gathered will be a definite and valuable contribution to the American rubber industry, and thus indirectly to the millions of Americans who use manufactured rubber products in one form or another.

After the return of the various parties to Washington, their separate findings will be assembled in the form of a complete report, which will be made available to interested firms and individuals at the earliest possible moment.

H. N. WHITFORD

SCIENTIFIC NOTES AND NEWS

IT is proposed that the bicentenary of the death of Newton in 1927 shall be marked by the publication of a new edition of his collected works.

MAJOR HENRY J. NICHOLS, Medical Corps of the Army, has been appointed director of the laboratories of the Army Medical School, Washington, D. C. The new building at the Walter Reed Hospital Reservation will be occupied this autumn.

PROFESSOR W. J. V. OSTERHOUT, of Harvard University, has been elected an honorary fellow of the Botanical Society of Edinburgh.

DR. EDWIN PETERSON, lieutenant in the Medical Corps of the U. S. Navy, has been awarded the Duncan medal of the London (England) School of Tropical Medicine.

SIR ARNOLD THEILER, director of veterinary research, South Africa, and Professor Charles Porcher, of Lyons (France), the British and French delegates to the American Veterinary Medical Association convention, recently held at Montreal, have been made honorary members of the association.

DR. ALBRECHT KOSSEL, physiologist of the University of Heidelberg, celebrated on September 16 his seventieth birthday.

DR. J. ENRIQUE ZANETTI, assistant professor of chemistry at Columbia University, and this year chairman of the division of chemistry and chemical technology of the National Research Council, has been made a member of a committee appointed by the League of Nations to investigate chemical warfare.

A TESTIMONIAL dinner was given to Dr. William A. Pusey, president-elect of the American Medical Association, at the first meeting of the year of the North Side Branch of the Chicago Medical Society on October 3. Dr. Pusey gave an illustrated lecture on "A study of the wilderness road to Kentucky—A doctor's diversion."

AT the seventy-first annual meeting of the American Pharmaceutical Association, Henry V. Arny, Ph.D., New York, was elected president for the ensuing year. The Ebert prize, in memory of the late Albert E. Ebert, of Chicago, was awarded to Paul S. Pittenger, Philadelphia, for his paper on "Biological standards of local anesthetics." The following grants were made from the research fund of the association for the year 1923–24: To E. Kremers and K. H. Rang, of the University of Wisconsin, for work on decolorized tincture of iodine and on such other preparations of the National Formulary as time permits—$250; to W. J. McGill, of the University of Michigan, for work on the electrometric titration of alkaloids—$200. These research grants are made annually from the interest accruing from the A.Ph.A. Research Fund, which represents the profits from the sale of the National Formulary.

ELLIOTT S. ROBINSON has been appointed assistant director of the Division of Biologic Laboratories of the Massachusetts State Department of Public Health.

EARLE G. LINSLEY, professor of astronomy in Mills College, Oakland, has been appointed director of the Chabot Observatory to succeed the late Charles Burckhalter.

DR. HAL DOWNEY, professor of histology, department of animal biology, the University of Minnesota, has been appointed American editor of *Folia Haematologica*, an international journal devoted to clinical and morphological hematology. American investigators in this field are urged to send in reprints of their papers for abstracting and original manuscripts for publication.

HERBERT L. J. HALLER, associate chemist, who has been on the staff of the Bureau of Chemistry since 1919 assigned to the Color Laboratory, has resigned to accept a position with the Rockefeller Institute for Medical Research.

DR. J. B. BROWN, formerly associated with Professor Alfred N. Richards in pharmacological research at the University of Pennsylvania, has joined the research staff of Swift & Co., in Chicago.

S. HENRY AYERS, formerly bacteriologist of the dairy division of the Bureau of Animal Industry, Washington, D. C., has been appointed director of research of the Glass Container Association.

V. H. WALLINGFORD, who recently returned from a year's study and travel as a fellow of the Commission for Relief of the Belgium Educational Foundation, has accepted a position as research chemist with the Mallinckrodt Chemical Works, St. Louis, Mo.

THE tuberculosis research fellowship maintained by the Hennepin County Tuberculosis Association at the Graduate School of Medicine of the University of Minnesota, Minneapolis, has been awarded to Frederick Eberson, Ph.D., formerly research bacteriolo-

gist for the Manchuria Plague Service, China, and associate in the research department of the Mayo Clinic, Rochester.

H. A. KUHN, who has been chief of the department of toxicology of the Chemical Warfare Service for the past four years, has been detailed to the University of Wisconsin for a year for a special course in toxicology under Professor A. S. Loevenhart.

PROFESSOR WILLIAM J. HUSSEY, director of the Detroit Observatory, University of Michigan, sailed from New York for South Africa on October 4. Professor Hussey will spend several months studying weather and sky conditions, especially in the Transvaal and Orange Free State, in search of a site for the Lamont 27-inch refractor, which is nearing completion at Ann Arbor. The equipment of the present exploring expedition includes a 12-inch refractor. Professor Ralph H. Curtiss is in charge of the Detroit Observatory, during Professor Hussey's absence.

As a result of the recent elections of the American Society of Mechanical Engineers the following officers have been chosen: *President,* Fred R. Low, New York, N. Y.; *Vice-Presidents,* H. Birchard Taylor, Philadelphia, Pa.; George I. Rockwood, Worcester, Mass.; W. J. Sando, Milwaukee, Wis.; *Managers,* E. O. Eastwood, Seattle, Wash.; E. R. Fish, St. Louis, Mo.; F. A. Scott, Cleveland, Ohio. *Treasurer,* Wm. H. Wiley. *Delegates to American Engineering Council,* F. K. Copeland, Chicago, Ill.; J. T. Faig, Cincinnati, Ohio; R. E. Flanders, Springfield, Vt.; Dexter S. Kimball, Ithaca, N. Y.; W. B. Powell, Buffalo, N. Y.; Wm. Schwanhausser, New York, N. Y.; S. W. Stratton, Cambridge, Mass.; C. C. Thomas, Los Angeles, Calif.; P. F. Walker, Lawrence, Kan.

DR. ALEXANDER WETMORE, of the Biological Survey, U. S. Department of Agriculture, has returned from Hawaii, where he has had direction of an expedition organized by the Biological Survey and the Bishop Museum of Honolulu, in cooperation with the U. S. Navy, to carry out a general scientific survey of the chain of small islands extending northwestward from Niihau to Midway and Ocean Islands. In addition the party visited Johnston and Wake Islands during July and early August. Reports on the extensive collections made will be published, when completed, in the bulletin series issued by the Bishop Museum.

PROFESSOR ARCHIBALD HENDERSON, of the University of North Carolina, has a year's leave of absence on full pay from the Kenan Research Foundation. He sails for England on October 17 and will spend the year in research work on relativity in the Universities of Cambridge, Berlin, Rome and Paris.

P. A. TETRAULT, assistant professor of bacteriology at Purdue University, has been granted a year's leave of absence to do research work at the Pasteur Institute.

DR. EDWARD W. WASHBURN, of the National Research Council, has returned from Europe and will resume active charge of the compilation of Tables of Physical Constants.

DR. KARL IMHOFF, in charge of the sanitary district of the Ruhr section of Germany, has been in the United States inspecting sewage disposal plants.

DR. W. W. LEPESCHKIN, the Russian plant physiologist, has been invited by the Plant Physiological Section of the Botanical Society of America to give a series of lectures in this country at various universities and at the annual meeting with the American Association for the Advancement of Science at Cincinnati. Dr. Lepeschkin will arrive in New York about October 15.

THE Cutter lecture on preventive medicine will be delivered by Sir Arnold Theiler, director of veterinary education and research, Union of South Africa, and professor of animal pathology in the University of South Africa, on October 17 at the Harvard Medical School. The subject will be "Phosphorus Deficiency in Animals: Its Effects and Prevention."

PROFESSOR E. V. MCCOLLUM, of the Johns Hopkins University, delivered an address on animal nutrition before the Science Club at Kansas State Agricultural College on September 20.

THE Rochester and Syracuse Sections of the American Chemical Society held a joint meeting at the New York State Agricultural Experiment Station at Geneva on the afternoon of September 29. The formal session of the meeting was devoted to a paper by Dr. D. D. Van Slyke, of the Rockefeller Institute for Medical Research, on "Factors influencing the distribution of electrolytes and water in blood." Dr. Van Slyke returned recently from China, where he organized the research work in biological chemistry at the Union Medical College at Peking. Dr. Dwight C. Carpenter, of the station staff, was in charge of the program.

SIR HUMPHRY ROLLESTON, K.C.B., president of the Royal College of Physicians of London, delivered the inaugural address at the opening of the London School of Medicine for Women on October 1. The subject of his address was the problem of success for medical women.

A WILLIAM FARR lecture, on the measurement of progress in public health, was given by Sir Arthur Newsholme on October 4 at the London School of Economics and Political Science.

DR. A. BIEDL, professor of experimental pathology

at the University of Prague, will deliver the first Harvey Society lecture at the New York Academy of Medicine on Saturday evening, October 13. His subject will be "Organotherapy."

CHARLES BURCKHALTER, astronomer and meteorologist, director of the Chabot Observatory, died in Oakland, California, on September 20, after thirty-eight years of service in connection with that institution.

PROFESSOR FREDERICK PUTNAM SPALDING, of the School of Engineering of the University of Missouri, died on September 4, aged sixty-six years.

DR. STEPHAN VON APATHY, professor of zoology at the University of Kolosvár, who was well known for investigations on neuro-histology, recently died at the age of sixty years.

THE International Horticultural Congress opened at Amsterdam on September 18. Papers were read on various subjects, including horticultural and plant diseases and the development of the dahlia.

UNIVERSITY AND EDUCATIONAL NOTES

THE new building of the Department of Chemistry of the University of Missouri is nearing completion. This building is the third building on the campus to be devoted entirely to chemistry. There will be an auditorium seating 175 students, and laboratory space for 600 students. There are five small research laboratories for instructors, besides administration offices and storerooms. The attic has been finished off into four rooms and will probably be used as research laboratories for graduate students.

A SOCIETY of Bologna has founded an endowment representing a stipend of 6,000 francs a year for an Italian student of physics and chemistry who desires to do research work in the Curie Laboratory, Paris. The fellowship is endowed for ten years.

DR. GEORGE W. MARTIN, of Rutgers College, has accepted an appointment in the University of Iowa, where he will be in charge of the work in mycology.

OSCAR E. HARDER, Ph.D. (Ill.), who has been in charge of the department of metallography in the School of Mines of the University of Minnesota, since 1919, has been given a full professorship. Mr. L. J. Weber, B.S., Ch.E. (Minn.), has been appointed instructor to take the place of Mr. C. M. Reasoner who resigned to become combustion engineer for the Pillsbury Flour Mills.

DR. WILLIAM LLOYD AYCOCK, Burlington, connected with the research department of the Vermont State Board of Health, has been appointed associate professor of preventive medicine and hygiene in the Harvard Medical School.

DISCUSSION AND CORRESPONDENCE

THE STRUCTURE AND ORIGIN OF COKING COALS

OBVIOUSLY, the logical method of discovering the structural features of coals which, on heating, become coke, is the investigation of thin sections. The best coking coals are, however, very difficult of manipulation, even by the improved methods devised by the present writer. After repeated efforts, success has been reached in the case of the well-known coking coals of the highest grade from the Pocahontas basin and the Connelsville field. In thin sections of these it is possible to determine the presence of quantities of charred wood and of structureless materials derived beyond any reasonable doubt from wood which has lost its organization in the process of transformation into coal. The spores which are so commonly present in bituminous coals from all parts of the world are conspicuous by their absence in coking coals of high rank. It is accordingly highly probable that coking coals as such are of purely woody origin, since they show no evidence of the presence of spores or any considerable amount of the dark matrix characteristic of cannels and oil shales. The hypothesis of the presence of "gelosic" or "algal" material is thus definitely negatived.

The investigation of more recent coals than those of Connelsville or Pocahontas is of interest in this connection. It has been found in certain instances that pure lignite, that is, coal-like substance which is entirely woody, is capable of giving rise to quite typical coke. This has been observed to be the case with lignites, both from the Mesozoic and Modern periods. Obviously, such lignites, representing as they do the modified wood of single trees, leave no chance for misinterpretation. Obviously, the various hypothetical substances which have been supposed to make coals capable of coking are by the very origin of the material excluded. It is interesting to note that coke, which has so completely replaced charcoal in the technique of modern metallurgy, is like charcoal derived from wood. Not all lignitic woods, however, are capable of being coked, and in fact, quite generally in brown coals, they do not possess that capacity. This condition arises out of the fact that the wood in brown coals has in general not undergone the right degree of chemical modification for the product to be a coking coal.

It is important in this connection to emphasize that cannels and oil shales, as such, are incapable of coking, and this conduct in the oven is explained by the fact that they are characteristically composed of a dark matrix and of spores, with a greater or less, but always proportionately small, amount of wood. Since the view has been put forward in many quarters that oil shales are composed of Algae, their conduct, when