

his invention of the screen-grid tetrode and a super-heterodyne method of receiving wireless signals.

The following is a list of those recommended by the president and council for election to the council of the Royal Society at the anniversary meeting on November 30:

President, Sir William Bragg; *Treasurer*, Sir Henry

Lyons; *Secretaries*, Sir Frank Smith and Professor A. V. Hill; *Foreign Secretary*, Sir Albert Seward.

Other Members of the Council—Professor A. J. Allmand, Dr. G. T. Bennett, Professor J. Chadwick, Professor A. S. Eve, Professor W. G. Fearnside, Professor L. N. G. Filon, Dr. J. Gray, Sir Daniel Hall, Professor C. R. Harington, Professor D. Keilin, Professor J. Graham Kerr, Dr. R. H. Pickard, H. R. Ricardo, Professor W. Stiles, Professor W. W. C. Topley and W. Trotter.

SCIENTIFIC NOTES AND NEWS

At the dinner of the National Academy of Sciences held in Chicago on November 17 the John J. Carty Medal award, with a premium of \$3,000, was presented to Dr. Edmund B. Wilson, Da Costa professor emeritus of zoology at Columbia University. The presentation was made by Dr. Frank B. Jewett, vice-president in charge of development and research of the American Telephone and Telegraph Company. In the absence of Professor Wilson, who celebrated his eightieth birthday on October 19, the medal was received by Professor Ross G. Harrison, of Yale University. The Public Welfare Medal was presented to Dr. H. S. Cumming, surgeon-general of the U. S. Army, retired, the address being made by Professor Ludvig Hektoen, of the University of Chicago.

At the convocation of the Royal College of Physicians and Surgeons of Canada on October 31, in Ottawa, honorary fellowship was conferred on Lord Tweedsmuir, governor-general of Canada, and on Dr. Henry A. Christian, Hersey professor of the theory and practice of physic at Harvard University and physician-in-chief, Peter Bent Brigham Hospital, Boston.

DR. WILLIAM K. GREGORY, curator in the department of comparative and human anatomy at the American Museum of Natural History, was elected president of the American Society of Ichthyologists and Herpetologists at the annual meeting, which was held at the University of Michigan.

DR. EDWARD BAUSCH, chairman of the board of the Bausch and Lomb Optical Company, Rochester, N. Y., has been awarded for "inventions and improvements of great merit in the technical and public sense" the medal of the American Society of Mechanical Engineers, which will be presented on the evening of December 1, in the auditorium of the society.

DR. W. V. D. HODGE, Lowndean professor of astronomy and geometry at the University of Cambridge, has been elected to a non-stipendiary fellowship at Pembroke College.

DR. GOTTLIEB HABERLANDT, professor emeritus of plant physiology at the University of Berlin, celebrated

the fiftieth anniversary of his doctorate on November 11.

THE *Journal* of the American Medical Association states that Professor Antonin Gosset, one of the two heads of the surgical department of the Paris Medical School, was recently elected a fellow of the Academy of Sciences. In order to celebrate the event, a number of assistants and colleagues of Professor Gosset are subscribing to a fund with which a sword (as is the custom on such occasions in France) will be presented to the new academician.

THE first Arthur Duckham research fellowship, valued at £350, has been awarded by the British Institute of Gas Engineers to Dr. Albert Edward Haffner, research chemist in the service of the Gas Light and Coke Company, London. Dr. Haffner will proceed to the Gas Institute, Karlsruhe, to carry out research of interest to the British gas industry.

DR. GEORGE GILMORE SCOTT, after thirty-six years of active service at the College of the City of New York, has retired from the professorship of biology. His address is 1394 Grand Avenue, Winter Park, Fla.

DR. A. M. H. GRAY, dean of the faculty of medicine at the University of London, is retiring, having reached the age limit.

DR. GEORGE P. MULLER, formerly professor of clinical surgery in the School of Medicine and in the Graduate School of Medicine of the University of Pennsylvania, has been appointed professor of surgery in the Jefferson Medical College of Philadelphia, to succeed the late Dr. Edward J. Klopp.

DR. JAMES FISHER was recently appointed dean of the faculty at the Michigan College of Mining and Technology, Houghton. Dr. Fisher, who is head of the department of mathematics and physics, has been associated with the teaching staff of the college since 1896.

WILLIAM E. STANLEY, consulting sanitary and hydraulic engineer of Chicago, has been made professor of sanitary engineering in the School of Engineering of Cornell University.

W. E. BRADT, until September 1 assistant professor

of chemistry at the State College of Washington, has become professor of chemistry and head of the department of chemistry and chemical engineering at the University of Maine.

DR. EDWIN E. OSGOOD has been placed at the head of the newly established division of experimental medicine in the University of Oregon Medical School. Dr. J. Guy Strohman has been made clinical professor of urology and acting head of the division of urology, and Dr. William K. Livingston has been appointed assistant professor of surgery.

DR. H. P. COOPER, head of the department of agronomy at Clemson College, S. C., was recently appointed director of the Agricultural Experiment Station.

The Experiment Station Record states that Dr. W. R. Dodson, until 1928 dean of the College of Agriculture of the University of Louisiana and director of the Experiment Station, subsequently in charge of animal husbandry work at the United States Department of Agriculture Iberia Live Stock Experiment Farm, has returned to the department of agronomy for teaching and extension work. The honorary degree of doctor of science was conferred upon him by the university on August 6 in recognition of his long service "to the youth of the State of Louisiana as a teacher and leader in agriculture, as an organizer of forces for the development of better agricultural conditions in the South."

MAUNSELL VAN RENSSELAER, formerly curator of the Blaksley Botanic Garden, Santa Barbara, Calif., has been appointed director and will administer the garden under the supervision of the board of trustees.

At the University of Oregon, the Condon Museum of Geology, Herbarium, State Museum of Anthropology and Museum of Zoology have been placed under one administrative officer, L. S. Cressman, and their budgets combined. The four units retain their separate curators.

DR. GARNER M. BYINGTON, Battle Creek, for four years medical director of the W. K. Kellogg Foundation, has resigned to become director of medical relations in the Detroit Department of Health. In his new position Dr. Byington will carry out a child health program in Detroit similar to that sponsored by the foundation in rural districts.

CARLOS E. CHARDON, formerly chancellor of the University of Puerto Rico, who recently resigned as regional director of the Puerto Rico Reconstruction Administration, left on November 16 for Venezuela and Colombia to continue agricultural research commenced

five years ago, when he made studies of the wild potato in Venezuela and drafted plans to establish a National College of Agriculture in Colombia.

PROFESSOR L. A. ORBELI, of Leningrad, now in charge of Pavlov's laboratories, has been appointed a member of the Permanent International Committee of the Physiological Congresses in place of Professor I. P. Pavlov, who died last February. The committee, therefore, is constituted as follows: F. Bottazzi (Italy), W. B. Cannon (U. S. A.), I. Frank (Germany), A. V. Hill (Britain), *secretary*, B. A. Housay (Argentina), Y. Kuno (Japan), L. Lapicque (France), G. Liljestrand (Sweden), L. A. Orbeli (U. S. S. R.)

LINCOLN ELLSWORTH, the explorer, sailed on November 18 to deliver the annual toast before the American Club in London on Thanksgiving Day. While there, he will deliver a lecture on his Antarctic explorations before the Royal Geographical Society.

PROFESSOR THEODOSIUS DOBZHANSKY, of the California Institute of Technology, gave during October a series of eight seminars on "The Genetics of Species" in the department of zoology at Columbia University.

DR. DAVID SARNOFF, president of the Radio Corporation of America, New York City, gave on November 18 a lecture before the Franklin Institute of Philadelphia on "Three Decades of Radio." Before the lecture, Dr. Sarnoff was the guest of honor at a dinner given by the directors of the Franklin Institute at the Rittenhouse Club.

DR. GEORGE R. MINOT, professor of medicine at the Harvard Medical School, delivered the sixth Walter M. Brickner Lecture at the Hospital for Joint Diseases, New York City, on November 19. His subject was "Anemia: the Etiology, Diagnosis and Treatment."

RECENT lecturers at the hospital of Duke University and their subjects were: October 30, Dr. A. Graeme Mitchell, of the Children's Hospital, Cincinnati, "The Various Phases of Endocrinology"; November 3, Dr. Sanders L. Christian, of the U. S. Public Health Service, "A Résumé of the History of the United States Public Health Service and the Various Functions of Each Department"; November 7, Dr. George W. McCoy, of the U. S. Public Health Service, "The Recent Advances in Epidemiology."

THE fifty-seventh meeting of the American Astronomical Society will be held at Hood College, Frederick, Md., on December 28, 29 and 30.

THE forty-ninth annual meeting of the Geological Society of America will be held on Tuesday, Wednesday and Thursday, December 29 to 31, in Cincinnati,

Ohio, under the auspices of the University of Cincinnati. The retiring president, Dr. W. C. Mendenhall, will deliver his address at the Netherland Plaza Hotel in the evening of December 26.

THE winter meeting of the American Society of Agricultural Engineers will be held in the Stevens Hotel, Chicago, from November 30 to December 4. The society will meet in four technical divisions on farm power and machinery, farm structures, rural electrification and soil and water conservation. Between 300 and 400 agricultural engineers and others interested in agricultural engineering are expected to attend.

It is reported in *Museum News* that at a conference of museum representatives held at Melbourne in May, 1936, a resolution was passed that a museum association be formed in Australia and New Zealand and that the first meeting be held in New Zealand in January, 1937. The conference at Melbourne was arranged and financed by the Carnegie Corporation of New York. It was attended by delegates from twelve museums and art galleries in Australia, four in New Zealand and one in Tasmania.

By the will of the late Mrs. M. B. Graham the income from her estate of approximately \$350,000 is left in trust to be divided between her husband, Samuel Jordan Graham, of Washington, and Laurence Stokes Fuller, of Paris. Upon their deaths the prin-

cipal, will be given to the Johns Hopkins University to be used in seeking a cure for infantile paralysis.

THE *Journal* of the American Medical Association reports that an estate estimated at more than \$200,000 has been bequeathed to the University of Pennsylvania by the late Frances T. Kinsey to support and develop the Gastro-Intestinal Clinic at the University Hospital under the direction of Dr. Thomas Grier Miller, or for such other activities in this field as he may desire. After Dr. Miller severs his connection with the university hospital the income is to be used for such similar activities as the professor of medicine may desire. The fund will be known as "The Kinsey-Thomas Foundation for the Study and Treatment of Diseases of the Digestive System." It is to be a memorial to two sisters and a brother-in-law of Miss Kinsey.

DR. OWEN H. WANGENSTEEN, professor and head of the department of surgery at the University of Minnesota, and Dr. Alton Ochsner, professor and head of the department of surgery at Tulane University, will edit, with Dr. Alfred Blalock and Dr. William F. Rienhoff, Jr., as associate editors, a new surgical journal beginning on January 1, entitled "Surgery, A Monthly Journal Devoted to the Art and Science of Surgery." This journal is not to be the official organ of any group or organization, but will essay to give early publication to new and original material written up in concise form.

DISCUSSION

SIGNIFICANT FIGURES IN STATISTICAL CONSTANTS

It is to be hoped that the rule for retaining significant figures in statistical constants proposed by E. B. Roessler in a recent issue of *SCIENCE*¹ will not be adopted very widely by those "workers in social and biological sciences" who "are not mathematicians and use statistical analysis only as a necessary tool." The rule proposed is as follows: "*In a final published constant retain no figures beyond the position of the first significant figure in the standard error; keep one more place in all computations.*"

There are two parts to the rule, and the arguments against it apply to the parts separately.

The arguments in favor of rounding off a reported statistic have been given by the proponent of the above rule: not only is much time wasted on computations, due to the retention of more figures than the

precision of the data warrants, but results expressed to many decimal places without regard to their precision give a very misleading impression of the accuracy of the result. Of these two arguments, the first is the more important, since the existence of any number of decimal places in a statistic accompanied by its probable error will not give any misleading impression of accuracy to a competent reader.

Since results are not generally presented to an indefinite number of decimal places, the question is not *whether* to round off, but *how far* to carry the rounding-off process. If more figures are retained in the published result than are warranted by the precision of the data, then the only real harm seems to be in the waste of time devoted to computation. The reader can do his own rounding off. If, on the other hand, the rounding-off process is carried too far, then the published result does not give all the information contained in the data and the reader is unable to supply the lack. It would therefore seem reasonable to advo-

¹ *SCIENCE*, 84: 289-90, September 25, 1936.