

measuring instrument of precision. These features have been adopted in the design of practically all later spectrographs used in stellar radial velocity determinations.

Assigned to the duty of initiating the work of the Chile station of the Lick Observatory, he went to Santiago early in the year 1903 and within six months of the day of landing at Valparaiso, selected and secured the site for the observatory, erected the dome and telescope and began the actual work of securing spectrograms of the southern stars. He conducted the work of this station for nearly three years with distinguished success.

Returning to Mount Hamilton in 1906, he devoted the years to 1924 chiefly to spectrographic studies of the nebulae and of the novae. The former led, among other results, to the accurate measurement of the wave-lengths of the nebular lines, including some not previously reported; to the detection of the presence in the gaseous nebulae of the continuous emission of hydrogen, beginning abruptly at the end of the Balmer series, and extending into the ultra-violet; to the recognition of the remarkable variety of forms corresponding to the different nebular lines in the planetary nebulae; to the discovery that the nuclei of the planetary nebulae give a continuous spectrum strong in ultra-violet light, indicating that they are at a very high temperature, and to the conclusion that the nuclei of such nebulae are to be classed with the O-type stars. Some of these results were important factors in Bowen's recent brilliant work on the nature of nebulae.

Wright's studies of the novae can not be summarized briefly; it must suffice to say that they are more comprehensive and penetrating than those of any other investigator, covering in several cases the entire range of the spectrum and the entire known history of the star.

Since 1924 Mr. Wright has devoted his time largely to the photographic study of planetary detail, as revealed by plates sensitive to light of different colors, from the ultra-violet to the infra-red. This work is unquestionably the most significant and promising advance that has been made in the study of the planets in recent years, and has already resulted in important contributions to our knowledge of conditions on Mars and Jupiter.

Any one of these researches would in itself entitle Mr. Wright to recognition as one of the leading students of astrophysics; taken together they fully justify the award now made to him.

No grants of Draper funds in support of research in the field of astronomical physics have been made in the current year. The unexpended balance from the income of the Draper Foundation, available for this purpose, is \$508.63.

Respectfully submitted,
W. W. CAMPBELL, *Chairman*

APRIL 3, 1928

APPOINTMENTS OF THE CARNEGIE INSTITUTION OF WASHINGTON

RECENT appointments of the Carnegie Institution of Washington include the following:

Dr. R. J. Havighurst, assistant professor of chemistry, Miami University, Oxford, Ohio, fellow of the Carnegie Institution of Washington in the history of science for the year beginning September 1, 1928, to enable Dr. Havighurst to undertake special studies in cooperation with Dr. George Sarton, associate in the history of science.

Dr. Wm. A. Heidel, Wesleyan University, research associate of the Carnegie Institution of Washington, for the period from July 1, 1928, to December 31, 1931, for the purpose of enabling Dr. Heidel to continue his studies on a comprehensive and critical history of early Greek thought, with special reference to its philosophical and scientific aspects.

Dr. Hubert L. Clark, Museum of Comparative Zoology of Harvard University, research associate of the Carnegie Institution of Washington, for the purpose of undertaking further studies of the echinoderm fauna of North Australia with a view particularly to interpretation of continental connections.

Dr. Henry E. Crampton, Columbia University, continuation of appointment as research associate of the Carnegie Institution of Washington, for the purpose of undertaking further studies of organic differentiation in nature as illustrated by land snails belonging to the genus *Partula*. Field studies will be undertaken especially in the Caroline and Pelew Islands, and it is hoped that further evidence may be obtained which may bear directly upon the problem of a pre-Pacific continent. Funds were provided for this study by Carnegie Corporation of New York.

Dr. Harald U. Sverdrup, Geophysical Institute, Bergen, Norway, research associate of the Carnegie Institution of Washington, for cooperation with the department of terrestrial magnetism of the institution in connection with development of a program for oceanographic studies during the forthcoming cruise of the non-magnetic yacht *Carnegie*.

SCIENTIFIC NOTES AND NEWS

DR. EDGAR F. SMITH, emeritus professor of chemistry at the University of Pennsylvania and formerly provost of the university, died on May 3 in the seventy-fourth year of his age.

PROFESSOR EDMUND BEECHER WILSON, of the department of zoology at Columbia University, has been awarded the gold medal of the Linnean Society of London. The presentation will be made in London on May 24 at the anniversary meeting of the society.

DR. LIBERTY H. BAILEY and Dr. W. R. Whitney were presented with the gold medals of the National Institute of Social Sciences on May 3. Dr. John Merle Coulter, adviser of the Boyce Thompson Institute for Plant Research, presented the medal to Dr. Bailey, who formerly was director of the State College of Agriculture at Cornell University. It was bestowed in recognition of "distinguished social service in the

solution of human and scientific problems relating to rural life in America." The presentation to Dr. Whitney was made by General John J. Carty, vice-president of the American Telephone and Telegraph Company, in recognition of "distinguished service in promoting and leading electrical research, with its widespread favorable reaction upon human progress."

THE gold medal for science of the Society of Arts and Sciences of New York has been awarded to Thomas A. Edison and will be presented at a dinner at the Hotel Astor, New York, on May 24. Mr. Walter Russell, president of the society, will preside and Dr. E. E. Slosson, of Science Service, will be toastmaster.

At the Washington meeting of the American Association of Physicians, presentation of the de Roaldes medal "for distinguished service to the science of medicine" to Dr. Chevalier Jackson, noted laryngologist of Philadelphia, was made on behalf of the Laryngological Society by Dr. Herbert S. Birkett, of Montreal. The association also conferred the George M. Kober medal on Dr. Victor C. Vaughan, of the University of Michigan.

P. H. ROYSTER, associate chemical engineer, fertilizer and fixed nitrogen investigations, U. S. Department of Agriculture, has been given the 1928 Johnson award, made by the American Institute of Mining and Metallurgical Engineers to "some promising engineer, not over forty years of age, because of meritorious research, invention or contribution to the professional literature of iron and steel along the lines of blast-furnace process."

DR. E. F. ARMSTRONG, managing director of the British Dyestuffs Corporation, Ltd., has been elected a member of the Athenaeum Club for distinguished eminence in science.

At the annual dinner of the British Society of Dyers and Colorists, held in Manchester on March 23, the Perkin medal was presented to Dr. R. E. Schmidt, of Elberfeld, for "his remarkable work on anthraquinone and allied bodies, which has led to the discovery and commercial production of a whole series of fast dyestuffs."

DR. ALEXANDER BEHM, professor of physics in the University of Kiel, has been awarded the gold medal by the Union pour la Sécurité en Aéroplane, Paris.

DR. KONRAD E. BIRKHAUG, assistant professor of bacteriology at the school of medicine in the University of Rochester, was recently elected to honorary membership in the Norwegian Royal Medical Society at Oslo.

At the meeting of the Royal College of Physicians of London, held on April 2, Sir John Rose Bradford, F.R.S., was reelected president.

L. H. ADAMS, of the Geophysical Laboratory of the Carnegie Institution, has been appointed secretary of the central petroleum committee of the National Research Council, which acts as adviser of the American Petroleum Institute in expending the funds for fundamental research on petroleum donated by John D. Rockefeller and the Universal Oil Products Company.

DR. JAMES J. DURRETT, formerly professor of public health at the University of Tennessee, is to succeed Dr. George W. Hoover in charge of drug control in the food, drug and insecticide administration, U. S. Department of Agriculture.

LOUIS O. SORDAHL, research assistant in physics at the University of Wisconsin, has been appointed field director of the Smithsonian Institution's station for the study of solar radiation at Mount Brukkaros, Africa.

THE department of mathematics at the University of California will have as visitors on its faculty for the coming summer session Constantine Carathéodory, professor of mathematics at the University of Munich, Germany, and H. B. Phillips, professor of mathematics at the Massachusetts Institute of Technology.

HERBERT W. KRIEGER, curator of ethnology in the U. S. National Museum, has returned from Santo Domingo, bringing many specimens from ancient village sites around Samana Bay.

HENRY B. COLLINS, JR., has left Washington for Alaska, where he will carry on archeological and ethnological explorations on St. Lawrence Island and the coast of Seward Peninsula under the auspices of the Smithsonian Institution.

DR. GERRIT S. MILLER, Jr., curator of the division of mammals in the U. S. National Museum, recently arrived in Sanchez, Dominican Republic, where he will spend the next few months investigating the caves of the region for bones of the extinct fauna of the island.

DR. GEORGE T. MOORE, director of the Missouri Botanical Garden, addressed the students of the American University in Cairo, Egypt, on April 3 on "Some of the Activities of the Missouri Botanical Garden."

ON April 21, Dr. Davidson Black, professor of anatomy in the Peking Union Medical College, China, delivered an address to the Royal Canadian Institute on "Man's Origin from the Standpoint of Zoogeography."

A LECTURE before the science seminar of the Agricultural and Mechanical College of Texas, entitled "Measuring Distances of Stars," was given on April 30 by Dr. H. Y. Benedict, president of the University of Texas. On May 21 Dr. E. A. Lovett, president of Rice Institute, will address the science seminar on "Influence of Progress in Pure Science on Human Welfare."

DR. FRANCIS G. BENEDICT, director of the nutrition laboratory, lectured on "Basal Metabolism: The Modern Measure of Vital Activity" at the Carnegie Institution of Washington in Washington, D.C., on April 18, and at Teachers College, Columbia University, and at Wesleyan University, Middletown, Connecticut, on April 27.

DR. CHARLES G. ROGERS, professor of comparative physiology in Oberlin College, delivered a lecture before the biological students of DePauw University on April 5 on the subject "Physiological Evidences of Animal Relationships."

DR. MICHAEL F. GUYER, professor of zoology at the University of Wisconsin, addressed the regular monthly meeting of the University of Cincinnati section of the Society of the Sigma Xi on April 20, when he spoke on "Democracy as a Biological Problem."

ON April 28, Dr. Chas. N. Gould, director of the Oklahoma Geological Survey, delivered an address before the North Texas Geological Society at Wichita Falls, Texas, on "Geology in Oil Finding."

DR. CHARLES A. SHULL, professor of plant physiology at the University of Chicago, is spending the spring quarter at West Virginia University. He is engaged in research and writing. On April 23 he addressed the botany seminar and on April 27 he delivered an address before the Society of Sigma Xi. He expects to make during the quarter trips to several neighboring institutions, one of these being Pennsylvania State College, where he will deliver an address entitled, "The Foundation of Experimental Plant Physiology: The Life and Work of Stephen Hales."

DR. HAVEN EMERSON, professor of public health administration at the College of Physicians and Surgeons, Columbia University, gave the Adolph Gehrman lectures at the college of medicine of the University of Illinois on April 23, 24 and 25.

DR. IRVING LANGMUIR, assistant director of research of the General Electric Company, Schenectady, N. Y., gave a series of three public lectures on the evenings of April 30, May 1 and 2, under the auspices of the Carnegie Institute of Technology of Pittsburgh. His subject was "Electrical Discharges in Gases at Low Pressures." This series concluded the program of

public lectures arranged by the Carnegie Institute of Technology for the benefit of residents of the district.

DR. GEORGE BARGER, professor of chemistry in relation to medicine in the University of Edinburgh, gave the fifth course of the Charles E. Dohme lectureship at the Johns Hopkins University on May 7, 8 and 9 on the general subject of ergot. On May 17 he will lecture on "The Chemistry of Hormones" and on May 18 on "The Chemistry of Thyroxine" at Buffalo, under the auspices of the Fenton Foundation and the Sigma Xi Club of the University of Buffalo.

THE Cambridge University Press announces for early publication a volume of essays and addresses by the late William Bateson, F.R.S., edited, with a memoir, by Mrs. Bateson.

ON February 14 the governor of the Falkland Islands unveiled the memorial over the grave of Sir Ernest Shackleton at Grytviken, South Georgia, which had been sent out in a whaling steamer by Lady Shackleton. It is a massive piece of sculpture in Scotch granite.

MEMORIAL services for the late Dr. Thomas Forsyth Hunt, former dean of the College of Agriculture of the University of California, who died one year ago, were held on the university campus on April 22. Dean E. D. Merrill, of the college of agriculture, was chairman at the exercises and the speakers included Chester Rowell, representing the regents of the university; Vice-president R. G. Sproul, of the university, for the administration; Dr. H. J. Webber, director of the Citrus Experiment Station, and former dean of the college of agriculture, representing the college, and R. E. Barrett, of Pasadena, senior student in agriculture, representing the students.

DR. CYRUS C. ADAMS, of New York, geographer and formerly associate editor of the *Bulletin* of the American Geographical Society, has died in his seventy-ninth year.

DR. JOHN SMITH DEXTER, professor of zoology in the University of Porto Rico, died on April 19 at the age of forty-two years.

PROFESSOR THEODOR CURTIUS, emeritus professor of chemistry in the University of Heidelberg, died at Heidelberg on February 9 in his seventy-first year.

THE deaths are also announced of Dr. Bernhard Wanach, professor of astronomy at the Geodetic Institute in Potsdam, and of Dr. Theodore Zincke, professor of chemistry in the University of Marburg.

THE alumni members of Sigma Xi at the University of Alabama met on April 24 and organized a Sigma Xi club. The club elected the following officers: Dr.

Emmett B. Carmichael, *president*; Dr. George I. Adams, *vice-president*, and Dr. W. P. Ott, *secretary and treasurer*.

THE Society for Experimental Biology and Medicine, at its annual meeting on April 18, announced the election of the following general officers of the society: *President*, Stanley R. Benedict; *vice-president*, Peyton Rous; *secretary*, A. J. Goldforb; *council*, O. F. Avery, John Auer, W. R. Bloor, Robert Chambers, Alfred E. Cohn, Irving Hardesty, Alfred F. Hess, A. S. Loevenhart, A. B. Luckhardt, William Ophuls, W. W. Palmer, O. H. Plant, F. H. Scott, H. D. Senior and Hsien Wu.

At the annual meeting of the Boston Society of Natural History, held on May 4, the following officers were elected for 1928-29: *President*, Charles H. Taylor; *vice-presidents*, Nathaniel T. Kidder, Frederic T. Lewis, Glover M. Allen; *secretary*, Francis Harper; *treasurer*, Augustus P. Loring, Jr.; *trustees*, Thomas Barbour, Joseph A. Cushman, Laurence B. Fletcher, Frederic H. Kennard, W. Gordon Means and John C. Phillips. At the same meeting the annual Walker prizes in natural history, which were offered this year for the best papers submitted on any subject in the field of botany, were awarded as follows: a first prize of one hundred dollars to Chandrakant G. Kulkarni, of the University of Michigan, for a manuscript entitled "Meiosis in the Pollen Mother Cells of Some Strains of *Oenothera pratincola* Bartlett"; a second prize of fifty dollars to Miss Lydia B. Walsh, of Wellesley College, for a manuscript entitled, "Microsporogenesis in *Petunia*."

THE committee on scientific research of the American Medical Association has recently made a grant of \$2,000 to Professor A. S. Warthin, of the department of pathology, and Professor George R. La Rue, of the department of zoology, of the University of Michigan, to permit them to continue their studies on the broad tapeworm of man. A grant of \$500 has been made to Dr. K. E. Birkhaug, assistant professor of bacteriology at the University of Rochester, for the study in European clinics of bacterial allergy in rheumatic fever patients.

THE thirty-eighth annual meeting of the Nebraska Academy of Sciences was held on April 26, 27 and 28 at Midland College, Fremont, jointly with the Nebraska section of the Mathematics Association of America. Dr. W. D. Crouse, professor of physics at Midland College, is president of the academy. Chairmen for the sectional meetings were: biology, Professor C. J. Shirk, Nebraska Wesleyan; chemistry, Professor A. C. Rice, Grand Island; earth sciences, Professor E. F. Schramm, University of

Nebraska; engineering, Professor Jiles W. Haney, University of Nebraska; mathematics, Professor W. C. Brenke, University of Nebraska; physics, Professor Chalmer N. Patterson, Hastings; social sciences, Professor C. K. Burkholder, Midland; high school teachers, Grant L. Stahly, Hastings High School.

THE Utah Academy of Sciences held its twenty-first annual meeting at the Hotel Newhouse, Salt Lake City, on April 20 and 21, under the presidency of R. A. Hart, of the Western Clay Products Association. The program consisted of eight addresses. The following officers were elected: Dr. Joseph F. Merrill, Salt Lake City, *president*; Dr. Willard Gardner, Logan, Utah, *first vice-president*; Dr. Walter D. Bonner, Salt Lake City, *second vice-president*; Dr. Bert L. Richards, Logan, Utah, *councilman*; Dr. O. W. Israelson, Logan, *councilman*; Dr. S. Y. Cannon, Provo, *councilman*; Dr. Vasco M. Tanner, Provo, Utah, *secretary-treasurer*.

THE Tennessee Academy of Science met at the University of Tennessee on April 20 for its twenty-second meeting. Dr. Walter S. Leathers, of Vanderbilt University, presided at the sessions on the first day, at which twelve scientific papers were read. A dinner was held in the evening at which W. F. Pond, state geologist, gave the principal address on "Contributions of Geological Surveys to State Development." The following two days were spent on a field trip to Mt. LeConte, Gatlinburg.

UNIVERSITIES in the middle west will be represented at the third annual meeting of the Midwestern Psychological Association at the University of Wisconsin on May 11 and 12 at which a series of symposiums, informal discussions and addresses will be on the program, according to an announcement by Professor C. L. Hull, in charge of local arrangements. Speakers and chairman of discussion groups include Professor M. F. Meyer, University of Missouri; Professor J. R. Kantor, University of Indiana; Professor Harvey A. Carr, University of Chicago; Professor A. R. Gilliland, Northwestern University, and Professor Hull.

A GEOLOGICAL conference has been called to meet at Norman, Oklahoma, on May 19 by R. C. Moore, of Kansas, E. H. Sellards, of Texas, and Chas. N. Gould, of Oklahoma, to discuss the problem of the Pennsylvanian of the Great Plains. It is expected that the state geologists of Iowa, Nebraska, Kansas, Missouri, Arkansas, Texas and Oklahoma will be present and participate in the discussion, also a number of paleontologists residing in the region, as well as representatives of a number of geological societies.

DR. HOWARD A. KELLY, of Baltimore, has presented to the herbarium of the University of Michigan his mycological library to be called the "Louis C. C. Krieger Library and Collections." The library alone contains about 100,000 items and nearly all the older classical mycological literature, brought together during the last ten years. Included are 350 paintings by Krieger, many photographic prints, about 2,000 collections of fungi and a set of wax models. The collection will be housed in the herbarium quarter of the new museum building at Ann Arbor.

THE late Chandler Robbins, retired merchant and one of the founders of the American Geographical Society, has left \$30,000 to the society.

GIFTS and pledges of \$1,215,810 have been received towards the \$2,000,000 fund which the Museum of the City of New York seeks to raise for building purposes by June 1, the date set to qualify for the offer of a city-owned plot at Fifth Avenue and 103d Street.

THE American Pharmaceutical Association has available a sum amounting to \$550 which will be expended after October 1 for the encouragement of research. Investigators desiring financial aid in their work will communicate before July 1 with H. V. Army, chairman, A. Ph. A. Research Committee, 115 West 68th Street, New York City, giving their past record and outlining the particular line of work for which the grant is desired.

PROFESSOR HENRY E. CRAMPTON, of Barnard College, Columbia University, associate of the Carnegie Institution of Washington, will leave New York on June 1 on an eight months' expedition to the islands of the western Pacific Ocean, under the auspices of the Carnegie Institution. During eight earlier field-journeys he has prosecuted studies on the variation, distribution and evolution of certain land organisms living in the islands of the South Pacific Ocean, from the Society and Cook Groups to Samoa and the Mariana Islands. It is now planned to extend these studies to the larger and higher members of the Caroline Islands, Palao Islands and Yap, in order to bring the western Pacific area into the entire scheme of the research. Professor Crampton will be assisted in the field-work by his son, Mr. Henry E. Crampton, Jr., and by Mr. Richard B. Goetze.

AN expedition of Italian scientific men to explore the upper reaches of the Amazon River is being organized at Padua, with the technical preparation of a large group of men. It is intended to study the flora and fauna and the lives of the natives. The expedition hopes to leave by the end of June. The venture is backed by the local press and popular subscription.

UNIVERSITY AND EDUCATIONAL NOTES

LAFAYETTE COLLEGE has received from Mr. Fred Morgan Kirby, of Wilkes-Barre, the gift of a building to house the department of civil rights which is expected to cost about \$200,000.

DR. F. D. FROMME, professor of botany and plant pathology at the Virginia Polytechnic Institute and plant pathologist at the Virginia Agricultural Experiment Station, has been elected dean of the college of agriculture and director of the Agricultural Experiment Station of West Virginia University.

J. BURNS READ, assistant manager of the research department of the Metals Exploration Company, Golden, Colo., has been appointed professor of mining engineering at the Colorado School of Mines, in the place of Dean L. S. Grant, who recently resigned.

DR. ERNEST O. LAWRENCE, assistant professor of physics at Yale University, has been appointed as associate professor of physics at the University of California.

NEW appointments to professorships at Yale University include Dr. William Arthur LaField, who becomes clinical professor of radiology; Dr. Joseph Irving Linde, who is promoted from associate clinical professor to clinical professor of pediatrics, and Dr. Donald Wallace Porter, who is also promoted from associate clinical professor to clinical professor of pediatrics.

DR. RONALD MANSFIELD FERRY has been promoted to be assistant professor of biochemistry at the Harvard Medical School. Noel Ewart Odell, of the Mount Everest expedition, has been appointed lecturer on geology in the university.

DR. CHESTER K. WENTWORTH, formerly of the geology department of the University of Iowa, has been appointed associate professor of geology at Washington University, St. Louis.

DR. C. H. RICHARDSON, professor of mathematics at Georgetown College, Kentucky, has been appointed head of the department of mathematics at Bucknell University to take the chair formerly filled by Dr. W. C. Bartol, who retires after forty-seven years of teaching service.

PROFESSOR PASCAL, of the University of Lille, has been appointed professor of chemistry at the University of Paris to take the place of the late Professor Chabrié.

DR. FRIEDRICH ALVERDES, professor of zoology in the University of Halle, has been appointed to the chair of zoology in the University of Marburg.