for the photography of faint nebulae and distant universes.

The astrophysical problems which will be studied at the McDonald Observatory include those of the chemical composition of the atmospheres of the stars, the properties of matter exposed to temperatures ranging from 3,000 to 50,000 degrees or more, observation of distant universes and the study of gaseous nebulae, comets and planets.

No diminution of effort at Yerkes Observatory is contemplated. Dr. Struve will spend approximately half his time there, and the staff will continue its research with the 40-inch refractor. The photographs obtained at the new McDonald Observatory will be studied at Yerkes by the resident staff.

In planning the agreement, the two universities had the advice and support not only of Dr. Struve and Dr. Henry Gordon Gale, dean of the physical sciences division at the University of Chicago, but of many leading astronomers. Dr. George E. Hale, organizer of the Yerkes Observatory and its first director, now honorary director of the Mt. Wilson Observatory, and Director-emeritus Edwin B. Frost, of the Yerkes Observatory, were among the group.

PRESENTATION OF THE PRIESTLEY MEDAL TO DR. CHARLES L. PARSONS

AT the eighty-third meeting of the American Chemical Society, recently held in Denver, the Priestley Medal was presented to Dr. Charles L. Parsons, secretary of the society. In the absence of the president, Dr. Lawrence V. Redman, the president-elect, Professor Arthur B. Lamb, of Harvard University, made the presentation address. According to the report in *Industrial and Engineering Chemistry,* he said in part:

> In 1907, when Charles Parsons became secretary, the society after thirty-one years of existence had 3,300 members; to-day it has nearly 19,000. In 1907 the publications of the society consisted of the *Journal of the Society* and of *Chemical Abstracts,* which had just then been established by Professor W. A. Noyes. These two journals published a total of 5,325 pages in that year. To-day there are eight journals either supported or sponsored by our society, and they published a total of 22,921 pages last year. In 1907 the total annual budget of the society was $30,200; to-day it is $463,000.
>
> Charles Parsons did not accomplish all of this single-handed, but it is to him far more than to any one else that credit for this achievement must be given. At a hundred, at a thousand points it has been his eager efforts, his sound judgment, his shrewd optimism, his sincerity of purpose, his robust spirit and his unfailing loyalty that have launched our new ventures, have consolidated our gains, and have combated those disintegrative forces, those centrifugal tendencies, that might have shaken our solidarity and sapped our strength.
>
> In this rapid growth of our society, with its diverse membership and its far-flung sections, what was most essential of all was a strong stabilizing and unifying force. That force was Charles Parsons. Blunt with the fearlessness of his Pilgrim ancestors who came to our shores in 1620, shrewd with the Yankee shrewdness fostered by our New England hills, kindly and generous and hospitable from his boyhood spent in sunny Georgia, Parsons, though ever at the storm center of our society, has been now its sheet anchor and now its guiding light.
>
> Charles Parsons in his academic, scientific, professional and governmental activities has a splendid record of achievement, which has already won him world-wide recognition—honorary degrees from our universities, the Nichols Medal of our own society in 1905, appointment as officer of the Legion of Honor and of the Order of the Crown of Italy, honorary membership in the Roumanian Chemical Society and in the Society of Chemical Industry.
>
> But it is not these achievements that we are considering tonight. Charles Parsons's great achievement has been the promotion and development of the American Chemical Society. By this means Charles Parsons, more than any one else of his generation, has promoted the advance of chemistry in our country. It is this great achievement that we are recognizing tonight.
>
> It is then with the deepest satisfaction and gratification that I now hand to you, Charles Lathrop Parsons, secretary, the Priestley Medal of the American Chemical Society.

SCIENTIFIC NOTES AND NEWS

DR. ERNEST J. WILCZYNSKI, emeritus professor of mathematics at the University of Chicago, died on September 14 at the age of fifty-five years.

SIR RONALD ROSS died in London on September 16, at the age of seventy-five years. *The New York Times* says in an editorial article: "Millions in fever-ridden countries bless the late Sir Ronald Ross for his discovery of the malaria parasite in the Anopheles mosquito. Yet to remember him for that alone is to do him an injustice. If ever a man was born out of his time, it was he. An Admirable Crichton, who composed music, wrote poems, plays and novels of distinction, dabbled in higher mathematics and in cosmogony, clearly belonged to the sixteenth century. Whatever he did was marked by the grand manner. Scientific method played its part in his medical researches, but he owed his triumph more to the divination of the poet in him."

PROFESSOR L. MIRA, of Barcelona, has been elected president of the eleventh International Congress of

Psychology, which will be held in Madrid four years hence.

DR. A. S. HITCHCOCK, custodian of grasses in the U. S. National Museum, has been elected a corresponding member of the Argentine Scientific Society.

DR. ERNEST SACHS, professor of clinical neurological surgery at the Washington University School of Medicine, St. Louis, has been elected a member of the German Academy of Sciences at Halle.

THE honorary degree of doctor of science has been conferred by Purdue University on Otto F. Hunziker, who was head of the dairy department from 1905 till 1916, when he became manager and director of research for the Blue Valley Creamery Company. Dr. Hunziker was recently appointed chairman of the committee that now manages the *Journal of Dairy Science.*

THE honorary degree of doctor of science has been conferred by the University of Belfast on Dr. Alfred C. Dixon, professor of mathematics at Queen's University.

AMONG those who received the honorary degree of LL.D. at the graduation ceremonial of the University of St. Andrews were Sir James Frazer, author of "The Golden Bough," and Professor L. R. Sutherland, emeritus professor of pathology at the university.

THE Fauchard Medal, the highest distinction in the field of preventive dentistry, was awarded to Dr. Arthur H. Merritt, of New York, at a luncheon held on September 14 in connection with the meeting of the American Dental Association in Buffalo. The medal, which is awarded annually upon the recommendation of a representative group of dentists, was presented by Dr. Marcus Ward, dean of the University of Michigan Dental School, in recognition of Dr. Merritt's work in the field of oral prophylaxis.

PROFESSOR CHARLES H. STOCKING, of the College of Pharmacy of the University of Michigan, was elected president of the American Association of Colleges of Pharmacy at the annual convention recently held in Toronto.

AMONG retirements from the Weather Bureau are the following senior meteorologists: Norman B. Conger, age 72, total service 41 years; Henry B. Hersey, age 70, total service 41 years; Melvin B. Summers, age 55, total service, 33 years.

DR. EMIL PETER SANDSTEN has been appointed director of the Experiment Station at the Colorado Agricultural College, Fort Collins. He succeeds Dr. C. P. Gillette, who has retired.

MR. JAMES RÖGNVALD LEARMONTH, surgeon to the Mayo Clinic and associate professor of neurologic surgery in the University of Minnesota, has been appointed Regius professor of surgery in the University of Aberdeen, in place of Professor Sir John Marnoch, whose resignation takes effect on September 30.

DR. GEORGE M. CURTIS, professor of surgery in the Graduate School, division of biological sciences, University of Chicago, has resigned to accept a similar position at the College of Medicine of the Ohio State University. Dr. Curtis became connected with the University of Chicago in 1925, when he was appointed associate professor of surgery and associate professor of experimental surgery under the Douglas Smith Foundation for Medical Research.

DR. FRANKLIN HOLLANDER, until recently of the department of physiology of the New York Homeopathic Medical College, has been appointed research associate at the School of Dentistry, Columbia University. He will be in charge of the newly organized laboratory of physical chemistry at the Medical Center.

DR. HENRY J. MASSON, chemical engineering, and Dr. Alfred F. Huettner, biology, have been promoted to full professorships in New York University.

DR. PHILIP LEVINE, of the Rockefeller Institute, has been appointed instructor in bacteriology in the University of Wisconsin.

JAMES COULL, of the University of Aberdeen, has been appointed assistant professor of chemical engineering at Cooper Union, New York City.

DR. HENRY J. FRY, professor of biology at New York University, and Dr. Irving J. Saxl, physicist, formerly associate of Guido Holzknecht, of the Central X-Ray Institute of the University of Vienna, will offer courses this winter at the New School for Social Research, New York City.

PROFESSOR STUART A. RICE, who has been granted a year's leave of absence from the University of Pennsylvania, will be a member of the faculty of the department of sociology of the University of Chicago for the year 1932–33, and will give courses in quantitative sociology and in methods of research in the social sciences.

PROFESSOR MADISON BENTLEY, of Cornell University, addressed the Mayo Foundation at Rochester, Minnesota, on August 25, on "Mind, Body and Soul in Medical Psychology."

DR. JAMES A. TOBEY, of New York City, spoke at a meeting of the El Paso County Medical Society on September 9. He also addressed the convention of the Southwestern Dental Association held in El Paso

on September 7, and was the principal speaker at the dedication of the new milk plant of the Borden Company of Texas, opened in El Paso on September 10.

DR. FRANK BLAIR HANSON, professor of zoology in Washington University, has returned to St. Louis after two years' leave of absence, during which time he has been connected with the Paris Office of the Rockefeller Foundation.

M. W. STIRLING, chief of the Bureau of American Ethnology, has returned from a trip to California, where he examined a number of caves and village sites of the Chumash Indians in the mountains west of Buena Vista Lake. On the return trip Mr. Stirling stopped at Mobridge, South Dakota, in order to visit the excavations being conducted there on an old Arikara Indian village site by Dr. William Duncan Strong.

DR. C. H. TOWNSEND, director of the New York Aquarium, sailed on September 8 for Bermuda as a guest of Mr. Vincent Astor. It is planned to transplant several thousand young kingfish, sea bass and bluefish from the waters of New York Bay in an effort to acclimate them to the warm waters there. The yacht will bring back a collection for the New York Aquarium.

AFTER six months of study and exploration in the original home of the potato in Chile, Peru and Bolivia, and on the island of Chiloe, Dr. H. G. MacMillan and C. O. Erlanson, of the Bureau of Plant Industry, recently returned to Washington with 425 lots of tubers and seed and also a number of other plants of possible value for the United States. This expedition was the second made under the special appropriation by Congress for exploration and introduction of disease-resistant potato types into the United States, the other having been to the highlands of Mexico.

ACCORDING to *Museum News,* S. F. Markham, secretary of the British Museums Association, has resigned. Mr. Markham has undertaken the Australian and New Zealand surveys in the Empire Survey of Museums and will be absent from England for six or seven months.

IT is announced in *Nature* that the following awards for the year 1932–33 have been made by the Salters' Institute of Industrial Chemistry: Fellowships renewed to: D. J. Branscombe, University College, Exeter; H. G. Simpson, East London College; J. L. Sweeten, St. Catherine's College, Cambridge; P. Chisholm Young, Trinity College, Cambridge. Fellowships awarded to: S. C. Britton, Pembroke College, Cambridge; E. H. T. Hoblyn, Imperial College of Science and Technology; R. H. McDowell, Jesus College, Oxford; G. Pearce, University of Birmingham. The Salters' Institute has also awarded 107 grants-in-aid to young men and women employed in chemical works, to facilitate their further studies.

AWARDS for contributions to physical therapy were made at the recent eleventh annual session of the American Congress of Physical Therapy to Professor Arsene D'Arsonval, professor emeritus of physiology, College of France, for contributions in electro-physiology, his application of the high frequency current to the treatment of disease and his brilliance as a teacher of scientific men and physicians; Dr. William L. Clark, Philadelphia, for cancer surgery by means of a special process known as "electro-desiccation" evolved by him; Dr. Frederick de Kraft, New York, for work in the development of the diathermy apparatus, his invention of a special device used in the application of static electricity in the treatment of injuries and his work in perfecting various techniques in treating various conditions by static electricity; Dr. F. Howard Humphris, London, England, for contributions in the field of medical electricity; Dr. John Harvey Kellogg, Battle Creek, Mich., for distinguished early pioneering efforts in physical therapy; Dr. Howard A. Kelly, professor emeritus of gynecology, the Johns Hopkins University Medical College, Baltimore, for contributions in the treatment of cancer with radium and the so-called radio knife; Dr. Gustav Kolischer, Chicago, president-elect of the congress, for contributions in electro-surgery and its application to urology; Dr. Albert F. Tyler, professor of clinical radiology and physical therapy, Creighton University Medical School, Omaha, for applications of radium and electro-surgery in the treatment of cancer.

THE estate left by the late George Eastman has been appraised at $25,561,641, with a gross value of $24,403,748 in personal property and $1,157,892 in real estate. Debts included approximately $3,000,000 in unpaid gifts to European dental dispensaries founded by Mr. Eastman. The value of exempt bequests is $20,790,581. The University of Rochester, as residuary legatee, receives $19,287,143. The second largest beneficiary, the Rochester Dental Dispensary, receives $1,028,438.

ACCORDING to the *Journal* of the American Medical Association, the Rockefeller Foundation recently made available to Stanford University a gift of $200,000 to promote research in the social sciences. This research has been supported for a number of years by the Laura Spelman Rockefeller Memorial Fund. Seventy-five thousand dollars of the total, which is to be distributed over a five-year period, is unconditional.

The remainder will be granted on the condition that the university provide an equal amount from other sources.

THROUGH means of a fellowship made available by the Anthracite Institute, investigation of the physical and chemical characteristics of anthracite coal will be carried on at the Pennsylvania State College during the coming year, according to announcement made by Dr. A. W. Gauger, of the School of Mineral Industries. G. Lum, a graduate of Penn State in 1925, has been named to conduct the work. The actual behavior of coal under burning conditions will be the specific objective of the researches.

MRS. ESTHER TIMBRELL, of Rutherford, New Jersey, has given to the department of zoology of the New Jersey College for Women, Rutgers University, for display and study in the work in ornithology, a collection of some 200 mounted birds, including rare species, which makes the collection now housed in the Federation Hall Museum of Zoology virtually complete as regards the native birds of the state. With this collection came also some 50 exotic birds, sponges, corals, and several skulls and other skeletal parts, including the skull of a walrus taken on one of Peary's expeditions in search of the North Pole.

THE New York State Department of Education has listed for the guidance of students wishing to study medicine abroad the medical schools that meet its requirements for licensing examinations. The approved schools in Canada are those of Dalhousie University, Halifax; McGill University, Montreal; Queens University, Kingston, Ont.; Laval University, Quebec, and the universities of Toronto, Alberta (at Edmonton) and Western Ontario (at London). Medical faculties of all governmental universities in Austria, Germany, Holland, Hungary and the Scandinavian countries and all those that are part of English, Irish and Scottish universities are on the list. In order that courses in medicine in these foreign schools may be accepted, it is necessary that the students take two years of premedical work, including the required sciences, before beginning professional study.

THE organization of a committee of engineers, architects, physicians, builders, health officials and others, under the auspices of the American Standards Association, to establish authoritative national standards for the ventilation of buildings, has been requested by the American Society of Heating and Ventilating Engineers. The society's request, made public on September 15, is the result of a growing conviction among architects and engineers that the municipal ventilation codes now in force throughout the United States are based solely on tradition and are without scientific foundation. In this connection the American Institute of Architects recently adopted a resolution demanding the overhauling of all existing municipal ventilation codes. As a starting point for the proposed work, the Society of Heating and Ventilating Engineers submitted the recommendations of its Standards Committee, based on a comprehensive research program on the effects of ventilation on health and comfort still in progress at the society's research laboratory in Pittsburgh. If these recommendations are adopted, one important result will be a lowering of fuel bills through a reduction in the amount of outside air required by present codes to a minimum of 10 cubic feet per occupant per minute. The recommendations cover temperature, humidity, air quality, movement, distribution and quantity.

ACCORDING to the *Journal* of the American Medical Association the United States is the only manufacturing country which has thus far ratified the treaty drawn up at the international conference on limitation of the manufacture of narcotic drugs, held in Geneva in 1931 under the League of Nations. Nicaragua, Persia, Peru and Portugal, all non-manufacturing countries, have ratified the convention. Unless twenty-five countries, including four manufacturing countries, have ratified the convention before April 13, 1933, it can not come into force. Other manufacturing countries are France, Germany, Great Britain, Japan, The Netherlands, Switzerland and Turkey.

BY act of Congress approved on July 14 the District of Columbia is, in effect, made a bird sanctuary. The act repeals a provision of law which allowed shooting of wild waterfowl on parts of the Eastern Branch and on parts of the Virginia side of the Potomac River within the district. The administration of this law, as in the case of most other laws affecting the district, comes under the metropolitan police, but the game protector of the Bureau of Biological Survey stationed in Washington will cooperate with the police. Disturbance of the birds by gunning lower down the river is likely to have a tendency to concentrate them in district waters. The opportunity to see these birds from automobile roads is one scarcely equaled in any other large city of the country. Living either for a time or permanently in the midst of a bird sanctuary will enable the people to become more intimately familiar with the birds and the desirability of protecting them as a natural resource.

THE London *Times* reports that a replica of a map of the polar regions, prepared by Professor N. N. Zooboff, of the Arctic Institution, is reproduced in miniature on stamps provided by the Soviet Government for the purpose of a special air mail to be dispatched by the Second International Polar Expedition

from Franz-Josef Land to Archangel by way of Nova Zembla this month. To the left of the map, in an upright panel, appears a picture of the Russian ice-breaker *Sibiriakoff* in the Arctic Sea, with an aeroplane flying overhead, while on the right is seen the Soviet emblem of the hammer and sickle. Designed by J. J. Doobassoff, and engraved and printed at Moscow to the extent of 10,000 copies each, the two stamps in denominations 50 kopecs red (for postcards) and 1 rouble green (for letters) illustrate the results of the latest discoveries made in cooperation with the airship *Graf Zeppelin* last year.

DISCUSSION

SPILLMAN'S WORK ON PLANT BREEDING

ON July 11, 1931, it was announced that Dr. W. J. Spillman, a leading agricultural economist, had died. Little emphasis was placed on the outstanding work that he did as a plant breeder at Washington State College, Pullman, Washington, from 1894 to 1901. Here he laid the foundation for the development of some highly desirable commercial wheats, such as Hybrid 128 and Hybrid 143. He also independently discovered the two chief tenets of Mendelism; that is, the combination and segregation of plant characters in hybridization.

Dr. Spillman was educated at the University of Missouri, where he earned the B.S. and M.S. degrees and by whom he was honored with the degree of doctor of science in later years. He spent some of his early days teaching in Oregon and was finally called to the important post of crop specialist at Washington State College, in 1894. At first he was interested in forage crops and grew as many as one thousand different varieties. Later, he saw that wheat was the most important crop and offered the chief problems. His first method of attack was to get out a questionnaire to the growers. The interest of the growers was indicated by the replies, which numbered 143. These facts, together with the ones which followed, were given by Dr. Spillman himself in an interesting and enlightening talk before the writer's class in advanced crop breeding at Oregon State College on January 29, 1931, just about six months before his death. These facts, I am sure, will be of great interest to all agriculturists in the Pacific Northwest and all interested in heredity, for they show the very able beginnings of a long line of valuable wheat-breeding results obtained by the Washington Experiment Station.

The questionnaire which Dr. Spillman sent out to the wheat growers of eastern Washington revealed the fact that the chief varieties grown were Little Club, Bluestem and Red Chaff. Little Club was grown where there was the most rain; Red Chaff where there was a somewhat smaller amount of rainfall; and Bluestem where there was the least. Dr. Spillman was impressed with the fact that all these were spring wheats, but that they were chiefly grown in the fall and that two thirds of the wheat area was fall-sown wheat. All the growers were interested in varieties which were more winter hardy. They stated that good yields were obtained as long as winter killing was not a factor. Dr. Spillman began, therefore, a search for winter wheat varieties, and made contacts with all experiment stations in the United States and other countries for wheats to use in his breeding program.

One spring a field comprising 10 or 15 varieties of wheat in series was used for a summer pasture. These varieties were sown in the spring. Part of these headed and part did not. He learned the difference by this incident between the winter and spring varieties. At this time leading authorities did not know that there was a difference between winter and spring wheat. In April of the following year 90 winter varieties were sown; 30 headed. These were mostly varieties from the Southern states. Thirty winter types were saved. The other 30 varieties were mixed winter and spring wheats. Wheat with strong straw yielded well. The standard plat used was 1/60 of an acre. This size plat allowed him to take pounds per plat equaling bushels per acre. Five of such wheats were planted for increase. It so happened that rain and wind at heading time flattened out these five varieties of wheat. This probably saved distribution, as it was intended to increase these varieties for circulation.

Later, Dr. Spillman got suggestions from Dr. W. M. Hays, plant breeder at Minnesota, who suggested crossing of varieties, and Dr. C. V. Piper, then at Pullman. At this time it must be remembered that Mendelism was not yet known. The idea of crossing Turkey and Little Club occurred to Dr. Spillman. It was hoped that a combination between the winter hardiness of Turkey and the strong straw and the tight, non-shattering heads of Little Club might be obtained. Eleven crosses were made involving these and several other varieties. Red Chaff and Little Club were parents in all these eleven crosses, at least on one side. Three hundred three kernels were obtained which were thought to be hybrids. The grains were planted on 6″ intersecting lines. Seed was fall planted and 303 plants were produced. It was