

A. Noyes. The special subjects at present under investigation are: (1) the transference numbers of tri-ionic salts by Dr. K. G. Falk, with the purpose of determining whether intermediate ions, such as KSO_4^- or PbNO_3^+ , exist in considerable quantity; (2) the electrical conductivity of mixtures of salts, by Mr. A. C. Melcher, Dr. W. C. Bray and Mr. F. L. Hunt, with the purpose of establishing the general law governing the ionization of salts; and (3) the solubility of salts in the presence of other salts, by Dr. W. D. Harkins, with the purpose of determining empirically the form of the law of solubility effect which must be substituted for the inexact mass-action form of that law. This line of research has again been aided on the financial side by a grant of \$3,000 made to Professor A. A. Noyes by the Carnegie Institution of Washington.

Another of the main lines of research in the laboratory, which is being carried out by graduate students under the direction of Professor G. N. Lewis, is the experimental determination and computation of a system of values for the free energy of chemical substances analogous to the system of values for the total energy previously developed by thermochemical investigators. The problem is one of fundamental importance to the science of chemistry, since from the free-energy data for the substances the equilibrium of the chemical reactions in which they are involved can be computed. The special reactions now being studied in this direction are: (1) that between sulphur and water, producing sulphur dioxide and hydrogen sulphide, by Mr. Merle Randall; (2) that between nitric oxide, nitric acid and water, producing nitrous acids, by Mr. Arthur Edgar; and (3) that between chlorine gas and chlorine-ion in aqueous solution, which is being studied by electromotive force measurements by Mr. F. F. Rupert.

Dr. W. C. Bray has continued the studies of the equilibrium of some chemical reactions begun a few years ago in this laboratory by Mr. G. M. J. Mackay; namely of those between solid cuprous iodide, iodide and cupric

iodide in solution, between potassium iodide and polyiodide in solution and between iodine and water.

During the past year articles describing theoretical studies upon the newly developed principle of relativity have been published by Professor G. N. Lewis and by Mr. R. C. Tolman; and an article upon the quantitative application of the theory of indicators to volumetric analysis has been prepared by Professor A. A. Noyes. An experimental study of indicators from this standpoint has been undertaken by Professor M. S. Sherrill.

SCIENTIFIC NOTES AND NEWS

PROFESSOR GEORGE DAVIDSON, of the University of California, eminent for his contributions to astronomy, geography, navigation and geodesy, celebrated, on May 9, his eighty-fifth birthday.

COMMANDER ROBERT E. PEARY lectured before the Imperial Geographical Society of Vienna, on May 18, and was presented with the gold medal of the society.

PROFESSOR WALTER NERNST, professor of physical chemistry at Berlin, has been elected an honorary member of the Manchester Literary and Philosophical Society.

It is stated in *Nature* that the council of the Institution of Civil Engineers has made the following awards for papers during the session 1909-10: a Telford gold medal to Mr. C. M. Jacobs (New York); a Watt gold medal to Mr. J. D. Watson (Birmingham); a George Stephenson gold medal to Mr. D. A. Matheson (Glasgow); Telford premiums to Messrs. F. C. Buscarlet (Sunderland), A. Hunter (Glasgow), I. C. Barling (Tyne-mouth), J. Dalziel and J. Sayers (Derby), and J. Shaw (Birkenhead), and the Manby premium to the late Mr. C. W. Hodson (London).

ONE of the Carnegie research scholarships of the Iron and Steel Institute, London, has been awarded to Professor Paul Gourens, of the Royal Technical College, of Aix-la-Chapelle, for a study of the properties of cold-hardened iron and steel.

PROFESSOR J. S. KINGSLEY sails for Italy and the Zoological Congress on May 28. All matter intended for the *Journal of Morphology* should be sent direct to the Wistar Institute until his return in September.

FROM Oxford University Dr. G. C. Bourne, Linacre professor of comparative anatomy and Mr. E. S. Goodrich, fellow of Merton College, have been appointed representatives at the International Congress of Zoology.

THE Academy of Natural Sciences of Philadelphia has appointed as delegates Dr. Richard A. K. Penrose and Dr. Edgar T. Wherry to represent it at the eleventh International Geological Congress and Dr. Henry Skinner to represent it at the first International Congress of Entomology.

WE learn from *Nature* that Dr. and Mrs. Seligmann have returned from their first exploratory ethnological survey of the Anglo-Egyptian Sudan, to which they were appointed by the Anglo-Egyptian government. They studied the hitherto uninvestigated Nubas of southern Kordofan, and the Shilluks, Dinkas and Shir of the White Nile. A short time was spent between the White and Blue Niles, where a Neolithic site was discovered. Observations were made on the sociology and religion of various tribes, and some anthropometrical data were obtained, especially of the Nubas.

PROFESSOR JOHN R. ALLEN, of the University of Michigan, has been given leave of absence to go to Constantinople and assist the president of Robert College in laying out a course in engineering and to install an electric lighting system for that college. Professor Allen expects to visit a number of European schools of engineering.

DR. F. W. ANDREWES will deliver the Croonian lectures before the Royal College of Physicians of London in June. The Harveian oration will be delivered by Dr. H. B. Donkin on October 18. The Bradshaw lecture by Dr. G. N. Pitt; the FitzPatrick lectures, on "The History of Medicine," by Sir T. Clifford Allbutt and the Horace Dobell lecture, by Dr. W. Bulloch, will be delivered in November.

DR. LEON J. COLE, recently appointed to the chair of experimental breeding at the University of Wisconsin, has begun his work. He has made arrangements to conduct breeding operations with small birds and mammals, such as will reproduce rapidly and will be inexpensive to maintain. He will also begin the collection of data as to the heredity of characteristics in farm animals. Work with plants will be begun later.

It is proposed to add to the collection of portraits of deceased members of the American Philosophical Society, that of its first president, Thomas Hopkinson (1743).

A MEMORIAL service for Dr. Harold Taylor Ricketts, associate professor of pathology at the University of Chicago, who died of typhus fever in Mexico City on May 3, was held at the university in Leon Mandel Assembly Hall, on Sunday, May 15. His fatal illness was contracted as the direct result of an investigation of the disease which he had been pursuing for several months. President Henry Pratt Judson made an address on the work of Dr. Ricketts, and the essential facts of his life and death were given by Dr. Russell M. Wilder, who was associated with him in his work in Mexico. Dr. Ludvig Hektoen delivered an address on the personality of Dr. Ricketts and the nature and value of the work. Professor Charles Henderson spoke on the humanitarian aspects of Dr. Ricketts's work and his death.

ON convocation day on June 14 at the University of Chicago will be laid the cornerstone of the library building which is being erected as a memorial to the university's first president, William Rainey Harper. The address will be delivered by Mr. Clement Andrews, librarian of the Crerar Library of Chicago, formerly instructor in chemistry at the Massachusetts Institute of Technology.

THE council of the Royal Astronomical Society has adopted the following address in memory of Sir William Huggins:

The council have learned with the deepest regret of the death of Sir William Huggins, and desire to record their sense of the great loss which the society itself and science in general have thus

sustained. As fellow of the society since 1854, as a member of the council since 1864, as secretary in 1867-72, as foreign secretary in 1873-75, as president in 1876-78, and as foreign secretary from 1883 to the present time, he rendered services of the greatest value to our society. His wide knowledge and sound judgment were ever at its disposal. But it is on the higher ground of his having been the pioneer in all those branches of research now termed astrophysics that he has the greatest claim to respect and admiration. The council, in requesting the president to convey their sympathy to Lady Huggins on her bereavement, desire him to say how much they have reason to be proud and thankful for the noble life's work of her husband, with whom she has actively collaborated for so many years.

DR. ZENCHALLO, medical officer of the International Sanitary Commission, has died of plague at Jeddah as the result of infection when examining rats.

STANISLAU CANNIZZARO, the eminent Italian chemist, professor in the University of Rome and a member of the Italian senate, died on May 10, at the age of eighty-four years.

MR. JAMES CANTLIE, hon. secretary of the Pellagra Commission, has received, as we learn from the *London Times*, the following telegram from Dr. Sambon, dated Rome, May 13: "The pellagra field commission has definitely proved that maize is not the cause of Pellagra. The parasitic conveyer is the *Simulium reptans*."

AN International Association of Colonial Agriculture was founded in 1905 at the close of the first International Congress of Tropical Agriculture, held in Paris in that year. The association has arranged to hold a second International Congress at Brussels on May 20-23.

THE Society for the Promotion of Engineering Education is to meet at the University of Wisconsin, June 23-25.

THE Royal College of Physicians of London announces that the next award of the Weber-Parkes prize of 150 guineas and a silver medal will be made in 1912, the subject of the essay to be "The Influence of Mixed and Secondary Infections upon Pulmonary

Tuberculosis in Man, and the Measures, Preventive and Curative, for dealing with them."

AMERICAN students of *Characeæ* will be interested to learn that, through the purchase of the herbarium of L. J. Wahlstedt, the Field Museum of Natural History has rendered available to them a wealth of authenticated material in that family. The material comprises a large series of specimens that have been attested by Alex. Braun, Rabenhorst, Stizenberger, Norstedt, Wahlstedt and Allen. The total collection numbers 1,750 sheets.

THE United States Pharmacopœial Convention at its meeting held at the Hotel New Willard in Washington, D. C., May 10-13, elected the following officers: *President*, Dr. H. W. Wiley, of the Bureau of Chemistry, Washington, D. C.; *first vice-president*, Dr. N. S. Davis, of Illinois; *second vice-president*, Charles Caspari, Jr., of Maryland; *third vice-president*, O. T. Osborn, of Connecticut; *fourth vice-president*, Leo Eliel, of Indiana; *fifth vice-president*, W. A. Bastedo, of New York; *secretary*, M. G. Motter, of the District of Columbia; *assistant secretary*, Dr. Noble P. Barnes, of the District of Columbia; *treasurer*, S. L. Hilton, of the District of Columbia. The board of trustees, for the expenditures of the convention, was elected as follows: J. H. Beal, of Ohio; F. W. Meissner, of Indiana; W. J. Schieffelin, of New York; G. H. Simmons, of Illinois, and H. M. Whelpley, of Missouri. The committee on revision of the Pharmacopœia was elected as follows: J. P. Remington, H. Kraemer, C. Caspari, Jr., C. L. Diehl, J. O. Schlotterbeck, A. B. Lyons, H. C. Wood, Jr., J. M. Osborne, M. I. Wilbert, H. H. Rusby, Reid Hunt, A. R. L. Dohme, A. B. Stevens, G. M. Beringer, E. G. Eberle, L. E. Sayre, E. Kremers, W. A. Puckner, L. F. Kebler, C. S. N. Hallberg, C. H. La Wall, G. D. Rosengarten, V. Coblentz, J. W. Hatcher, J. M. Good, H. V. Arny, J. A. Koch, S. P. Sadtler, W. Bodemann, J. H. Long, O. Raubenheimer, C. E. Vanderkleed, T. Sollman, W. H. Nixon, J. C. F. Anderson, N. S. Davis, J. M. Francis, C. E. Caspari, R. H. True, W. N. Gregory, H. M. Gordin,

J. W. England, C. W. Edmunds, E. H. Bartley, G. W. Diekman, P. Marvel, W. Haines, W. G. Alpers, L. C. Hopp, Albert Plaut.

DR. J. N. ROSE, associate curator in the Division of Plants, U. S. National Museum, accompanied by P. S. Standley and Paul G. Russell, of his staff, has just returned from a collecting trip through southwestern United States and western Mexico. It has resulted in the adding of more than ten thousand specimens forming some three thousand numbers to the U. S. Herbarium. Dr. Rose's field work began at Big Springs, Texas, and extended as far west as Tucson, Arizona, whence he followed the West Coast Route of the Southern Pacific Railroad as far south as Acaponeta in Tepic. The collection includes various fiber, rubber and economic plants as well as numerous seeds of useful and ornamental vines and shrubs. Among the specimens obtained that were especially interesting, is a curious traveler's vine, which is a plant that furnishes an abundance of drinking water; a giant morning-glory forming a tree two feet in diameter; a strangling fig which is able to kill the largest tree in the forest; an ear-pod tree which has a fruit resembling the human ear—whence its name; a gourd tree which bears large fruit along its trunk; a silk-cotton tree covered with great balls of snow-white cotton; and a monkey rattlebox tree which is covered with large mallow-like fruit which explodes with a loud noise. Some rare palms, century plants and cacti that were collected were sent to Washington and are now on exhibition in one of the greenhouses of the Department of Agriculture. This expedition was conducted by the U. S. National Museum in association with the New York Botanical Garden and the Desert Laboratory of the Carnegie Institution of Washington.

MRS. MARY M. EMERY, of Cincinnati, O., has purchased a tract of wooded land in a residence district and has placed it under the charge of H. M. Benedict, associate professor of biology in the University of Cincinnati, for the purpose of establishing a "city bird reserve." The land will be fenced with a cat-

proof fence, water, food and nesting materials will be provided and a test made of the possibility of bringing back the native birds to the city. It is hoped that the plan will prove so successful as to be copied in other communities. Now that the birds in the fields are protected by law and progress is being made in the establishment of breeding reserves for sea birds, the time seems ripe for the inauguration of a definite campaign to increase the bird life of our towns and cities. This first experimental reserve will be known as the "Mary Emery City Bird Reserve." Information regarding the details of fence construction, suitable locations, food and care, will be gladly given by the biological department of the University of Cincinnati to any who may contemplate the establishment of a "city bird reserve" in their own community.

THE *British Geographical Journal* states that an expedition organized by Mr. Douglas Carruthers, in conjunction with Mr. J. H. Miller and Mr. M. P. Price, who are financing it, will leave England at the end of March for northwestern Mongolia. The chief object of the expedition is to explore zoologically, botanically, and, as far as possible, geographically, the basin of the upper Yenesei River. The journey out will be made through Russia and Siberia to Krasnoyarsk, and thence up the Yenesei to Minusinsk. Here the expedition will fit out, and, leaving Russian territory, pass over into Chinese Mongolia. The upper Yenesei and its tributaries are almost completely surrounded by high mountain ranges, which form a secluded basin. In this basin dwells a curious tribe, the Sayotes, who appear to be confined to this restricted area. On the completion of the work in the actual basin of the upper Yenesei, the expedition will pass through Dzungaria to Kulja, which will be reached some time in November. After this Mr. Carruthers and Mr. Miller hope to winter in the Tarim basin, and then to continue their explorations in the spring in the Chinese provinces of Kansu and Alashan. That there is much of interest to record about the tribes of this region is shown by the fact that it includes the original homes of the

Turkish and Finnish races. Zoologically, the Yenesei is important as being the line of demarcation between the faunas of eastern and western Siberia. And if the expedition is able to reach Alashan and neighboring regions, there will be valuable geographical work to be done and problems regarding the desiccation of central Asia to be solved.

UNIVERSITY AND EDUCATIONAL NEWS

By the will of Isaac C. Wyman, of Salem, Mass., a graduate of Princeton College, who died on May 18, most of his estate is bequeathed to Princeton University, to be used in whole or in part for a graduate school. Mr. John M. Raymond, of Salem, Mass., and Professor Andrew F. West, dean of the Graduate School were named as trustees. The daily papers estimate the value of the bequest to be from \$2,000,000 to \$10,000,000.

THE Jefferson Medical College of Philadelphia, has received a gift of \$60,000 from Mrs. Maria Gross Horwitz, daughter of the late Professor Samuel D. Gross, the eminent surgeon, to endow the "Samuel D. Gross Chair of Surgery."

ASSISTANT PROFESSOR J. G. JACK will conduct a Field Class at the Arnold Arboretum, Harvard University, on Saturdays during the spring and early summer, to assist those who wish to gain a more intimate knowledge of the native and foreign trees and shrubs which grow in New England.

DR. E. J. WILCZYNSKI, associate professor of mathematics in the University of Illinois, has accepted a similar position in the University of Chicago.

DR. J. W. YOUNG, assistant professor of mathematics in the University of Illinois, has been appointed head of the department of mathematics in the University of Kansas.

MR. EDWARD M. WELLISCH, of Cambridge University, has been appointed assistant professor of physics in Yale University.

THE following appointments have been made at the School of Mines of the University of Pittsburgh:

A. E. Ortmann, Ph.D., professor of physical geography.

P. E. Raymond, Ph.D., professor of invertebrate paleontology.

S. L. Goodale, A.M., E.M., assistant professor of metallurgy.

L. K. Acker, Jr., E.M., instructor in mineralogy and geology.

G. T. Haldeman, E.M., instructor in mining.

Earl Douglass, A.M., M.S., instructor in vertebrate paleontology.

H. B. Meller, instructor in mining.

Dr. A. B. Wallgren, lecturer on first aid to the injured.

Alexander Silverman, lecturer on glass manufacture.

W. F. Fischer, E.M., assistant in petrography.

N. L. Estabrook, assistant in mineralogy.

J. B. Keller, assistant in assaying.

The year has been extended to four terms of 12, 12, 11 and 10 weeks each, so that a student can complete his course by working any three of the terms each year. He may also complete his work and graduate in three years if he takes four terms a year. A student, as heretofore, in this school can substitute a year of practical work done under the school's direction for one year of the usual class and laboratory work, and in this way graduate in three years. Some thirty-five thousand dollars worth of material has been added to the equipment during the past year.

MR. C. L. BOULENGER, of King's College, Cambridge, has been appointed to the lectureship in zoology at Birmingham University rendered vacant by the resignation of Mr. Leonard Doncaster.

DISCUSSION AND CORRESPONDENCE

WEISMANNISM, A CRITICISM OF DIE SELEKTIONSTHEORIE¹

A NEW publication from the pen of August Weismann naturally must excite curiosity among biologists, not so much with regard to possible new ideas and theories, but rather with reference to the question how far the author has corrected and modified his old views in order to do justice to the numerous

¹"Die Selektionstheorie." Eine Untersuchung von August Weismann. Jena, 1909. 70 pages, 1 plate and 3 text figures.