tute in Paris, who was to have headed the French delegation. He is engaged in preparing vaccines and anti-toxins for the French Government. Dr. Pierre Lepine, head of the rabies and virus diseases department of the Pasteur Institute, took his place.

The first general session of the congress on Monday was to have been devoted to addresses by Professor Dr. A. J. Kluyver, of Delft, the Netherlands; Dr. Paul Fildes, of London, and Dr. C. Levaditi, of Paris, and Wednesday's general session to addresses by Professor Dr. Eduard Reichenow, of Hamburg, Germany; Professor A. Missiroli, of Rome, and Dr. B. O. Dodge, of New York. Of these speakers only Dr. Dodge was able to be present. Mayor F. H. La Guardia and Dr. John L. Rice, commissioner of health, welcomed the delegates at the opening ceremonies at the Waldorf-Astoria. Other speakers included Dr. Thomas M. Rivers, director of the Hospital of the Rockefeller Institute and president of the congress; Sir John C. G. Ledingham, director of the Lister Institute, London, and Dr. Lewis R. Jones, of the University of Wisconsin.

SCIENTIFIC NOTES AND NEWS

THE British Association for the Advancement of Science adjourned on September 1 after meeting for only three days. Before adjournment Sir Richard Gregory, formerly editor of *Nature*, was elected president in succession to Sir Albert Seward.

COLUMBUS ISELIN, 2nd, assistant professor of oceanography at Harvard University, was appointed director of the Woods Hole Oceanographic Institution at the recent annual meeting of the Board of Trustees. He succeeds Dr. Henry B. Bigelow, who was elected president of the corporation in succession to Dr. Frank R. Lillie.

P. H. BATES, chief of the Clay and Silicate Products Division of the National Bureau of Standards, has been awarded the Turner Gold Medal of the American Concrete Institute. The award was made for "contributions to science, direction of research and outstanding leadership in advancing the intelligent utilization of cement and concrete."

AT the San Antonio meeting of the American Home Economics Association, Dr. Icie G. Macy-Hoobler, director of the research laboratory of the Children's Fund of Michigan, Detroit, was presented with the 1939 gold medal and the $1,000 prize of the Borden Company for research achievement in applied nutrition.

PROFESSOR JOSEPH RIGNEY D'AUNOY, who recently resigned as dean of the Medical Center of the Louisiana State University, remaining as professor of pathology and bacteriology, has been decorated with the Order of Commendatore of the Crown of Italy "in recognition of his achievements in the fields of medical research and education."

THE honorary doctorate of the medical faculty of the University of Freiburg/Br. has been conferred on Dr. Eugen Fischer, professor of anthropology at Berlin. He has also been awarded the Goethe prize for art and science.

THE following corresponding members of the Prussian Academy of Sciences have been elected: Dr. Heinrich Vogt, professor of astronomy at Heidelberg; Dr. Peter Adolf Thiessen, professor of physical chemistry at Berlin, and Dr. Siegmund Shumacher, professor of histology and embryology at Innsbruck.

DR. A. FRANKE, of Arnstadt, Germany, has recently received the honorary doctorate of the University of Jena for his contributions to geology, especially in the field of micropaleontology.

AT Teachers College, Columbia University, Dr. Jean Broadhurst, professor of bacteriology, and Dr. M. A. Bigelow, professor of biology, have been appointed emeritus professors. Successors have not been appointed because the Division of Practical Science and the Institute of Practical Science Research have been discontinued.

DR. EDGAR HULL, for the past eight years a member of the Medical Center, New Orleans, has been made acting head of the department of medicine of the Louisiana State University. He succeeds the late George S. Bel.

DR. KARL BRANDT, professor of agricultural economics in the Food Research Institute of Stanford University, has joined the staff of the Giannini Foundation of Agricultural Economics of the University of California.

DR. RALPH W. BOST has been made head of the department of chemistry of the University of North Carolina. He takes the place of Dr. Edward Mack, Jr., who resigned to become a member of the staff of the Battelle Memorial Institute, Columbus, Ohio.

DR. NELSON F. MURPHY, of the chemical engineering staff of the General Chemical Company, New York City, has been appointed assistant professor in chemical engineering in the College of Applied Science, Syracuse University.

DR. LLOYD H. DONNELL, of the Goodyear Zeppelin Corporation, has become associate professor of mechanical engineering at the Armour Institute, Chicago.

IT is reported in *The Collecting Net* that Dr. William C. Young, assistant professor of biology at Brown University, has been appointed associate professor of primate biology at the Yale University School of Medicine. He will work at the Laboratories of Primate Biology, Orange Park, Fla., and at New Haven, Conn.

DR. HARVEY DIEHL, assistant professor of analytical chemistry at Purdue University, has been appointed to a similar position at the Iowa State College.

THE Anderson Clayton Company of Texas is continuing the support of industrial research fellowships, for the study of industrial utilization of hemi-cellulosic constituents of plants, at the Iowa State College. Professor E. I. Fulmer is director of the research. Dr. John A. Dunning will hold a fellowship for the coming year.

THE *Journal* of the American Medical Association reports that Dr. James R. Martin, chief surgeon at the State Hospital for Crippled Children, Elizabethtown, Pa., and director of the state program for crippled children under the Social Security Act, has been appointed James Edwards professor of orthopedic surgery at Jefferson Medical College, Philadelphia. He succeeds Dr. J. Torrance Rugh, who has resigned after holding the chair since 1918 and who will become professor emeritus.

DR. KENNETH M. SODERSTROM, of Seattle, has been appointed a member of the staff of the division of epidemiology in the Washington State Department of Health in charge of tuberculosis control.

DR. WESLEY COCKER, assistant lecturer in organic chemistry at University College, Exeter, has been appointed lecturer in chemistry at King's College, Newcastle, Durham, in place of Dr. R. D. Haworth, who has been appointed to the chair of chemistry in the University of Sheffield. J. A. Lyddiard, of the Standard Telephones and Cables, Limited, New Southgate, has been appointed to a new lectureship in electrical engineering.

CHANGES in the department of hygiene at the University of California have been announced as follows: Lecturers appointed include Dr. Jacques P. Gray, who has resigned his position as director of public welfare in San Francisco, and Dr. A. Stampar, professor of public health at the State University of Zagreb, formerly director of public health in Yugoslavia and expert in rural health matters for the League of Nations. Dr. Eschscholtzia L. Lucia, associate professor of biometry, has been promoted to a professorship. Dr. Frank L. Kelly, for several years assistant professor of public health administration and now city health officer of Berkeley, will serve as lecturer in public health in the second semester.

O. C. DURHAM, chief botanist of the Abbott Laboratories, Chicago, will make a study of pollen grains in the upper air. The trip by commercial airplanes will extend from the Gulf of Mexico to Alaska, across the Atlantic to England and across the Pacific to China. Mr. Durham is continuing the work of Dr. Fred C. Meier, of the Department of Agriculture, and Dr. Earl B. McKinley, dean of the George Washington Medical School, who died in the crash of an airplane in the South Pacific while making aerial studies of the distribution of pollen, spores and disease germs.

THE Swiss Society of Naturalists has announced that the one hundred and twentieth annual meeting will be held at Locarno from September 23 to 25 in conjunction with the Swiss Medico-Biological Society.

THE eighth annual convention of the Biological Photographic Association will be held at the Mellon Institute for Industrial Research, Pittsburgh, from September 14 to 16, under the presidency of Louis Schmidt, of the Rockefeller Institute for Medical Research. There will be a session on the uses of scientific photography at which the speakers will include Robert Cook, Washington, D. C., editor of the *Journal of Heredity;* Watson Davis, director of Science Service, Washington, and David Dietz, science editor of the Scripps-Howard newspapers, Cleveland.

THE department of industrial medicine of the medical school of Northwestern University will hold its third annual symposium on Industrial Disease and Hygiene on September 25 and 26. There will be four sessions presided over by Drs. Merritt Paul Starr and M. Herbert Barker, assistant professors of medicine at the university; Wilber E. Post, clinical professor of medicine, and Edward A. Oliver, associate clinical professor of dermatology, both of Rush Medical College.

AT a meeting held on August 29, the board of directors of the Union Carbide and Carbon Corporation approved an agreement for the acquisition by the corporation of all the assets of the Bakelite Corporation, founded by Dr. L. H. Baekeland over twenty-five years ago. The Carbide Corporation is a producer of chemical raw materials and the Bakelite Corporation a user of chemicals. According to the announcement it is expected that "the coordination of technical knowledge, research, production methods and distribution facilities of these two organizations will result in the improvement of existing products, the development of new plastics and other chemical compounds, and the discovery of new uses for such materials."

IT is stated in the *Journal* of the American Medical Association that the Utah State Board of Health with the collaboration of the U. S. Public Health Service

and the Utah Industrial Commission has begun a study of occupational disease under the direction of State Health Commissioner John L. Jones, of Salt Lake City, who has leave of absence for two years. The state legislature has appropriated $25,000, which will be used for the conduct of the study with a view to developing a permanent occupational disease service. The federal public health service will participate in the first six months of the investigation, the major problems of which will be exposure to silicious dusts and dusts in bituminous coal mines, lead and other metallic dusts and fumes and certain gases. Later, health hazards in other industries will be investigated.

A NEW siderite, or iron meteorite, to be called the Mapleton meteorite, has been acquired by Field Museum of Natural History from Mr. Harvey Meevers, Mapleton, Iowa. This is the first iron meteorite to be reported from that state. Previous to the discovery of this iron, four other meteorites were known from Iowa, three of which were aerolites or stone meteorites, and one a meso-siderite or variety of iron-stone meteorite. No conclusive evidence is at hand regarding the date and time of the fall of the meteorite, which probably does not represent much more than half of the original mass. It weighs 49 kilograms (108 pounds). Its greatest length, breadth and height are 17½ inches, 9⅞ inches and 6 5/16 inches, respectively.

THE Committee on Sedimentation of the Division of Geology and Geography of the National Research Council has prepared a symposium on recent marine sediments. This consists of thirty-four papers by specialists in different fields of this subject. Emphasis has been placed upon the processes affecting the deposition of sediments. Because of the bearing of this subject on petroleum geology, the symposium has been published by the American Association of Petroleum Geologists. Dr. Parker D. Trask, associate geologist of the U. S. Geological Survey, became chairman of the committee four years ago. At that time he proposed the assembling in a single volume of the large amount of information that had been obtained in the previous ten or fifteen years by investigators of conditions in the oceanographical, geological, biological and other publications in many parts of the world. This idea received favorable reception, and a book of 740 pages, which is now about ready for distribution, is the result.

The E. W. Scripps, the research vessel of the Scripps Institution of Oceanography of the University of California, sailed from San Diego early in August for a study of ocean currents and undersea strata from San Diego to Santa Barbara. Samples of undersea strata will be taken about thirty miles off shore. Dr. Roger Revelle, member of the institution, is in charge of the cruise. Dr. R. T. Young, physicist of the Worcester Polytechnic Institute, will make a special study of the transmission of light in sea water. *The E. W. Scripps* returned recently after a cruise of 1,200 miles of the Pacific from the Oregon border to Cedros Islands in Mexico. The cruise, which lasted two months, was made in cooperation with the Federal Bureau of Fisheries, which was interested in studying the distribution of sardine eggs off the California coast. General hydrographic conditions were observed at a number of stations from just off shore to as far as 360 miles at sea.

DISCUSSION

THE MODE OF ACTION OF SULFANILAMIDE

DR. PHILIP SHAFFER'S communication on this subject in the issue of SCIENCE[1] for June 16 suggests that both the therapeutic and toxic actions of sulfanilamide may be exerted through a "mechanism by which the sterilizing oxidation intensity of molecular oxygen is applied nearly at its maximum to bacteria and unavoidably also to some extent to host cells."

The undersigned are in agreement with this conception to the extent that it indicates a source of sulfanilamide toxicity. They do not find the available evidence compatible with a concept of identity between the mechanisms producing the known toxic and therapeutic effects nor with an explanation of the therapeutic usefulness of sulfanilamide in terms of capacity to act as a reservoir for an intermediate substance of high oxidizing intensity.

[1] P. 547.

The Shaffer premises: Ingested sulfanilamide is assumed to become (1) converted by a process of biologically mediated oxidation into derivatives which act, in turn, as oxidizing agents; (2) producing injuries to the cellular reducing systems; (3) less easily tolerated by the invading pathogen than by the resisting host.

The acting derivatives are assumed to form a reversible electrode couple (as do ferrous and ferric iron) composed of p-hydroxylamino and p-nitroso benzene sulfonamide "or the corresponding semiquinone free radicals."

The cell components mentioned as especially susceptible to injury by this oxidizing combination are: catalase, hemoglobin, glutathione and ascorbic acid. The injuries are presumed to be more readily tolerated by the host than by the invader because of "the relative immunity of host tissues to toxic effects . . . due