

upon individual efficiency, increased usefulness and the occurrence of vacancies in higher positions. For appointment to the Field Service the salary will be approximately the same. The duties in the Bureau of Chemistry and Soils will be to conduct research studies and technical investigations pertaining to fires in farm products, with special attention to spontaneous combustion and deterioration of hay, grain, cattle feeds and other agricultural products, and the development of methods for their control and prevention. Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience, and a publication or thesis to be filed with the application.

Industrial and Engineering Chemistry reports that representatives from the Museum of the Peaceful Arts of New York City and from the Smithsonian Institution of Washington, D. C., of which the National Museum of Engineering and Industry will be a part, recently attended a luncheon in connection with the annual meeting of the latter organization. The intimation was given that owing to changes which were contemplated in the plans of the Mall in Washington by the Commission of Fine Arts of that city, there possibly would be a change in the location of the site of the museum building on the Smithsonian grounds. At a subsequent meeting of the commission attended by representatives of the Smithsonian Institution and the National Museum, a new site satisfactory to all the parties interested was agreed upon. At the meeting after the luncheon above referred to, officers and trustees for the current year were unanimously elected as follows: *President*, Thomas Ewing, former commissioner of patents; *Secretary*, Harrison W. Craver, director, United Engineering Societies Library; *Trustees*, L. P. Alford, B. C. Batcheller, George M. Bond, Nicholas F. Brady, Ericsson F. Bushnell, Fred H. Colvin, F. A. Halsey, Thomas T. Hoopes, D. C. Jackson, Joseph Keller, Fred R. Low, H. P. Merriam, H. F. J. Porter, Dr. M. I. Pupin, Dr. Elmer A. Sperry, Kirby Thomas and F. A. Waldron.

THE Associated Press reported on July 13 the lake of lava from Kilauea crater, which began an eruption on July 7, was at that time steadily building to new levels on the floor of the eight-mile-wide Halemaumau pit as the lava from the cones spreads in spirals about the hardening surface. The principal cone, as the tube of hardened lava about each center of eruption is called, is about fifty feet high. It is continually capped with a layer of rock which hardens from its molten state, except for the periodic outbreaks when the accumulated pressure from the subterranean forces thrusts itself through and sends out a fiery fountain. The flow of other fountains below

the surface of the lake which covers more than 100 acres on the floor of the Halemaumau pit can be plainly seen by the motion of the crust, which occasionally breaks to permit new flows to spread. R. M. Wilson, volcanologist, predicts that the lava lake will gradually rise until the fifty-foot cone is submerged, after which the flow of lava will continue beneath the surface. The flow yesterday was as strong as at any time since the eruption began.

UNIVERSITY AND EDUCATIONAL NOTES

PLANS are in preparation for a laboratory of physics to be built for the Johns Hopkins University at a cost of \$350,000.

THE Sheffield Scientific School of Yale University has received by the will of Chester W. Lyman, formerly president of the International Paper Company, the sum of \$50,000, to be used in teaching hydraulic engineering and allied subjects.

DR. HARRY YANDELL BENEDICT, professor of applied mathematics and dean of the college of arts at the University of Texas, has been elected to succeed Dr. Walter Splawn as president of the university.

DR. ROLLIN T. WOODYATT, of the University of Chicago, has been made chairman of the department of medicine.

PROFESSOR EDWIN D. STARBUCK has been appointed head of the department of philosophy at the State University of Iowa. Philosophy and psychology, which have existed as a single department, are now separated. Professor Starbuck has also been officially made director of the Institute of Character Research which has hitherto been known as the Research Station in Character Education. The institute has received a special appropriation from the state legislature.

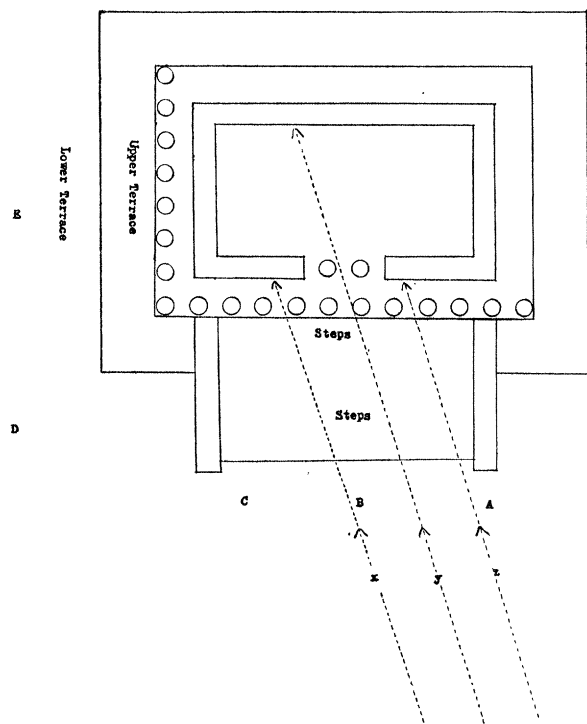
DR. IRVING W. BAILEY, associate professor of forestry at Harvard University, has been appointed professor of plant anatomy.

DISCUSSION AND CORRESPONDENCE

THE VARIABLE ECHOES PRODUCED BY THE LINCOLN MEMORIAL

ON the evening of June 11 during a display of fireworks on the executive grounds in Washington, the writer's attention was drawn to the peculiar echoes produced by the scattering of sound waves against the outer and inner walls and the fluted columns of the Lincoln Memorial. In the accompanying diagram the direction of the sound waves, from a source

three quarters of a mile distant, is indicated by the dotted arrowed lines x, y, z. In the position A, at the bottom of the main steps of the approach, no echo was apparent. But as the observer approached



the point B a faint weird echo of high pitch began to be heard after each report of the exploding fireworks. As the observer continued towards the point C the intensity of the echo increased, its tone being of a shrill metallic quality, somewhat prolonged and resembling the sound produced by a file when drawn across the teeth of a saw. As one proceeded around the corner of the memorial towards the point D on the lower terrace the echo gradually changed to a lower pitch of more prolonged duration, the sound at this place resembling the sharp tearing noise produced by ripping a piece of cloth. As one passed onward towards the rear of the memorial the echo grew constantly fainter and ceased entirely at about the point E.

C. A. BROWNE

THE LUNELL HERBARIUM

BOTANISTS interested in the taxonomy of the flowering plants have long been familiar with specimens collected by J. Lunell, of Leeds, North Dakota.

Born in one of the well-known castles of Sweden, in 1851, where his father was rector, Dr. Lunell emigrated to the United States at about 37 years of age, bringing with him the responsibility for a family of three children.

After a year devoted to the practice of medicine in St. Paul, he felt the irresistible call of the frontier and took up his work at Willow City, North Dakota, in 1889, at a time when cities were but names which expressed the hopefulness and ambition of those who were living in dugouts, sod houses or board and tar paper shelters. He remained there for about five years before taking up his permanent residence at Leeds, North Dakota. From the first moment of his arrival he began to collect and study the plants of the region. As a student, his leisure time had been devoted to the collection of plants, all of which were left behind when he came to the United States. Demands for the services of the one doctor often crowded out eating and sleep, but if the long outgoing journeys permitted no opportunities for delay, the return trips always afforded a means for noting and collecting plants of particular interest. It is a great misfortune that there were not more such men to study and preserve for future reference actual specimens of a flora which has now largely disappeared through the ravages of fire and the inroads of agriculture.

While Dr. Lunell is known widely to taxonomists through his collections, and his systematic botanical notes and papers, perhaps few are aware that he was a man of highly varied interests. Graduated from the University of Upsala, he read Latin, Greek and Hebrew as well as the modern languages. Before coming to America, in addition to the translation of technical writings, he had made some of the writings of Mark Twain, Marryat, Savarin and other French and Russian authors available to those whose reading was limited to the Swedish language. His volumes of classical music, well worn by use at his own piano, were about as numerous as the bound botanical works of his small library.

Since Dr. Lunell's death, at sixty-nine years of age, in 1920, his herbarium has been little used by botanists. It is unfortunate that there is not now more local interest in collections of the plants and animals of the various regions of the United States, but until such local interest exists, it is desirable that collections of this kind, made by those when fired with enthusiasm for scientific work, even under difficult conditions, be ultimately assembled in centers where they can be available to students.

Students of the flowering plants will be interested to know that the Lunell herbarium has been purchased by the board of regents of the University of Minnesota for the department of botany. In the course of a few months, the materials will be incorporated in the herbarium and there be available to students who may wish to use them.

J. ARTHUR HARRIS