ing atomic projectiles of energies well above one hundred million volts, but of course such a great instrument would involve a large expenditure, and there is therefore a very considerable financial problem. Perhaps I might say that the difficulties in the way of crossing the next frontier in the atom are no longer in our laboratory; we have handed the problem over to the president!

Professor Birge has alluded to the very great importance of this project. As he has indicated, there are substantial prospects that it will be the instrumentality for finding the key to the almost limitless reservoir of energy in the heart of the atom. Certainly, it may bring to light such a deeper knowledge of the structure of matter as to constitute a veritable discontinuity in the progress of science.

Therefore, Mr. Consul-General, I believe that in this instance the award of the Nobel Prize is accomplishing to an unusual degree the purpose intended by Alfred Nobel—the encouragement of fundamental scientific research. For it goes without saying that such a great recognition at this time will aid tremendously our efforts to find the necessarily large funds for the next voyage of exploration farther into the depths of the atom, and let us cherish the hope that the day is not far distant when we will be in the midst of this new adventure.

In closing, may I again give expression to a profound feeling of gratitude and appreciation for this great honor, which I share with the university and with all those outside who have contributed to make our work possible and above all with my valued colleagues and co-workers, both past and present.

OBITUARY

FERDINAND ELLERMAN

FERDINAND ELLERMAN, a member of the staff of the Mount Wilson Observatory from its establishment in 1904, died of pneumonia on March 20, 1940, at the Queen of the Angels Hospital in Los Angeles, California. With a heart in a somewhat weakened condition, his strength was insufficient to rally from an attack of influenza which developed rapidly into the more serious disease. His wife, Hermine Hoenny Ellerman, and daughter, Louise Ellerman Burnett, survive him.

Ellerman was born at Centralia, Illinois, on May 13, 1869, and received a high-school education. For a few years he was in the employ of a commercial firm in Chicago, where he acquired marked skill in photography and in the use of machine tools. Dr. George E. Hale, himself but one year older than Ellerman, was at this time organizing his private observatory at Kenwood in Chicago and, needing an assistant, offered the position to Ellerman. This was in 1892, and the relationship begun at this time continued for nearly half a century until Hale's death in 1938.

Although without early training in astronomy, Ellerman rapidly gained a wide knowledge of its physical aspects and especially of solar spectroscopy. He was a remarkably skilful observer, and during the years at the Kenwood Observatory, 1892–1895, he contributed greatly to the notable work in solar physics in which Hale was engaged. Particularly in the development of the spectroheliograph, which Hale had designed, Ellerman's instrumental ability proved of the greatest value.

With the establishment of the Yerkes Observatory Ellerman went with Hale into the larger field of activity which the equipment provided. He aided in the design, construction and use of the Rumford spectroheliograph, which on the 40-inch telescope yielded some of the finest photographs of prominences and the upper solar atmosphere ever obtained. He also took part in solar and stellar spectroscopy, and his observations of N-type stars form an excellent illustration of a difficult investigation carried out with extraordinary patience and ability.

In 1904, when Dr. Hale decided to test observing conditions on Mount Wilson in California, Ellerman's observational skill and resourcefulness were called into play and were invaluable during the development of the observatory under the pioneering conditions of those early years. He took an active part in the investigations which led to the brilliant discoveries of solar vortices, the magnetic field of sunspots and the general field of the sun; and in later years to the discovery of the reversal of the sign of the magnetic field of spots with the sunspot cycle. He made many observations of sunspot spectra, and the Mount Wilson map of the sunspot spectrum was prepared by Ellerman almost wholly from his own negatives. His photographic skill, his inventive ability and his love of experimentation made numberless contributions to the successful operation of the observatory, and every one of his associates benefited extensively through his wide experience and friendly cooperation. The honorary degree of A.M. was conferred upon him in 1927 by Occidental College in recognition of his services to astrophysics.

Ellerman had many interests outside of his scientific work. He was fond of sports, of mountain climbing and of nature in all its aspects. Life on a mountain top was a constant delight to him. Although for nearly forty years he had suffered from the loss of

the sight of one eye, he overcame this handicap to such a remarkable extent that it rarely appeared to affect any of his activities.

In 1937 Ellerman retired from active duties at the observatory, but he retained his interest in the work to which he had devoted his life and was often a valued consultant. His friendly presence will be greatly missed by his associates of many years.

WALTER S. ADAMS

MOUNT WILSON OBSERVATORY

RECENT DEATHS

DR. JAMES STACY STEVENS, until his retirement in 1932 professor of physics and dean of the College of Arts and Sciences of the University of Maine, with which he had been associated since 1891, died on March 24 at the age of seventy-five years.

GEORGE ANDREW LOVELAND, for ten years before his retirement in 1933 chief meteorologist of the Boston Weather Bureau, died on March 30. He was seventy-six years old and had been in the Weather Bureau for fifty-one years.

OWEN CATTELL, business manager and assistant to the editor of SCIENCE and the other journals of The Science Press, died of pneumonia on March 26 at the age of forty-two years. He was also director of the annual Exhibitions of the American Association for the Advancement of Science. Mr. Cattell was a fellow of the American Ethnological Society and had taken part in scientific expeditions in New Mexico and South America.

NOTICE has been received of the death on March 9 of Dr. Robert Theodore Gunther. Dr. Gunther was born in 1869, the eldest son of Dr. Albert Gunther, F.R.S., and was educated at University College School, London, and at Magdalen College, Oxford, of which he was for a long time fellow and tutor. He was also university reader in the history of science. He was an honorary doctor of laws of St. Andrews.

SCIENTIFIC EVENTS

THE MEDICAL SCHOOL OF THE UNIVERSITY OF QUEENSLAND

THE Medical School of the University of Queensland at Brisbane was officially opened on August 11 by the Honorable W. Forgan Smith, Premier of Queensland. This is the final achievement in the campaign for the provision of facilities for medical education in the state. According to *The British Medical Journal*, when in October, 1936, the Faculty of Medicine within the University of Queensland was inaugurated that function marked the successful issue of representations which began as long ago as the foundation of the university itself. The first proposals in 1913 were interrupted by the outbreak of war. In 1922 arrangements were made for anatomical demonstrations to be given to some of the dental students, who received two years' training at the dental school in George Street. In 1925, largely as the result of the work of a subcommittee of the Queensland Branch of the British Medical Association, a conference of delegates was called by the Home Secretary to discuss the subject. Two years later, with the cooperation of the Brisbane and South Coast Hospitals Board, a small school of anatomy for the teaching of dental students was established. In 1934 the activities of the anatomy school were transferred to a building given to the university for the purpose by the Freemasons of Queensland. In the following year a faculty of dentistry was established within the university and the Premier of Queensland appointed a select committee to report upon the practicability or otherwise of establishing a faculty of medicine and a faculty of veterinary science. The committee strongly advocated the institution of these faculties, and stated that the faculty of medicine should include particularly tropical medicine and public health as parts of routine medical education, and should be based upon recognition of the essential nature of the practical and clinical side of medicine. Meanwhile the College of Pharmacy was made available for the purpose of physiology. With the establishment of schools of anatomy and physiology it became possible to provide medical courses for students of the second and of the third year. The next step was to provide further accommodation to include the departments of pathology, social and tropical medicine, and other clinical departments. The Government undertook the cost and decided to provide buildings.

The new Medical School of the Queensland University occupies a commanding position at Herston on a site of over six acres adjoining the western boundary of the Children's Hospital and within a few minutes' walk of the Brisbane General Hospital. The building, in the Renaissance style, is three stories in height, and surmounted by a copper dome rising from a flat roof. If future extensions are required these can be added in the form of projecting wings at either end of the central block, which measures 222 feet in length. It is intended that fourth-, fifth- and sixth-year students shall receive in the school the whole of their training in all branches of medical and surgical science and that the third-year students shall receive their training in anatomy there, while first and second and the remainder of the third-year work will be carried out at the present university, and later on at the new building in course of erection at St. Lucia.