

through breaks in which they could see the lighter cirrus floating at 30,000. Lieutenant B. H. Wyatt, who planned the observations, took his post in the comparatively clear layer at 13,000 feet, facing the shadow of the moon advancing from the north. To the right of its edge he saw a sharp red line extending along the horizon and a halo around the sun fifteen diameters away from it. During totality the recording thermometer at this altitude showed a rise of three and a half degrees Fahrenheit instead of the anticipated drop period. The humidity fell from sixty-three to fifty-two per cent. On the northeast quadrant of the sun a red plume projected more than half the sun's diameter. Lieutenant Wyatt was able to warn the astronomers three days in advance that September 10 would probably be cloudy, for he finds that when the upper air is fifteen degrees warmer than below, the coast of Southern California is in for fog. Ordinarily there is a fall of three degrees for each thousand feet ascended, but this is reversed when the hot air currents rising from the deserts of south-east California and Arizona moving seaward over-run the cold damp air from the ocean. Lieutenant Wyatt explained his theory of long range forecasting at the Los Angeles meeting of the American Association for the Advancement of Science.

FELLOWSHIPS IN COAL MINING PROBLEMS

THE six college graduates who have been appointed to the annual research fellowships at the Carnegie Institute of Technology in Pittsburgh have already begun their studies of a wide variety of coal-mining problems. A significant feature of the research program for the year of 1923-1924 lies in the fact that two of the fellowships were newly established in order to carry on studies specifically requested by two private firms in the coal industry, both companies having agreed to finance the research work.

Each of the research fellows will work during the current year under the supervision of an official attached to the Pittsburgh Station of the Bureau of Mines. In accordance with the policy of the past two years, the results of the studies will be published at the end of the year by the Advisory Board of coal operators and engineers in cooperation with the Co-operative Department of Mining Engineering at Carnegie Tech. The assignment of problems has been made as follows:

"The relation of acidity and oxygen to corrosion of metals and alloys in acid mine waters," Ralph E. Hall, physical chemist, U. S. Bureau of Mines, and Research Fellow W. W. Teague, University of Alabama.

"A study of efficiency in blasting coal," J. E. Tiffany, explosives testing engineer, U. S. Bureau of Mines, and Research Fellow C. W. Nelson, Carnegie Institute of

Technology. (Requested and financed by the Hillman Coal and Coke Company.)

"A study of the practicability of gas masks and protection afforded by them in mine atmospheres which contain carbon monoxide, irritating vapors and smokes, and which support combustion in a flame safety lamp," G. S. McCaa, mine safety engineer, and S. H. Katz, associate physical chemist, U. S. Bureau of Mines, and Research Fellow A. L. Barth, Pennsylvania State College. (Requested and financed by the Mine Safety Appliances Company.)

"Correlation of coal beds in the Allegheny Formation of Western Pennsylvania and Eastern Ohio," Reinhardt Thiessen, research chemist, U. S. Bureau of Mines, and Research Fellow F. D. Wilson, University of Oregon.

"Effect of wheel diameter and other variables in friction losses in mine-car running-gear," Mayo D. Hersey, physicist, U. S. Bureau of Mines, and Research Fellow Howard E. Wetzel, Pennsylvania State College.

"The time-rate of combustion of coal-dust particles of definite sizes," C. M. Bouton, associate research chemist, U. S. Bureau of Mines, and Research Fellow J. M. Pratt, Swarthmore College.

THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS

AT the first meeting of the board of directors of the American Institute of Electrical Engineers for the administrative year beginning August 1, held in New York on August 2, President Ryan announced the following appointments as chairmen of committees:

STANDING COMMITTEES

Board of Examiners—H. H. Norris, New York.
Code of Principles of Professional Conduct—John W. Lieb, New York.
Coordination of Institute Activities—W. I. Slichter, New York.
Edison Medal—Edward D. Adams, New York.
Executive—Harris J. Ryan, Stanford University, Cal.
Finance—G. L. Knight, Brooklyn, N. Y.
Headquarters—E. B. Craft, New York.
Law—H. H. Barnes, Jr., New York.
Meetings and Papers—L. W. W. Morrow, New York.
Membership—M. E. Skinner, Pittsburgh.
Publication—Donald McNicol, New York.
Public Policy—H. W. Buck, New York.
Research—J. B. Whitehead, Baltimore.
Safety Codes—H. B. Gear, Chicago.
Sections—A. W. Berresford, Milwaukee.
Student Branches—C. E. Magnusson, Seattle.
Standards—H. S. Osborne, New York.

TECHNICAL COMMITTEES

Educational—W. E. Wickenden, New York.
Electrical Machinery—H. M. Hobart, Schenectady, N. Y.
Electrochemistry and Electrometallurgy—J. L. Yardley, Pittsburgh.
Electrophysics—F. W. Peek, Jr., Pittsfield, Mass.
Industrial and Domestic Power—H. D. James, Pittsburgh.

Instruments and Measurements—G. A. Sawin, Pittsburgh.

Iron and Steel Industry—F. B. Crosby, Worcester, Mass.

Lighting and Illumination—G. H. Stickney, Harrison, N. J.

Marine—G. A. Pierce, Jr., Philadelphia.

Mines—F. L. Stone, Schenectady, N. Y.

Power Stations—Nicholas Stahl, Providence.

Protective Devices—H. R. Woodrow, Brooklyn, N. Y.

Telegraphy and Telephony—O. B. Blackwell, New York.

Transmission and Distribution—F. G. Baum, San Francisco.

In accordance with the by-laws of the Edison medal committee, the board of directors confirmed the appointment by President Ryan of new members of this committee for terms of five years each as follows: C. C. Chesney, Pittsfield, Mass.; Robert A. Millikan, Pasadena, Cal., and M. I. Pupin, New York. The board also elected three of its members as members of the Edison medal committee for terms of two years each, namely, H. M. Hobart, Schenectady, N. Y.; Frank B. Jewett, New York, and W. K. Vanderpoel, Newark, N. J.

SCIENTIFIC NOTES AND NEWS

At the annual meeting of the American Chemical Society at Milwaukee on September 12, the Priestley Medal, awarded triannually by the society for distinguished services to chemistry, was bestowed on Dr. Ira Remsen, president and professor emeritus of Johns Hopkins University, Baltimore, at ceremonies at Marquette University.

THE medal of the Institute of Radio Engineers has been awarded to John S. Stone, electrical engineer of the American Telephone and Telegraph Company at San Diego, for his research work in radio communication. The presentation of the medal took place at a dinner in his honor in San Francisco on August 31.

At a recent election, the Royal Academy of Medicine appointed as a foreign correspondent F. C. Waite, professor of histology and embryology in the Western Reserve University of Cleveland, Ohio.

DR. R. DOHRN has been appointed administrative director of the Zoological Station at Naples.

ON account of his change of residence, Dr. Sam F. Trelease has resigned his position as assistant secretary of the American Association for the Advancement of Science, and Dr. Charles A. Shull, associate professor of plant physiology in the University of Chicago, has been appointed assistant secretary of the association until the Christmas holidays. Dr. Trelease, for several years instructor in plant physiol-

ogy at the Johns Hopkins University, has become professor of botany in the University of Louisville. Dr. Charles A. Shull is engaged in research in the laboratory of plant physiology of the Johns Hopkins University, where he will remain until the Christmas holidays.

AMONG Americans and Canadians attending the meeting of the British Association at Liverpool are Professors Lee and Pupin, of Columbia University; Professors Bancroft and Merritt, of Cornell University; Professor Lewis, of the University of California; Professor Noyes, of the University of Illinois, and Professors Adams, Eve, McCallum, Tate and Whitby, of McGill University.

THE council of the American Mathematical Society plan to raise an endowment fund of at least one hundred thousand dollars and a committee on endowment has been appointed, consisting of Julian L. Coolidge, Harvard University (chairman); Arnold Dresden, University of Wisconsin; Griffith C. Evans, Rice Institute; Robert Henderson, Equitable Life Assurance Society, and George E. Roosevelt, 30 Pine Street, New York (treasurer).

DR. E. B. SAYE, formerly associate professor of pathology and bacteriology in the School of Medicine of Emory University, has resigned to accept the position of pathologist and bacteriologist at the State Insane Asylum at Milledgeville, Ga., and Dr. R. Henry Baldwin, formerly assistant professor of physiology, is now a member of the staff of St. Louis Hospital.

DR. G. C. SOUTHWORTH, who has been an instructor of physics at Yale University for the last five years, has accepted a position with the American Telephone and Telegraph Company, New York City.

DR. A. LUSTIG, senator and professor of general pathology at Florence, has been invited to inaugurate the new quarters of the Biological Institute at Buenos Aires and the Italian Hospital.

DR. MARION HINES, of the department of anatomy of the University of Chicago, has been granted a year's leave of absence, beginning in September, which she will spend in research work in the laboratories of Professor J. T. Wilson, of the University of Cambridge, and Elliot Smith, of the University of London.

WORD has been received that Dr. D. H. Tennent, of Bryn Mawr College, who, with his family, went to Japan about six months ago to make a study of fishes, is safe in Shanghai, where he was staying at the time of the earthquake.

CHARLES M. HOY, engaged in collecting mammals