of seventy-six years.

CECIL FOWLER BEADLES, curator of the pathological department of the Royal College of Surgeons, London, died on January 3 at the age of sixty-six years.

DR. ELIE IVANOFF, of Moscow, specialist in artificial fecundation, who had many mammalian hybrids to his credit, died last year in Russian Turkestan, to which place he had gone, financed by the Soviet Government, for the purpose of producing hybrids between man and the chimpanzee, on which work he was engaged at the time of his death.

# SCIENTIFIC EVENTS

## RESOLUTION ON TECHNOCRACY OF THE AMERICAN ENGINEERING COUNCIL

THE following resolution was passed at the recent meeting of the American Engineering Council in Washington condemning the claims of technocracy:

The statements of a group of men organized under the name "technocracy" have received wide publicity through the press by reason of startling predictions which involve a complete overturn in our economic structure. These pronouncements, circulated as coming from engineers, have led to the belief that they represent practical engineering thought.

Many requests for information on technocracy have come to the American Engineering Council, which is the representative of national, regional and local engineering societies in the United States.

The council has endeavored to obtain from the promoters of the movement an authoritative statement of their findings and their program. It is significant that no information could be obtained beyond what has appeared in the press.

The accepted practice among engineers of presenting new developments to some engineering society for critical study and discussion has not been followed. The data and statistics brought forward in magazine and newspaper articles as a basis for speculative claims are open to question; some of the findings have been discredited or disproved by other investigations.

These statements and conclusions may have the serious effect of undermining public confidence in our present civilization, and they hold out an unwarranted promise of a quick solution of economic ills. The method of presentation has been marked by exaggerated, intolerant and extravagant claims. They have capitalized the fears, miseries and uncertainties due to the depression and have proposed a control which is, in effect, class dictatorship.

Contrary to these claims, there is nothing inherent in technical improvement which entails economic and social maladjustments. Indeed technology offers the only possible basis for continuing material progress. The volume of goods produced, distributed and consumed during the years 1928 and 1929 was not excessive. That volume may and should be surpassed upon the return of prosperity.

The alleged unmanageability of a machine economy has not been proved. Its dislocations are traceable to improper and unskilled use rather than to inherently harmful characteristics. Complete replacement of men by the machine is precluded by the law of diminishing returns. Instances are increasingly in evidence. Contrary to the pronouncements of technocracy, applied science holds the promise of better things to come in a society which fearlessly and intelligently meets its problems. It is the considered opinion of American Engineering Council that our present economic structure contains within itself the possibilities of progressive improvement and of the attainment of higher standards of living.

## THE AMERICAN SOCIETY FOR TESTING MATERIALS

THE thirty-sixth annual meeting of the American Society for Testing Materials will be held in Chicago during the week beginning on June 26. This week has been designated "Engineering Week" by the Century of Progress Fair authorities and Wednesday, June 28, has been designated "Engineers' Day."

The Hall of Science will house extensive exhibits of a technical nature both in pure and in applied science. They will be of special interest, since they will in general deal with processes and not merely products.

The fair opens officially on June 1 and will be in full swing during "Engineering Week." During this week and during the preceding week, designated "Science Week," special programs will be given in keeping with the aims and activities of the many societies