

operate. In addition a joint symposium on vitamins and another on patents will be sponsored by the division in cooperation with the Divisions of Biological Chemistry and of Medicinal Chemistry. These three divisions have arranged vitamin symposia for the past seven meetings.

The Division of Colloid Chemistry, together with the Division of Physical and Inorganic Chemistry, has arranged a symposium on the Physical Chemistry of the Proteins. Invitations to participate have been accepted by Drs. Langmuir, Cohn, Kirkwood, MacInnes, Eyring, Stanley, Heidelberger, Abramson and Koets. In addition to the symposium on proteins, the Division of Physical and Inorganic Chemistry is sponsoring symposia on the determination of traces—which members of the microchemical division are invited to attend—on liquid ammonia and on nuclear chemistry.

The Division of Industrial and Engineering Chemistry will take part in three symposia as follows: Unit Processes, organized by R. Norris Shreve; Surface Active Agents, with F. E. Bartell as chairman; and Electrical Insulating Materials, organized by the Subcommittee on Chemistry, Conference on Electrical Insulation, National Research Council, with F. L. Miller as chairman.

The Division of Organic Chemistry will cooperate with the Division of Sugar Chemistry and Technology in a Symposium on Nomenclature of the Sugars and Their Derivatives and probably with the Division of Physical and Inorganic Chemistry in the symposium on Reactions in Liquid Ammonia.

THE ANNUAL SUMMER MEETING OF THE AMERICAN MATHEMATICAL SOCIETY

THE forty-fourth annual summer meeting of the American Mathematical Society, to be held from September 6 to 9, at Columbia University, New York City, will be devoted in large part to the celebration of the fiftieth anniversary of the founding of the society. While there will be ten sectional meetings for the presentation of the usual short papers embodying the results of recent mathematical research, the main scientific feature will be the program of invited addresses designed to review some part of the progress of mathematics during the half century of the life of the society. Speakers and their subjects are as follows: R. C. Archibald, Brown University, "History of the American Mathematical Society, 1888-1938"; G. D.

Birkhoff, Harvard University, "Fifty Years of American Mathematics"; E. T. Bell, California Institute of Technology, "Fifty Years of Algebra in America, 1888-1938"; G. C. Evans, University of California at Los Angeles, "Dirichlet Problems"; E. J. McShane, University of Virginia, "Recent Developments in the Calculus of Variations"; J. F. Ritt, Columbia University, "Algebraic Aspects of the Theory of Differential Equations"; J. L. Synge, University of Toronto, "Hydrodynamical Stability"; T. Y. Thomas, Princeton University, "Recent Trends in Geometry"; Norbert Wiener, Massachusetts Institute of Technology, "The Historical Background of Harmonic Analysis," and R. L. Wilder, University of Michigan, "The Sphere in Topology." The society is publishing a volume containing these addresses, except Professor Archibald's, under the title of "Semicentennial Addresses." It is publishing also a history of the society by Professor Archibald.

The opening session of the jubilee celebration will be marked by the presence of delegates from over fifty scientific and learned societies, including approximately thirty foreign mathematical societies, those American and Canadian scientific societies whose interests are most closely related to mathematics, and such organizations of general scientific interests as the National Research Council, the National Academy of Sciences and the American Association for the Advancement of Science. The address at this meeting will be delivered by President Nicholas Murray Butler, of Columbia University.

The committee on the semi-centennial celebration is attempting to arrange a meeting distinguished not only for its scientific program, but marked also by a birthday spirit of good fellowship. A particularly festive occasion will be the "Birthday" dinner, at which the society will honor its principal founder and first secretary, Professor Emeritus Thomas Scott Fiske, of Columbia University, who more than any other one person was responsible for the organization of the New York Mathematical Society at a meeting of six persons on November 24, 1888. It was this organization which six years later changed its name to the American Mathematical Society.

In connection with the meeting, there will be an exhibit of mathematical manuscripts, books, models and instruments, arranged by Professor David Eugene Smith.

SCIENTIFIC NOTES AND NEWS

A MEETING of the representatives of the American and British Associations for the Advancement of Science was planned prior to the Cambridge meeting of the British Association at Lord Rayleigh's Chelms-

ford estate. A discussion was proposed concerning cooperation between the two associations, and perhaps with the corresponding associations of other nations, on international scientific relations, more

especially problems arising from the impact of science on the social order. The American delegates included Professor George D. Birkhoff, retiring president of the American Association, and Dr. F. R. Moulton, permanent secretary. In addition to Lord Rayleigh, president, the British Association representatives included Dr. J. J. R. Howerth, secretary of the British Association, and Sir Richard Gregory, editor of *Nature*.

AMERICANS on the program of the meeting of the British Association for the Advancement of Science now meeting at Cambridge include: Dr. Harlow Shapley, Paine professor of practical astronomy and director of the Harvard College Observatory, "Metagalactic Gradients and the Expanding Universe Hypothesis"; Dr. R. W. Wood, professor of experimental physics at the Johns Hopkins University, "Diffraction Gratings for Astrophysical Purposes"; Dr. J. H. Van Vleck, professor of physics at Harvard University, "The Molecular Field and the Determination of Very Low Temperatures," and Dr. George D. Birkhoff, Perkins professor of mathematics and dean of the Faculty of Arts and Sciences of Harvard University, "Analytic Deformations."

THE honorary degree of doctor of science was conferred by the University of Oxford in July on Dr. Harvey Cushing, Sterling professor of neurology emeritus of Yale University and Moseley professor of surgery emeritus at the Harvard Medical School. Before the ceremony a luncheon was given in his honor by the vice-chancellor of the university.

IN addition to the election as foreign associates of the Paris Academy of Sciences of Professor T. H. Morgan and Sir William Bragg, already announced in SCIENCE, *Nature* reports the election of Professor T. Levi-Civita, emeritus professor of mechanics in the University of Padua.

DELEGATES attending the recent conference of the International Medical Congress for Psychotherapy, which met at Oxford during the last week in July, paid tribute to Professor Freud, who recently left Austria and has taken up his residence in London. In a telegram sent to him the delegates said: "We recognize our indebtedness to you for your brilliant contributions to psychological medicine, and wish you health, happiness and tranquility in your new surroundings in England."

DR. ARTHUR C. CHRISTIE, surgeon, formerly president of the Medical Society of the District of Columbia, has received the second Dr. Frank E. Gibson Award in recognition "of meritorious contributions to medical science." The prize is presented by the Washington Medical and Surgical Society and is

named in honor of Dr. Gibson, permanent treasurer of the society.

DR. HERBERT F. PRYTHERCH, director of the Beaufort, N. C., laboratory of the U. S. Bureau of Fisheries, has been awarded the gold medal of the North Carolina Academy of Science for his paper on "The Life Cycle of a Sporozoan Parasite of the Oyster," presented at the 1938 meeting of the society in Raleigh.

THE Keith Prize of the Royal Society of Edinburgh has been awarded to Dr. H. S. Ruse, professor of pure and applied mathematics at University College, Southampton, for his paper "On the Geometry of Dirac's Equations and their Expression in Tensor Form" and for other papers. The Neill Prize has been awarded to Professor William J. Hamilton, St. Bartholomew's Hospital Medical College, for his contributions to the embryology of the ferret and other work.

Nature reports that the Gold Medal of the British Institution of Mining and Metallurgy has been awarded to Professor S. J. Truscott, "in recognition of his services in the advancement of the science and practice of mining and metallurgy, with special reference to his services in technological education." The Consolidated Gold Fields of South Africa, Ltd. Gold Medal has been awarded to Professor H. V. A. Briscoe, "in recognition of his researches on the sampling and properties of industrial dusts"; the Consolidated Gold Fields of South Africa, Ltd. Premium of forty guineas has been awarded conjointly to Dr. Janet W. Matthews, P. F. Holt and Miss Phyllis M. Sanderson, "in recognition of their work, in association with Professor H. V. A. Briscoe, on the sampling and properties in industrial dusts."

PROFESSOR THOMAS BENJAMIN DAVIE, professor of pathology in the University of Bristol, has been appointed to the George Holt chair of pathology from October 1, in succession to Professor J. H. Dible, now professor of pathology in the Post-graduate Medical School, London.

DR. CLOVIS VINCENT, head of a private clinic for brain surgery in Paris, has been appointed to a newly established chair of brain surgery in the School of Medicine of the University of Paris.

DR. T. G. DELBRIDGE, manager of the Research and Development Department of the Atlantic Refining Company, Philadelphia, has been elected president of the American Society for Testing Materials. W. M. Barr, chief chemical and metallurgical engineer of the Union Pacific Railroad Company, has been elected vice-president.

DR. GUSTAVUS AUGUST EISEN, formerly curator of the California Academy of Sciences, later connected

with the U. S. Department of Agriculture, celebrated his ninety-first birthday on August 2.

DR. FRANCOIS A. GILFILLAN, professor of pharmacy in the School of Pharmacy of the Oregon State College, has been appointed dean of science at the college. He succeeds Dr. E. L. Packard, who has become dean of general research for the state system of higher education and has been made director of the Institute of Marine Biology. Dr. Packard will also continue as head of the department of geology at the college.

DR. J. L. DEEN, associate professor of silviculture at the Pennsylvania State College, and N. A. Christensen, of the California Institute of Technology, have been appointed deans of the schools of forestry and engineering, respectively, of the Colorado State College.

AT the University of Maryland, Fred H. Leinbach has been appointed professor of animal husbandry to succeed K. A. Clark, who recently accepted the managership of Oldfields Farm at Galena. James B. Outhouse has been made instructor and assistant in the department of animal husbandry. Dr. Kenneth L. Turk, assistant professor in the extension department of animal husbandry at Cornell University, has been appointed professor of dairy husbandry, to succeed Professor L. W. Ingham, who recently accepted a position at the National Farm School at Doylestown, Pa.

DR. CLIFFORD S. LEONARD, for the past ten years a director of research in the pharmaceutical industry, has been appointed assistant professor of pharmacology in the College of Medicine of the University of Vermont.

HORACE J. ANDREWS, of the U. S. Forest Service, who has been in charge of a survey of the forest resources of the Pacific Northwest, has been appointed Charles Lathrop Pack professor of wild land utilization in the School of Forestry and Conservation of the University of Michigan. The work will be conducted as an expansion of the activities of the George Willis Pack Forestry Foundation directed by Professor W. F. Ramsdell and will be closely associated with related activities in the university, particularly in the Horace H. Rackham School of Graduate Studies.

DR. RALPH HOWARD FOWLER, fellow of Trinity College, has been reelected to the John Humphrey Plummer professorship of mathematical physics at the University of Cambridge. The London *Times* writes that Professor Fowler resigned from this chair on his acceptance of the directorship of the National Physical Laboratory on the resignation of Professor W. L. Bragg, but that he had been advised to withdraw his acceptance of this post for reasons of health, and

signified willingness to be reelected as professor of mathematical physics.

PROFESSOR MORROUGH P. O'BRIEN, chairman of the department of mechanical engineering of the University of California, has been appointed a civilian member of the U. S. Beach Erosion Board.

JAMES F. WILSON, associate professor of animal husbandry in the College of Agriculture at Davis of the University of California, has been made technical adviser to the committee on wool and other animal fibers of the American Standards Association.

HOWARD J. KUMIN, who has been employed by the Division of Fishery Industries in the collection of fishery statistics during the past two years, has resigned from the bureau to become a member of the Bureau of Biological Survey.

THE retirement is announced of Thomas Athol Joyce, since 1932 deputy keeper in charge of the sub-department of ethnography of the British Museum. He was appointed in 1902 to the staff of the British Museum in the department of British and medieval antiquities and ethnography.

DR. GEORGE L. CLARK, professor of chemistry at the University of Illinois, has returned from a five months' leave of absence spent in Europe. He visited forty university and institutional laboratories conducting x-ray work in Italy, Switzerland, France, Germany, Austria, Czechoslovakia, Holland, Belgium, England and Scotland. He also represented the United States on the occasion of the celebration in Berlin of the eightieth birthday of Professor Max Planck.

WILLIAM D. CAMPBELL, field representative of the American Museum of Natural History, sailed on the Italian liner *Conte di Savoia* on August 6. He plans to make a six months' expedition to Africa to collect specimens to be added to groups in Carl Akeley African Hall at the museum. Members of the party will be Major W. V. D. Dickinson and Robert Kane, of the department of arts and preparations, who will assist in preservation of specimens and the preparation of backgrounds for the habitat groups.

A MEETING of the American Society of Photogrammetry will be held in New York on September 8 and 9 at the headquarters of the American Geographical Society. Developments in commercial photographic equipment for map-making by aeroplane will be described and exhibited. All available floor space of the society will be taken up by special exhibits. Included among subjects to be discussed at the meeting are recent developments in papers, emulsions and lens filters, the ideal aeroplane for aerial survey purposes, photographic principles and their application in aerial photography.

THE fiftieth anniversary of the founding of the Vir-

ginia Agricultural Experiment Station at the Virginia Polytechnic Institute, Blacksburg, Va., was celebrated on July 27 at a meeting held in conjunction with the Institute of Rural Affairs. The following program, presided over by Dr. John R. Hutcheson, director of the Virginia Agricultural Extension Division, was presented: "Some Results of Research at the Virginia Agricultural Experiment Station," by Director A. W. Drinkard, Jr.; "Some Results of Research at the Virginia Truck Experiment Station," by Director H. H. Zimmerley, and "The Place of Research in Planning for Rural Living," by Dean W. C. Coffey, of the University of Minnesota.

THE first program devoted to internationalism in science with the object of interpreting the dangers confronting freedom of scientific thought was broadcast by "Adventures in Science" over the Columbia network on August 12. Professor Edwin G. Conklin, of Princeton University, outlined specific situations that exist in which scientific men and the scientific method of approaching problems are being restricted by war and political attitudes. Appearing on the pro-

gram with Professor Conklin was Dr. Paul B. Sears, formerly of the University of Oklahoma, who was recently appointed professor at Oberlin College. "Adventures in Science" is one of the adult education series, presented under the guidance of the Adult Education Board of the Columbia Broadcasting Company, of which Dr. Lyman Bryson, professor of education at Teachers College, Columbia University, is the chairman.

A CABLE from San Juan, Puerto Rico, to *The New York Times* states that according to a message received by Governor Blanton Winship from Frederick Coykendall, chairman of the board of trustees of Columbia University, the cooperation of the university with the University of Puerto Rico in the School of Tropical Medicine will be continued. This had been threatened by recent legislation eliminating the representation of Columbia University on the board of trustees. The message was in answer to one from Governor Winship giving assurance that the provisions of the bill eliminating Columbia University were an "error" which would be corrected.

DISCUSSION

THE VENOMOUS EFFECTS OF SOME ARIZONA SCORPIONS

DR. BAERG¹ states that the relative harmlessness of scorpions in the United States is generally known. It seems that this statement ought not to go unchallenged. More lives have been lost in Arizona from the sting of the scorpion than from the bite or sting of any other venomous arthropod or reptile at least during the nine-year period since 1929. For a period of six and one half years, beginning with 1929, there were recorded twenty-five deaths resulting from the sting of the scorpion and only ten deaths caused by the rattlesnake, gila monster and other poisonous animals. Most of the deaths due to scorpion sting have occurred in the southern part of the state, particularly in the Salt River Valley, and the victims have been children usually six years of age and under. The writer knows of one case in which an eight-year-old child succumbed to a scorpion sting.

In and around Mesa, Ariz., one commonly finds two species of scorpions, *i.e.*, *Vejovis spinigerus* (Wood) and *Centruroides sculpturatus* Ewing. A third species less commonly taken is *Hadrurus hirsutus* Wood, the giant hairy scorpion.²

The effect of the venom of these scorpions was tested on white rats (the Wistar strain) by permitting the

scorpion to sting the experimental animal, usually in the hind foot where there is little or no fur and local reactions can more readily be observed. The sting of *H. hirsutus* caused a swelling in the region of the sting so that the toes were about twice their normal size. In the case of *V. spinigerus* a swelling likewise occurred, but it was not nearly so great as that produced by *H. hirsutus*. Other than the swelling none of the rats showed further effects from the venom of either of these two species. A slight nervousness was observed, but this was attributed to fright rather than to the venom. After about the first five minutes the rats did not even avoid walking with the swollen foot, but the foot was sensitive, more so than the others, when touched with forceps. Within two or three hours all signs of the sting had disappeared.

In the case of the third species, *C. sculpturatus*, no local swelling was noticeable, although the foot was favored, but the reaction seemed to be general and neuropathic. Death occurred within a period varying from ten minutes to one and one half hours. A general description of events from the time of the sting until death may be stated as follows. Within one or two minutes after the sting the rat shows signs of nervousness by a gentle alternate patting of the front feet on the floor of the cage. Then there appears to be an itching in the nose as the rat frequently goes through vigorous cleaning reactions over that region. Soon the animal begins to sneeze and the nose drips a colorless fluid. This symptom reminds one of a

¹ W. J. Baerg, *Natural History*, 42: 1, 42, June, 1938.

² Tentatively determined from H. E. Ewing's key in "The Scorpions of the Western Part of the U. S." No. 2730 of the Proceedings of the U. S. National Museum, Vol. 73, Art. 9, pp. 1-24, 1928.