APPOINTMENTS OF THE CARNEGIE INSTITUTION OF WASHINGTON

DR. H. A. SPOEHR has resigned as director of natural sciences of the Rockefeller Foundation and has resumed his former association with the Carnegie Institution of Washington as chairman of the division of plant biology, with headquarters at the central laboratory of this division, at Stanford University, California.

Dr. Jens Clausen, of the Royal Veterinary and Agronomic Laboratory, Copenhagen, has been appointed cyto-geneticist to the staff of the division of plant biology. Dr. Clausen is now carrying on his work in association with Dr. H. M. Hall at the central laboratory of this division, at Stanford University.

Dr. Robert W. Bates, of the department of physiological chemistry of the University of Chicago, has undertaken studies, beginning on October 1, as an associate of Dr. Oscar Riddle, staff member of the department of genetics of the institution, at Cold Spring Harbor, Long Island.

Dr. W. H. W. Baade, of the Hamburg Observatory, has been appointed astronomer at the Mount Wilson Observatory, dating from October 1, 1931.

Dr. Joel Stebbins, director of the Washburn Observatory of the University of Wisconsin, has undertaken service as a research associate of the institution, for the purpose of collaboration in studies of stellar photometry at the Mount Wilson Observatory.

SCIENTIFIC NOTES AND NEWS

THE National Academy of Sciences will hold its autumn meeting at Yale University, New Haven, beginning on November 16. At this meeting Dr. W. W. Campbell will preside, having been elected to the presidency in succession to Dr. T. H. Morgan.

THE executive committee of the American Association for the Advancement of Science will hold its regular fall meeting at the Cosmos Club in Washington on Sunday, October 25, with a forenoon and an afternoon session.

DR. SAMUEL WESLEY STRATTON, chairman of the corporation of the Massachusetts Institute of Technology, previously professor of physics at the University of Chicago, founder and first director of the National Bureau of Standards and president of the Massachusetts Institute of Technology, died suddenly from heart disease on October 18 at the age of seventy years.

THE John Fritz gold medal, conferred by the four national societies of civil, mining and metallurgical, mechanical and electrical engineers, has been awarded for 1932 to Dr. Michael I. Pupin, professor of electromechanics and director of the Phoenix Research Laboratory at Columbia University, for his achievements as "scientist, engineer, author, inventor of the tuning of oscillating circuits and the loading of telephone circuits by inductance coils."

DR. GEORGE E. HALE has been elected president of the International Council of Scientific Unions, the new name of the International Research Council. He succeeds M. Picard. Sir Henry Lyons remains general secretary.

AT the recent centenary meeting of the British Association for the Advancement of Science, Sir Alfred Ewing, lately principal and vice-chancellor of the University of Edinburgh, was elected by the general committee president of the association for next year, when the meeting will be held at York. The new members of the council are Dr. J. Drever, Professor T. E. Gregory, Professor H. S. Hele-Shaw, Professor E. B. Poulton and Professor A. M. Tyndall.

AT the reception held at the University of London on September 28 to celebrate the centenary meeting of the British Association, the degree of doctor of science was conferred on General Jan Christiaan Smuts, F.R.S., president of the association; Professor Sir Frederick Gowland Hopkins, F.R.S., Sir Charles Scott Sherrington, O.M., F.R.S.; Lord Rutherford, O.M., F.R.S., and (*in absentia*) Sir Joseph John Thomson, O.M., F.R.S.

DR. JAMES ROWLAND ANGELL, president of Yale University, who was made "Chevalier" of the French Legion of Honor in 1930, has been promoted to the rank of "Officier."

DR. ALICE HAMILTON, assistant professor of industrial medicine at the Harvard School of Public Health, was given a special dinner at the recent meeting of the American Public Health Association.

DR. RUSSELL M. WILDER has resigned his position as professor of medicine at the University of Chicago to join the staff of the Mayo Clinic and the faculty of the Mayo Foundation Graduate School of the University of Minnesota as professor of medicine.

DR. KARL T. WAUGH, head of the department of psychology at Long Island University, has been elected president of Dickinson College.

DR. ELIJAH SWIFT, Williams professor of mathematics and head of the department in the College of Arts and Sciences, University of Vermont, has been made dean of the college, succeeding Dean George H.

Perkins, who has retired after a service of thirty-three years.

DR. E. N. JONES, head of the department of botany of Baylor University, at Waco, Texas, has been made acting dean of the college of arts and sciences.

DR. KENNETH A. KOBE, of the University of Minnesota, has been appointed instructor in chemical engineering at the University of Washington. He will have charge of the work in industrial chemistry in place of Dr. H. K. Benson, who is in Washington, D. C., for the year in charge of the division of chemistry and chemical technology of the National Research Council.

DR. RAYMOND L. TAYLOR has been appointed assistant professor of biology at the College of William and Mary and will give courses in botany and in entomology. Last year Dr. Taylor filled a temporary appointment as instructor of entomology in the New York State College of Forestry, Syracuse University.

THE University of Alabama School of Medicine announces the following new appointments: Dr. Allen D. Keller, professor of physiology and pharmacology, from the Yale University School of Medicine; Dr. Franklin S. DuBois, assistant professor of anatomy and acting executive of the department, from the University of Chicago; Dr. Gene H. Kistler, assistant professor of physiology and pharmacology and assistant in medicine, from the University of Chicago; Dr. Marie C. D'Amour, instructor in physiology and pharmacology, from the University of Chicago. The following promotions have been made: Dr. Ralph McBurney, professor of bacteriology and hygiene and assistant in medicine; Dr. Allen W. Blair, assistant professor of pathology and bacteriology and instructor in surgery; Dr. Eleanor A. Hunt, assistant professor of microscopic anatomy; Dr. Luny V. Ragsdale, assistant clinical professor of medicine; Dr. John McLaughlin Forney, assistant clinical professor of obstetrics.

CARL W. MITMAN is curator of the new division of engineering in the U. S. National Museum, formed in July by combining the divisions of mineral and mechanical technology. In this new division the section of mechanical technology is under the supervision of Frank A. Taylor, assistant curator; the section of aeronautics is under Paul E. Garber, assistant curator, and the section of mineral technology is under the immediate supervision of Mr. Mitman.

DR. J. S. WIANT has resigned from the staff of the Wyoming State Agricultural Experiment Station to accept the position of associate pathologist with the division of horticultural crops and diseases of the U. S. Bureau of Plant Industry. He is stationed at the U. S. Market Pathology Laboratory in New York City.

DR. WARREN FALES DRAPER, assistant surgeon general in the federal service, has been appointed commissioner of health in Virginia.

COLONEL CHARLES P. ECHOLS, professor of mathematics at the U. S. Military Academy at West Point, retired from the U. S. Army on October 1.

PROFESSOR WILLEM DE SITTER, director of the Leiden Observatory, will lecture under the Trask Foundation at Princeton University on October 27 on "The Size of the Universe." Dr. Edwin P. Hubble, of the Mount Wilson Observatory, will give four lectures under the Vanuxem Foundation at Princeton on October 29 and 30, and on November 2 and 3, on the general subject of the nebulae.

PROFESSOR HENRY E. SIGERIST, professor of the history of medicine and director of the Institute of the History of Medicine of the University of Leipzig, has been appointed visiting lecturer in the history of medicine at the Johns Hopkins University School of Medicine for the present year. Professor Sigerist will be at the Johns Hopkins University during October and November, and will give a series of lectures and courses.

DR. ARTHUR E. KENNELLY, professor emeritus of electrical engineering at Harvard University and the Massachusetts Institute of Technology, has gone to Japan. At the invitation of the Institution of Electrical Engineers of Japan, he will deliver a series of lectures during November, before five Japanese universities, as the first visiting American professor under the Iwadare Foundation.

DR. J. MCKEEN CATTELL, editor of SCIENCE, returned to New York on October 13, after attending the centenary meeting of the British Association for the Advancement of Science in London as the delegate of the American Association.

DR. A. R. MOORE has returned to his post at the University of Oregon after an absence of a year which he spent in Europe as a fellow of the C. R. B. Educational Foundation. While abroad Dr. and Mrs. Moore worked at different times in the marine stations at Roscoff and Naples, and in the university laboratories at Brussels and Innsbruck.

DR. JOHN H. BRADLEY, professor of geology at the University of Southern California, has returned from a field expedition in the Inyo Mountain range with a collection of starfish fossils.

UNDER a special fellowship of the Charles Lathrop Pack Forestry Foundation, Professor Svend Heiberg,

of the department of silviculture, New York State College of Forestry, a graduate of the Copenhagen and Yale Forestry Schools, has left for a four-months forest study trip in Europe. Professor Heiberg has been engaged during the last three years in examining the development of forest plantations in the State of New York and in order to supplement that work he will survey recent developments in the production of forests in Europe.

MISS MALVINA HOFFMAN, sculptress of New York and Paris, who has been commissioned by the Field Museum of Natural History to make more than 100 life-size figures, busts and heads representing all the principal races and types of mankind, has left Chicago after conferences with officials of the museum, for a trip around the world. During this trip she will make studies in the various countries from living models. The figures, which will be in bronze, will form a principal feature of a projected new hall in the museum—the Chauncey Keep Memorial Hall—which is to be devoted to the living races of man. Miss Hoffman recently completed a European trip during which she made a number of plaster casts and bronzes for the museum.

DR. A. DEFRISE, associate professor in the anatomical Institute of the University of Milan, recently a research fellow of the Rockefeller Foundation working at the Johns Hopkins University, returned to Italy on October 15, taking with him a number of Wistar Institute albino rats of the experimental colony strain to start a colony at Milan for research purposes.

A MEETING of the American section of the International Astronomical Union will be held in Washington, D. C., after the close of the meeting of the American Astronomical Society, December 28–30. New statutes of the section in conformity with the new statutes of the union will be proposed by the executive committee. It does not plan to appoint technical committees of the American section as was done in preparation for the last two meetings of the union. Members of the standing committees of the union are invited to submit to the executive committee, through the secretary, Professor Raymond S. Dugan, Princeton, any matters which they wish to have considered at the meeting.

THE Society of American Bacteriologists will hold its annual meetings in Baltimore from December 28 to 30, inclusive, under the presidency of Professor J. Howard Brown, of the Johns Hopkins Medical School. There will be a general scientific session in the form of a series of papers on "Bacterial Dissociation and Life Cycles." The program of the section on medical bacteriology and immunology is practically completed with symposia on (1) hemolytic streptococci, (2) meningococcus, and (3) immunological aspects of anterior poliomyelitis and of typhus fever.

THE Radiological Society of North America will hold its seventeenth annual meeting in St. Louis from November 30 to December 4, with headquarters and meeting place at the New Jefferson Hotel. Dr. Edwin C. Ernst is chairman of the local committee on arrangements.

THE forty-fifth annual convention of the Association of Land-Grant Colleges and Universities will be held at the Stevens Hotel, Chicago, from November 16 to 18. As in previous years, representatives of the land-grant colleges and the U. S. Department of Agriculture will attend this convention, to discuss various questions relating to agricultural education, research and extension, including also engineering and home economics. The president of the association is Dr. G. W. Rightmire, president of the Ohio State University, Columbus, and the secretary-treasurer is T. P. Cooper, dean of the Kentucky College of Agriculture and director of the Kentucky Agricultural Experiment Station and of the extension service, Lexington. The chairman of the executive committee is Dr. R. A. Pearson, president of the University of Maryland, College Park.

THE Grasselli Medal meeting of the Society of Chemical Industry will be held on November 6, at 8:30 P. M., at the Hotel New Yorker, with the American Chemical Society, the Electrochemical Society and the Société de Chimie Industrielle. Nonmembers are invited to attend. Ample space has been provided to accommodate a large attendance in addition to those who attend the dinner preceding it. At this meeting the Grasselli Medal will be presented to Dr. L. V. Redman. The program will be as follows: "Accomplishments of the Medallist"—F. W. Willard; "Presentation of the Grasselli Medal"—D. D. Jackson; "Research as a Fixed Charge"—L. V. Redman. The dinner preceding the meeting will be served at 7:00 P. M. Reservations should be made with Mr. Irving Hochstadter.

ACCORDING to a special dispatch to the *New York Times,* from Ithaca, New York, dated October 15, element No. 87, one of the two hitherto unknown components of the universe, has been discovered by Dr. Jacob Papish, professor of spectroscopy at Cornell University, in a substance known as samaroskite, a lustrous velvet black mineral found in Norway, Siberia and in some southern states of this country. Of the ninety-two elements only No. 85 now remains unidentified. Assisted by Mr. Eugene Wainer, a graduate student from Akron, Ohio, and aided by a grant

from the Heckscher Foundation for the Advancement of Research, Professor Papish has definitely identified the new element and has secured a spectrogram of it. Repeated checks have confirmed its existence and a full report is expected to be made to the National Academy of Sciences when it meets in New Haven next month.

Nature prints the following radiogram, dated Sept. 28: "Experimental demonstration of spin of light.—The depolarization of Rayleigh scattering of monochromatic light in carbon dioxide gas does not diminish to one quarter of its value when spectroscopically separated from rotational scattering, as demanded by existing theories of radiation. The actual observed diminution, from 10 per cent. to 6 per cent., is quantitatively explicable, assuming that common light consists of spinning quanta possessing one Planck unit of angular momentum.—C. V. Raman and S. Bhagavantam."

A GROUP of psychologists and economists, headed by Dr. Nicholas Murray Butler, president of Columbia University, and Dr. James Rowland Angell, president of Yale University, will take part in weekly academic lectures to be broadcast by the National Advisory Council on Radio in Education. These broadcasts on present-day economics and psychology were started on October 17 over the network of WEAF. Thirty leaders in their respective fields of economics and psychology will speak. An economist and a psychologist will speak fifteen minutes, respectively, in each program. The broadcast will be on Saturday nights from 8:30 to 9 o'clock. Dr. Butler opened the series on October 17. He was followed by Dr. Angell, who discussed "Psychology To-day, its Relations to Other Sciences and Social Problems." Dr. Ernest L. Bogart, president of the American Economic Association, will open the radio course in economics with an address on "Forerunners of the Present Depression." There will be thirty lectures in each series. The first ten addresses in the economics series will deal with the causes and solution of the economic depression. Others who will lecture later are Miss Jane Addams, of Hull House; Dr. Edwin F. Gay, professor of economic history, Harvard; Dr. Walter R. Miles, president of the American Psychological Association; Dr. Edward S. Robinson, professor of psychology, Yale University; Dr. Robert S. Woodworth, president of the Social Science Research Council, and Dr. Arnold Gesell, director of the Clinic on Child Development, Yale University.

A NEW school of archeology and museum has been established at Las Vegas under the supervision and control of the New Mexico Normal University. Mr. J. I. McCullough, teacher of history of the Southwest courses at the Normal University during the past year, has been appointed director and organizer of the school.

THE College of Medicine of the University of Illinois opened on October 5. All departments are now housed in the new buildings. These buildings will accommodate 200 students in each class. The laboratories are contiguous with the Research and Educational Hospital which has a capacity of 500 beds. Three hundred and sixty of these beds are occupied at the present time and are used exclusively for research and teaching purposes. In addition to the Research and Educational Hospital, the large State Department for Juvenile Research is closely affiliated with the College of Medicine and offers a wealth of material of border-line and subnormal cases which are of great value in psychological and neurological studies. A Psychiatric Institute with 62 beds and an Orthopedic Institute for Children with 100 beds have also been opened. It has been necessary to limit the number of dispensary patients to 100,000 per year. The library and reading rooms have been enlarged to keep pace with the growth of the college. Reading rooms have a seating capacity of 500. The library has over 40,000 volumes which includes complete files of practically all clinical and biological research journals.

THE construction of the largest and most complete establishment in the world devoted to research on wood has been started by the U. S. Department of Agriculture in the form of a new fireproof building for the Forest Products Laboratory at Madison, Wisconsin, the contract for which is the principal award under a $900,000 Congressional appropriation to provide the laboratory with adequate quarters and equipment. Better utilization of forest materials and broader markets for forest products are the objectives for which government research workers will use the new facilities. In its six stories, with total floor space of 175,000 square feet, the building will contain modern technical and scientific facilities for testing and investigating wood and other forest products in manifold uses and transformations, from logs, poles and lumber to pulp, paper and turpentine.

BERNARR MACFADDEN, publisher and physical culture and health propagandist, has donated $5,000,000 to form the Bernarr MacFadden Foundation, a charitable corporation for the perpetuation of physical culture and health building. The $5,000,000 and the income from it will be spent, according to the certificate of incorporation, to maintain and conduct institutions, establish scholarships, maintain sanitariums, gymnasiums, camps and other recreational facilities, and to promote hygiene and health and the physical well-being of young men and women. The work of the foundation, the certificate says, is to be conducted prin-

cipally in the United States, "but is not restricted thereto."

THE London *Times* reports that Professor Maiuri, superintendent of excavations in the Campania, has been granted funds from the British Government for carrying out excavations on the island of Capri. He proposes to reveal and display, so far as possible, the ancient topography of the island, as it was in the Roman era. The many Roman buildings which lie buried and have only been partially excavated so far are to be laid bare, the roads of access to them are to be made more practicable, and a general work of embellishment undertaken so that the ruins may be presented in a setting worthy of their past glory. In the days of the Emperor Tiberius there were twelve palaces in the island, named after twelve gods, and the emperor is supposed to have lived in a different one during each month of the year. The most important of these is the Villa Jovis, which lies at the extreme eastern point of the island overlooking the Sorrentine Peninsula. It is built on a peak, and from the cliffs on which it stands there is a sheer drop of about 700 feet to the sea. It is on the ruins of this palace that Professor Maiuri began work early in October.

THE U. S. Bureau of Fisheries is making a study of fish migration in the waters of the Chesapeake Bay. Dr. John C. Pearson, assistant aquatic biologist, who has been stationed at Annapolis for the purpose of clamping identification bands on any fish which he can obtain for labeling and liberation purposes, tagged a rockfish and released it off Hackett Point, Annapolis. Two days later the same fish was caught about thirty miles up the bay, near the mouth of the Seneca River. Other fish bearing the identification tags have been caught in the vicinity of Havre de Grace and the Northeast River. Thus far the results of the study show a tendency of the fish to make for the head of the bay.

THE Chilean Nitrate of Soda Educational Bureau has again made provision for the Chilean Nitrate of Soda Nitrogen Research Award. These awards were designed to foster search on the rôle of nitrogen in economic crop production. Any research worker in the United States or Canada is eligible. In selecting candidates for the award attention is given to both the merits of research already accomplished and to the promise for future work. The award is administered by the nitrogen research award committee of the American Society of Agronomy. The amount of the award is decided by the committee in each individual case. Any one wishing to call the attention of the committee to their own work or that of any other worker should communicate before November 1 with the chairman of the committee, Dr. Richard Bradfield, Department of Soils, Ohio State University, Columbus, Ohio. The award will be made at the annual meeting of the American Society of Agronomy in Chicago, on November 19 and 20.

DISCUSSION

ON A POSSIBLE EXPLANATION OF THE DIFFERENCE IN WAVE-LENGTHS OF THE SPECTRAL LINES OF A GIVEN ELEMENT PRODUCED ON THE SUN AND ON THE EARTH

IT has been shown that all electric charges on the earth are due to a potential difference between an insulated body and the electrostatic field in which it is immersed.[1] When this potential difference changes, the magnitude or the sign, or both, of the charge on the insulated body changes. It is immaterial and sometimes not discoverable whether the change in potential difference is due to a change in the electron content of the insulated body or to a change in the electrical state of the surrounding field.

Since the potential of the earth's electrostatic field changes with a change of altitude above the earth, the charge of an insulated body will change as its altitude in the earth's electrostatic field changes. This fact was discovered by Paul Erman in 1803,[2] though it was not interpreted in this manner. Erman believed the charges upon his electroscope to be induced by the charge of the earth, but we know that no insulated body can have a charge induced upon it. The most that can happen to it by induction is to have a redistribution of its charge over its surface.

An uncharged, insulated body when raised above the earth acquires a negative charge. If retained in that position and put into electrical contact with the earth it loses its negative charge. If then lowered to the earth it acquires a positive charge. If raised to a greater height than before without discharging its positive charge it again becomes negatively charged.

If two small insulated spheres be charged, one positive and one negative, to a potential difference from the earth of 100 volts each, they will then attract each other with a force proportional to the product of their opposite charges. Let them be raised to a height where the potential of the earth's field is 100 volts positive to the earth. One of the spheres will then be charged to a negative potential of 200 volts and the other will be uncharged. There will be no attraction due to the product of their charges.

1 *Bulletin* of the Terrestrial Electric Observatory of Fernando Sanford, Vol. 6, p. 8, and "Terrestrial Electricity," p. 100.

2 Gilbert's Annalen, 15, 386 (803).