years as president of Cornell University and becoming president emeritus. In a volume engrossed on parchment and signed by nearly 500 members of the Cornell faculty, there are among other glowing words of praise, these lines which summarize the deep significance of Dr. Farrand's life and work:

We wish to dwell upon that warm fellow-feeling which has characterized your daily association with members of the faculty.

Few there are among us who have not upon some occasion sought your advice or practical assistance. We have always left your office with gratitude for the helpfulness and sympathy which you have invariably manifested.

Coming to the headship of the university in the full maturity of your mind and with rich experience in education and in public affairs, you have not thought it necessary to seek innovation for the sake of innovation.

You have, on the other hand, missed no opportunity to reaffirm those fundamental principles of education which as members of the faculty we treasure most highly.

During your presidency there has been in this university no question involving freedom of speech, no question as to the authority of the faculty in strictly educational matters, no question as to academic security. The years of your presidency have been free from factional strife. We have enjoyed the academic peace which must prevail in an educational institution if it is to be worthy of the name.

Men come, they serve, and they move forward to their greater to-morrow. Never for the cause of humanity which he loved, have we needed so much as now the skill and strength, the human kindliness and salty wisdom of Livingston Farrand.

THOMAS PARRAN

WALDEMAR LINDGREN
1860–1939

WALDEMAR LINDGREN died on November 3 after an illness of eleven months. His influence will long be present with those who work in his beloved geology, but they will miss his friendly greeting and counsel.

His interest in geology began in early boyhood with walks in the pleasant countryside near Kalmar in southern Sweden. Soon he was making trips farther afield to the famous mineral localities and mines of Central Sweden which have stimulated the curiosity and imagination of so many Swedish scientists. By this time he had decided to make geology his life work. Until the closing year of his life he labored in this chosen field with a sustained enthusiasm and singleness of purpose that resulted in a remarkable unity of man and vocation.

At the age of eighteen Lindgren entered the Royal Mining Academy at Freiberg, Saxony, was graduated four years later, and remained for an extra year of graduate work. While at the Academy he studied under the leading workers in geology and mineralogy of that time. Typical of Lindgren was his remark that one of the most valuable lessons he learned at Freiberg came from a reproof by one of his teachers, Weisbach, that the student should rely on himself and not on the professor. This wholesome philosophy Lindgren later passed on to generations of field assistants and students.

In 1883 he came to the United States, and a year later began work with the U. S. Geological Survey. A long succession of reports on the geology of important mining districts came from his pen during the next three decades. Among these were the classical descriptions of portions of the Mother Lode and other districts in California; Silver City and De Lamar, Idaho; Clifton-Morenci, Arizona; Cripple Creek, Colorado; National, Nevada; and Republic, Washington. The long intensive field studies of these and other ore deposits provided the data for the theories and generalizations with which he so greatly enriched the science of mineral genesis.

In 1911 he was appointed chief geologist of the Survey, a testimonial to his broad grasp of all fields in geology. He resigned this position in 1912 to become the William Barton Rogers professor of geology and head of the department of geology at the Massachusetts Institute of Technology. In 1933 he was appointed professor emeritus.

The first edition of "Mineral Deposits" appeared in 1913. It became the leading reference and text-book of this subject the world over. The later editions have maintained this position to the present time.

Lindgren was a stimulating teacher. The generations of students who came from many lands to work with him have been lavish in praise of the man and the mentor. The respect with which students came to him as a teacher soon was tempered by respect and admiration for him as a friend. Those who came to know him well treasure the memories of the man, and the friend, beyond those of the teacher. The even temperament, the ability to infuse life into a geological discussion, the disarming kindness with which he presented forceful objections to some theory were characteristic of the man.

For decades Lindgren has been recognized as the world's leading student and interpreter of ore deposits. He made important contributions to our knowledge and theory of alterations or changes in the rocks adjacent to fissure veins and igneous intrusions; the process of replacement; the influence of physical conditions on ore deposition; the rôle of igneous processes in the formation of ores; the conception of ore deposition within certain geological periods and provinces; and the importance of colloids in the formation of certain ore deposits. Transcending all these in importance, however, was his comprehensive philosophy of

mineral genesis and the far-reaching effect this has had on a host of other workers.

Lindgren's achievements can not be regarded as due to a golden age of opportunity during the exploration of virgin mining camps in the rapidly growing West; rather he achieved because of a remarkably keen and analytical mind, an inordinate love for his subject, and a great capacity for work. In addition to his own investigations and those of others to which he gave stimulus, he was always keenly interested in the interchange of geological knowledge. With a reading knowledge of at least eight languages he kept abreast of the events in his field in amazing degree. He helped to establish the *Journal of Economic Geology,* and also the "Annotated Bibliography of Economic Geology."

Lindgren received the highest honors that his appreciative fellow workers could bestow on him. Formal honors included election to many American and foreign scientific societies. The honorary degree of doctor of science was awarded him by Princeton and later by Harvard. In the citation made by President Conant of Harvard when he was conferring the degree he described Lindgren as ". . . a geologist to whom all men turn for knowledge of the metallic secrets hidden within the rock." A leading German geologist has spoken of him as "Teacher and Master"—a phrase which has often been echoed in other parts of the world. The widespread recognition of the position he held in his science is indicated by the remark of an old prospector in a western mining camp who said, with something like awe in his voice, that he had eaten breakfast the day before in a restaurant next to Lindgren, and that Lindgren had sat at the counter and eaten pancakes just like any ordinary man.

Lindgren built an impressive edifice which future work will probably change, but the blocks which he hewed out for the building will be used again and again.

W. H. NEWHOUSE

RECENT DEATHS

DR. FREDERIC SCHILLER LEE, until his retirement in 1938 professor of physiology at Columbia University, died on December 14 at the age of eighty years.

DR. STANLEY SYLVESTER SEYFERT, head of the department of electrical engineering at Lehigh University, died on December 11. He was fifty-eight years old.

DR. JOHN BLACK JOHNSTON, from 1914 until his retirement in 1937 dean of the College of Science, Literature and the Arts in the University of Minnesota, died on November 19 at the age of seventy-one years.

DR. JOHN JACOB PIEPER, professor of crop production in the University of Illinois, died on November 26, while *en route* home from the annual meeting of the American Society of Agronomy at New Orleans. He was fifty-three years old and had been a member of the staff of the University of Illinois for twenty-two years.

SCIENTIFIC EVENTS

THE SCHOOL OF TROPICAL MEDICINE OF THE UNIVERSITY OF PUERTO RICO

THE report of Dr. George W. Bachman, director of the School of Tropical Medicine of the University of Puerto Rico, which is under the auspices of Columbia University, has been made public.

Nearly a dozen scientific, educational and governmental institutions collaborated with the school in researches during the past year. More than forty investigations are in progress.

An extensive building program begun in 1935 will be completed by the end of next year. Two three-story wings have been added for offices and laboratories, the university hospital plan has been reconditioned, an extra story has been put on each wing and a modern animal house for research purposes has been constructed with funds made available by such Federal agencies as the Department of the Interior and the Puerto Rico Reconstruction Administration. A new library and a building for physiology are now being erected on land transferred to the school by the United States War Department.

Researches in progress include:

An analysis of the physical measurements of certain groups of agricultural workers; studies on the nutritional values of Puerto Rican forage crops; research into the chemistry of plants; ultra-violet solar radiation preliminary to work on climate and health; vital statistics and maternal health and the prevalence of syphilis. Streptococcus infections in the tropics, the tropical disease sprue, the biological characteristics of pneumococci isolated in Puerto Rico, the rôle of experimental tuberculosis and diet with vitamin B_1-free rats, gland tuberculosis, cattle disease, infections from intestinal bacteria and intestinal parasites. The American Leprosy Association is collaborating in an epidemiological survey of St. Thomas and neighboring islands.

In the Department of Clinical Medicine, studies are in progress or have been completed on mucositis of the gastrointestinal tract and the effect of sulfanilamide on recurrent tropical lymphangitis.

The Department of Medical Mycology and Dermatology has completed a study of the organism causing black "piedra."

The Department of Pathology has made studies of