

or individually. Consequently the secretary of the union will welcome suggestions from individuals as well as from officers of its member societies as to matters which could profitably be discussed at the next meeting which, as heretofore, will be open to all interested persons, even though they may not be official representatives of the member societies. It is hoped that all member societies will be represented by official delegates.

GEORGE W. HUNTER, III,
Secretary

GEOPHYSICS AS APPLIED TO CONTINENTAL STRUCTURE

ON December 27, at the meetings of the American Association for the Advancement of Science, a symposium on "The Importance of Geophysics to the Study of Continental Borders" will be presented by the American Geophysical Union before the astronomers of Section D and the geologists and geographers of Section E—this symposium having been arranged by the A. G. U. Special Committee on the Geophysical and Geological Study of Continents at the request of Section E. The purpose of this symposium will be both to define the functional relationship of geology and of geophysics in the determination of structural and dynamic conditions within the invisible portions of the earth's crust; and to illustrate how enormously the opportunities for the advancement of structural geology have been increased by geophysical research methods and appliances now existing.

Chester R. Longwell, of Yale University, will introduce the series of papers in a discussion of the relative roles of geology and geophysics in modern studies of the earth's crustal structure. Lieutenant Paul A. Smith, of the U. S. Coast and Geodetic Survey, will describe the nature and precision of the sounding methods, whereby submarine canyons have been traced along a part of the Atlantic margin of North America by Dr. A. C. Veatch and himself, under a project grant from the Geological Society of America. The geologic fate of the old continent or subcontinent of Appalachia will next be discussed by Wilbur A. Nelson, of the University of Virginia, after which Maurice Ewing, of Lehigh University, will describe the methods whereby the ocean-ward slope and depth of submergence of this old land area are being discovered. The delineation of deep-seated structural features of the earth's crust in continental border belts will then be the topic of papers by C. H. Swick, of the Coast and Geodetic Survey; G. P. Woollard, of Princeton, N. J.; and Perry Byerly, of the University of California. Mr. Swick will mention the modern methods used for gravity measurements, and will describe the recent programs of gravity observation in which the Coast and Geodetic Survey has been collaborating. Dr. Wool-

lard will describe how geologic analyses of this evidence have shown that the visible structural features of the Appalachian Mountains are paralleled by invisible (but equally great) linear structural features, deep within the crust underlying the Piedmont and Atlantic Coastal Plain regions. And Dr. Byerly will show how seismic information can be used to determine the nature and dynamic condition of some of these deep-seated structural features of coastal areas. H. T. Stetson, of the Massachusetts Institute of Technology, will next discuss how the roles of extra-terrestrial forces in inducing crustal deformation may be tested, and how certain structural problems may possibly be solved by collaborative, astronomic-geophysical-geological studies, involving the use of the crystal chronometer and of other devices for the exact determination of time and of geodetic position. W. T. Thom, Jr., of Princeton University, will conclude the symposium by summarizing the results thus far achieved through geophysical research, as well as the opportunity (and need) for further collaborative study of continental borders—which are the thresholds to the "great unknowns" of the sub-oceanic lithosphere. A discussion period will follow the last paper.

The symposium, which will begin at 2 P.M. in the Mosque, will be preceded by a morning program on the "Geology of the Coastal Plain and Continental Shelf." The twenty-four contributors taking part in these two sessions will give a searching and comprehensive review of problems which are currently under active investigation along the eastern seaboard.

H. A. MEYERHOFF, *Secretary, Section E*
H. T. STETSON, *Secretary, Section D*
J. A. FLEMING, *Secretary, American Geophysical Union*

RECENT DEATHS AND MEMORIALS

DR. CHARLES E. MUNROE, emeritus professor of chemistry at the George Washington University, died on December 7 at the age of eighty-nine years.

DR. JAMES PIERPONT, since 1898 until his retirement with the title emeritus in 1933 Erastus L. De Forest professor of mathematics at Yale University, died on December 9 at the age of seventy-two years.

DR. DANIEL L. WALLACE, from 1920 to 1931 professor of chemistry at the University of Pennsylvania, with which he had been associated for fifty-one years, died on December 5 at the age of seventy-eight years.

ELLEN LOUISA BURRELL, head of the department of pure mathematics at Wellesley College, who retired in 1916, died on December 3 at the age of eighty-eight years.

DR. HERBERT U. WILLIAMS, who retired in 1915 as

dean of the Medical School of the University of Buffalo, died on December 8 at the age of seventy-two years. Dr. Williams was appointed professor of pathology and bacteriology at the Medical School in 1894 and was a member of the faculty for forty years, retiring in 1934.

DR. JOHN DOUGLAS, clinical professor of surgery at New York University, consulting surgeon, died on December 5 in his sixty-fourth year.

DR. PORTER W. SHIMER, consulting chemist, president of the Shimer Chemical Company, died on December 6 at the age of eighty-one years.

THE division of botany of the University of Cali-

fornia at Davis held on November 30 a special seminar commemorating the one hundredth anniversary of Schleiden and Schwann's formulation of their cell theory. Dr. T. I. Storer briefly reviewed their work and the investigations of other men which led up to the cellular concept. The importance of the cell theory in present-day studies of bacteriology, physiology, genetics and plant pathology was discussed by Drs. C. S. Mudge, Max Kleiber, F. N. Briggs and W. B. Hewitt. The publications of many pioneer cytologists were on exhibit. Microscopic demonstrations illustrating important discoveries and plants and animals used by various cytologists were arranged by members of the departments of botany and zoology.

SCIENTIFIC NOTES AND NEWS

THE Gold Medal of Achievement for 1938 of the Poor Richard Club of Philadelphia has been awarded to Dr. David Sarnoff, president of the Radio Corporation of America and chairman of the board of the National Broadcasting Company. The medal will be presented to Dr. Sarnoff at the annual banquet to be given on January 17, the birthday of Benjamin Franklin. The award is made annually to a person whose accomplishments "have materially helped advance American civilization and raised the standards of living of Americans."

THE Penrose Medal of the Society of Economic Geologists has been awarded to Reno H. Sales, chief geologist of the Anaconda Copper Mining Company. The presentation will be made at the annual dinner of the society to be held on February 14 at the Harvard Club, New York City.

AT the New York meeting on December 6 of the American Society of Mechanical Engineers the Holley Medal for "meritorious services in the development of the steam turbine" was presented to Francis Hodgkinson, honorary professor of mechanical engineering at Columbia University and formerly an associate of George Westinghouse. The Holley Medal previously has been awarded to the following men: 1924, Hjalnar Gotfred Carlson; 1927, Elmer Ambrose Sperry; 1929, Baron Chuzaburo Shiba, of Japan; 1934, Irving Langmuir; 1936, Henry Ford; 1937, Frederick G. Cottrell. Lawford H. Fry, of Pittsburgh, received the Worcester Reed Warner Medal for written contributions to improved locomotive design and to the utilization of better materials in railway equipment. Alphonse I. Lipetz, of the American Locomotive Company at Schenectady, received the Melville Medal for a paper entitled "Thin Air Resistance of Railroad Equipment"; Wilfred E. Johnson, of Fort Wayne, received the Pi Tau Sigma Medal, and Arthur C. Stern, of New York City, received the Junior Award of the society.

DR. ELLIOTT C. CUTLER, Moseley professor of surgery at Harvard University and chief surgeon at the Peter Bent Brigham Hospital, Boston, was awarded on November 22 an honorary doctorate by the University of Strasbourg, France.

DR. CARL J. WIGGERS was honored by his associates at a surprise tea on the afternoon of November 23 to celebrate the twentieth anniversary of his appointment as professor of physiology at Western Reserve University School of Medicine. On this occasion Dr. Wiggers was presented with a book of photographs and letters of appreciation from the president of the university, the dean of the School of Medicine, members and former members of the staff of the department of physiology and students who had worked under him.

DR. J. EDMUND WOODMAN, professor emeritus of geology in the New York University College of Engineering, was the guest of honor at a dinner given on December 10 by his former graduate students at the Faculty Club in recognition of his twenty-nine years of service on the faculty. Dr. Woodman was head of the department of geology from 1927 until his retirement this autumn.

THE Student Branch of the American Institute of Chemical Engineers at the Ohio State University entertained Dr. Edgar C. Bain, assistant to the vice-president in charge of research of the U. S. Steel Corporation, New York City, at a dinner meeting on November 18. The dinner was attended by seventy-five members of the student branch and officers of the Central Ohio Section of the American Society of Metals and the national secretary, W. H. Eisemann. Following the dinner, Dr. Bain made an address on the theoretical and practical problems of modern steel development from a metallurgical point of view. The new colored motion picture of steel manufacture by the U. S. Steel Corporation was exhibited.