

Company for the development of a successful process for recovering metallic magnesium from ocean water—the first metal to be obtained in commercial quantities from the ocean in the history of the world.

AWARDS OF THE CHARLES FREDERICK CHANDLER MEDAL

AWARDS of the Charles Frederick Chandler Medal of Columbia University have been made to two brothers, Dr. Robert R. Williams, chemical director of the Bell Telephone Laboratories of New York, and Professor Roger J. Williams, of the University of Texas.

Dr. Robert R. Williams was cited for "his years of work on the isolation of Vitamin B₁ and his contributions to the elucidation of its chemical structure." Vitamin B₁, which he synthesized and named thiamin, is the antineuritic beriberi vitamin, vital to nerve health and life.

The award to Professor Roger J. Williams was made in recognition of his discovery of pantothenic acid, powerful regulator of growth popularly known as "the acid of life" and for his contributions to the knowledge of the Vitamin B complex.

This is the first double award of the medal since it was established in 1910 in honor of Dr. Charles Frederick Chandler, professor of chemistry at Columbia University, pioneer in industrial chemistry. The formal presentation will take place in February at a ceremony in Havemeyer Hall, at which each of the 1942 recipients will receive a medal and each will deliver a lecture.

Dr. Robert R. Williams, in addition to his work on Vitamin B₁, has contributed to industrial chemistry through his leadership of an organization of 140 workers in the Bell Telephone Laboratories, of which he has been chemical director for the last seventeen years.

Pantothenic acid, for the discovery of which Dr. Roger J. Williams received the award, is one of the most important components of the vague "bios" of the period twenty years earlier. It represents the first example of a compound whose structure has been elucidated in spite of the fact that its isolation in pure form has so far not been possible.

In investigating bios Dr. Williams, working with the purest material he could obtain, devised new modes of characterization of the substance in terms of physicochemical and physiological properties which furnished the clues for the later verification of its structure by synthesis at the Merck Laboratories with his collaboration. This work led to the exploration of many other plant growth stimulants to which he gave the name "nutrilites."

Professor Arthur W. Thomas was chairman of the Chandler Award Committee. Other members were Professors Leo H. Baekeland and Arthur W. Hixson. There have been seventeen previous recipients of the medal. The last award was made in 1939 to Thomas H. Chilton, director of the technical division of the engineering department of E. I. du Pont de Nemours and Company at Wilmington.

SCIENTIFIC NOTES AND NEWS

THE John Fritz Medal for 1942 has been awarded to Dr. Everette Lee DeGolyer, consulting petroleum engineer, of Dallas, Texas, and president of the Felmont Corporation, in recognition of his work on the application of geophysical exploration to the search for oil fields. The award, which is sponsored by the four leading national engineering societies, will be presented to Dr. DeGolyer at a dinner of the American Institute of Mining and Metallurgical Engineers at the Waldorf-Astoria Hotel, New York City, on January 14.

DR. TOM DOUGLAS SPIES, of the School of Medicine of the University of Cincinnati and Hillman Hospital, Birmingham, Ala., in recognition of his work with nicotinic acid, was presented at a meeting on December 8 in Washington with the Award of Distinction of the American Pharmaceutical Manufacturers' Association. This award is made annually to an investigator who, in the opinion of the committee, has made a fundamental contribution to public health in the field of drug therapy. Last year Dr. Perrin

Long, of the Johns Hopkins School of Medicine, received the award for his study of the use of the sulfa drugs.

THE Lister Medal for 1942, which is given in recognition of distinguished contributions to surgical science, has been awarded to Dr. Evarts A. Graham, professor of surgery in Washington University, and he will deliver the Lister Memorial Lectures in 1942, or later, under the auspices of the Royal College of Surgeons of England.

THE council of the Royal Horticultural Society, London, has made the following awards for the year 1941: Victoria Medal of Honor.—E. L. Hillier, for his work in the introduction of new and rare plants. Associateship of Honor.—W. D. Besant, director of parks and botanic gardens, Glasgow; G. F. Hallett, head gardener at Lilford Hall, Oundle, Peterborough; F. Streeter, head gardener at Petworth Park, Sussex; H. Windibank, head gardener at Frensham Hall, Haslemere. Veitch Memorial Medals and Prizes.—B. Y. Morrison, Washington, D. C., gold medal for

his work for horticulture both in America and in England; R. F. Wilson, gold medal for his work in connection with the horticultural color chart; Mrs. Malby, silver medal and £25 for her photographic work on garden subjects. Loder Rhododendron Cup.—Dr. J. Macqueen Cowan, for his work on the botany of the rhododendron.

A NEW wing of the Barros Luco Hospital at Santiago, Chile, has been named for Dr. Joseph Francis McCarthy, professor of urology at Columbia University and director of the department of urology of New York Polyclinic Medical School and Hospital.

DR. ERNEST ESCLANGON, professor of astronomy at the University of Paris, director of the Paris and Meudon Observatories, has been elected president of the French Academy of Sciences for 1942.

DR. ROY YOUNG has been elected president of the Royal Faculty of Physicians and Surgeons at Glasgow.

At the annual meeting at St. Louis on December 4 of the American Society of Refrigerating Engineers, Dr. William R. Hainsworth, of New York, vice-president in charge of engineering of Servel, Inc., who has been engaged for more than twenty years in research on the problem of refrigeration, was elected president. He succeeds L. L. Lewis, vice-president of the Carrier Corporation, Syracuse, N. Y.

At the second annual meeting of the Nevada Academy of Natural Sciences, held on November 19 at the University of Nevada, Ira La Rivers, of Reno, was reelected president, J. R. Alcorn, of Fallon, was elected vice-president, and Dr. Harry E. Wheeler was elected secretary-treasurer. Dr. Philip A. Lehenbauer, Dr. W. D. Billings, Dr. Frank Richardson, Dr. E. W. Lowrance, all of Reno, were elected members of the executive committee.

DR. JAMES H. MCGREGOR, since 1924 professor of zoology at Columbia University, who has been associated with the faculty since 1897, when he was appointed assistant in zoology, will retire next year. The Pre-Medical Society of the university is giving a testimonial banquet in his honor on December 12.

DR. JOHN BEATTIE, conservator of the museum and director of research of the Royal College of Surgeons of England, has been appointed Bernhard Baron research professor of the college.

DR. HIRAM A. JONES, director of health and physical education for the State of New York at Albany, has been elected chairman of school and of the college coordinators for the national health program.

DR. JULIUS SENDROY, JR., of the department of experimental medicine of Loyola University School of

Medicine, has accepted an assignment under the National Research Defense Committee.

DR. C. STACY FRENCH, research instructor in chemistry at the University of Chicago, has been appointed assistant professor in the department of botany of the University of Minnesota.

DR. ROBERT A. MILLER, director of libraries at the University of Nebraska since 1937, has been made director of libraries at Indiana University. He will take up this work on March 1.

PROFESSOR CHARLES G. KING, of the University of Pittsburgh, and Dr. H. E. Longenecker, Buhl Foundation research fellow and assistant professor of chemistry at the university, will direct a study on the nature of fats and oils under the first of the fellowships in nutrition recently offered by Swift and Company, Chicago, of which Dr. R. C. Newton is vice-president in charge of research. Dr. Karl F. Mattil, of the Pennsylvania State College, has been appointed research fellow under the Swift grant. He will study the nutritive properties of foods and their application to the improvement of American diet and health.

DR. RAY TREICHLER has been appointed by the U. S. Fish and Wildlife Service to take charge of the recently established biochemical unit in the Food Habits Laboratory at the Patuxent Research Refuge at Bowie, Md. He will be engaged chiefly in chemical and nutritional investigations of the natural foods of wildlife and in biochemical studies of animals in the laboratory to determine the effects of different diets.

DR. JULIAN HUXLEY, secretary of the Zoological Society of London, has arrived in New York after traveling to Canada from England in a convoy. He will lecture on war-time changes in Great Britain.

DR. C. H. KELLAWAY, director of the John and Eliza Hall Institute, Melbourne, Australia, is visiting the United States.

PROFESSOR JOE WEBB PEOPLES, of the department of geology of Wesleyan University, is spending part of a sabbatical year at Northwestern University. In collaboration with Professor A. L. Howland he is at work on a government report.

THE Rockefeller Foundation has made a grant of £1,000 to the University of Oxford towards the cost during 1942 of research on the growth of and regeneration of nerves to be undertaken by Dr. J. Z. Young in the department of zoology and comparative anatomy.

DR. WALDEMAR KAEMPFERT, science editor of *The New York Times*, gave on December 11 the first of a series of lectures and demonstrations on modern developments in industry, under the auspices of the

department of vocational education of the New York University School of Education. He spoke on "The Contribution of Science to Industrial Development."

DR. ARNO B. LUCKHARDT, professor of physiology at the School of Medicine of the University of Chicago, lectured under the auspices of the Robert Sonnenschein Study Group for Medical History at the Michael Reese Hospital on December 10 on "Dr. William Beaumont and the Medical Epic of the Northwest Territory."

DR. ROBERT F. LOEB, professor of medicine at the College of Physicians and Surgeons, Columbia University, will deliver on December 18 the third Harvey Society Lecture of the current series at the New York Academy of Medicine. He will speak on "The Adrenal Cortex and Electrolyte Behavior."

DR. FREDERICK A. COLLIER, professor and director of the department of surgery at the University of Michigan Hospital, will give the ninth E. Starr Judd Lecture at the University of Minnesota on January 21. He will review "Studies on Water and Electrolyte Balance in Surgical Patients." Dr. E. Starr Judd, an alumnus of the Medical School of the University of Minnesota, established this annual lectureship in surgery a few years before his death.

POSITIONS paying \$4,600 a year in the Bureau of Plant Industry of the Department of Agriculture will be filled from a civil-service examination for floriculturists, olericulturists and plant pathologists. A written test will not be given, but applicants will be rated on their education and experience. These are "research" positions involving the supervision of assistants and the preparation of manuscripts for publication as well as the handling of technical correspondence. Applicants must have completed a 4-year college course with major study in biological science, and must have had responsible research experience, although for part of this experience certain graduate study may be utilized. Those interested in these positions are urged to look upon them as the beginning of a career in the government service. Applications must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than January 3, 1942.

THE Bloede Scholarship of the Chemists' Club is available for the year 1942-43. Applications will be received beginning on January 1 and closing on March 1. This scholarship is awarded in alternate years and provides a stipend of \$580, payable in semi-annual instalments. Candidates are limited to men entering their last year of post-graduate work leading to the Ph.D. degree in chemistry or chemical engineering in an institution of recognized standing. Application

blanks may be obtained after January 1 from the Secretary, the Chemists' Club, 52 East 41st Street, New York, N. Y.

THE annual meeting of the History of Science Society will be held at Chicago in conjunction with the American Historical Association on December 30 and 31.

BECAUSE of the large amount of work being done by the National Academy of Sciences and National Research Council committees in an advisory capacity to the government during the present emergency, and because exhibit and other rooms formerly open to the public are now occupied as offices, the Council of the National Academy of Sciences has directed that the National Academy of Sciences Building be closed to the public until further notice. The National Academy of Sciences regrets that this step is necessary, but will, as soon as circumstances permit, reinstall exhibits of scientific interest to the public. The 1942 annual meeting of the academy will be held in the academy building as usual (April 27, 28, 29); but attendance at the scientific sessions will be limited to academy members, their invited guests, the press and to non-members who present papers before the academy. Hitherto these sessions have been open to the general public. It is regretted that programs, as well as abstracts of the papers, will be available only to members of the academy and to the press.

WITH a view toward serving not only the needs of the present emergency, but also those of future reconstruction and development, it is now planned to integrate the activities of the past few years at New York University by establishing an Institute for Applied Mathematics.

THE Kansas City-Western Dental College has been merged with the University of Kansas City. Dean Roy J. Rinehart will continue as administrative head and will also serve on the advisory council of the University Board of Trustees.

AN Associated Press dispatch reports that the Vichy Government has announced the establishment of the Alexis Carrel Foundation for Study of Human Problems, under the direction of Dr. Carrel. Dr. Carrel went to France on March 15 to make a study of the physical effects of blockade conditions and malnutrition, and has since been living in the occupied zone.

THE organization of a research foundation by the Alumni Association of the University of Washington to aid in scientific investigation and in the application of the results of research in the development of the state has been approved by the Board of Regents of the university. The organization, which will be

incorporated as an independent and non-profit foundation, will be a corporation working in close harmony with the university but managed by a board of eleven trustees. Under the incorporation the foundation will be able to receive all types of bequests, gifts, assignments of patents, royalties, etc. It will be a business corporation so far as contracts, trust agreements, licenses and buying and selling are concerned.

The News Edition of the American Chemical Society states that the National Aniline and Chemical Company, a subsidiary of Allied Chemical and Dye Corporation, New York, is being merged with the parent company. Its business will be conducted as the National Aniline and Chemical Division of the Allied Chemical and Dye Corporation. B. A. Ludwig, president of National Aniline, and E. W. Clark, president of the Barrett Company, another subsidiary, have been appointed vice-presidents of Allied Chemical and Dye Corporation.

THE RCA electron microscope has been adjudged the winner in a Products Design contest entered by hundreds of American manufacturers which was conducted by *Electrical Manufacturing* on the grounds of its basic design and its outstanding external appearance, and a descriptive "Award Paper" prepared by Theodore A. Smith, of the RCA Engineering Products Division.

It is reported in *The British Medical Journal* that at the suggestion of Dr. G. Jedlewski, medical adviser to M. Raczkievicz, the Polish President, a special medical board has been formed in London to prepare

plans for fighting epidemics which may break out in Poland at the end of the war, and thus to prevent the spread of infectious disease to Western Europe and Great Britain. The board, acting in conjunction with the Ministry of Health, will also collect medical supplies so that immediate help may be ready at the end of the war.

A UNITED PRESS dispatch from Berlin dated December 3 reads: "Reports from Berlin said that the University of Brussels had begun a sit-down strike against German occupation authorities and that the Germans had served an ultimatum ordering the faculty to reopen the school to-morrow 'or take the consequences.' The trouble, according to the *Brusseler Zeitung*, began when the Germans ordered eighteen Flemish professors put on the staff, which had been entirely French. University authorities objected to three of the Germans' candidates, one of whom the newspaper described as 'a Flemish activist in the World War period.' The other two were said to be strongly pro-German."

It is stated in *The New York Times* that filming of a documentary motion picture on nutrition has been started in Hollywood under the sponsorship of Paul V. McNutt, Federal Security Administrator. The film is a project of the Office of Defense Health and Welfare Services and is being produced by the American Film Center which is supported by the Rockefeller Foundation.

A GRANT of \$50,000 has been made by the Commonwealth Fund to the American Bureau for Medical Aid to China, for the support of the Emergency Medical Service Training School in Kweiyang, China.

DISCUSSION

THE ROLE OF THE BURROWING OWL AND THE STICKTIGHT FLEA IN THE SPREAD OF PLAGUE

DURING the spring and summer of 1941 a study was made of a plague epizootic then in progress among the ground squirrels (*Citellus beecheyi*) to the east and south of Bakersfield, Kern County, California. Proof of the identity of the disease was obtained by the isolation of *Pasteurella pestis* from the tissues of infected squirrels as well as from various species of flea found on the rodent hosts. From an epidemiological point of view the possible methods of spread of the disease are of particular interest, and in this connection the following sequence of facts is considered worthy of special notice.

(1) In this epizootic, which was discovered by a survey crew of the California State Department of Public Health, the first squirrel to be proven plague-infected was obtained on April 29, 1941, on the El

Tejon ranch, at a spot about twelve miles due east of Wheeler Ridge. The outbreak was evidently nearing the close of its active phase in this area, for no infected animals were found here after May 1, but the infection appeared to linger on in the flea population, for fleas obtained from squirrels as late as May 15 still had living plague organisms in their digestive tracts.

(2) Among the fleas collected from ground squirrels in near-by areas were specimens of the sticktight flea (*Echidnophaga gallinacea*), a species of extremely wide geographical and hostal occurrence in the United States. It is found abundantly on chickens and other domestic fowl, on rats and various wild rodents, and on such predators as the coyote, Cooper's hawk and burrowing owl.^{1,2} The last-men-

¹ I. Fox, "Fleas of Eastern United States," Iowa State College Press, Ames, Iowa, 11-12, 1940.