his retirement. From 1878 until his death, his home was in Jamaica Plain, one of the suburbs of Boston.

Professor Crosby's career as a geologist is remarkable not only for his productivity, apparent from the list of his published books and articles, numbering more than one hundred titles in addition to more than two hundred brief reviews and abstracts, but also for the diversity of geological phenomena which claimed his attention. Every page of nature's book which opened before him held something to excite his inquiring mind. The westward journey in 1871 and a camping trip with his father in the Rockies gave material for his first papers, published in the *Scientific American* when he was twenty-two years old. A three-months' camping trip on Trinidad in 1878 and a trip to Cuba three years later were productive of eight papers dealing with a variety of geological features in those islands. Two text-books on minerals and rocks which have passed through several editions and are still in use, although written forty and forty-five years ago; a book and many papers on dynamical and structural geology; five papers on the origin of joints, a dozen on water supply problems and numerous articles on chemical geology, ore deposits, petrography, pegmatite veins, soils, elevated beaches and various problems in glacial geology; these indicate, although they do not measure, the scope of his geological interests. Nor do they include his highly important contributions to the areal geology of eastern Massachusetts, of which his three volumes on the geology of the Boston Basin are notable for their able treatment of a very complex region. The Boston Basin study was projected as his *magnum opus*, the three volumes in question being but parts of a great work intended to occupy eight volumes.

In the engineering profession Professor Crosby's advice as a consulting expert was highly valued, and his name is thus linked with important engineering projects in the United States, Alaska, Mexico and Spain, including the Catskill Aqueduct, the Muscle Shoals Dam, the Arrow Rock Dam, La Boquilla Dam (Mexico) and other enterprises of the first magnitude. In the mining world he was frequently called upon to solve problems relating to the origin and structure of ore deposits; and in the courts his testimony was commanded as an aid toward the solution of legal controversies involving geological principles.

It was as the man and teacher that the present writer knew best the subject of this sketch. Frequent passages through New York City made Professor Crosby a welcome visitor at Columbia University, where a little group of graduate students found in him a man who combined genial humor with an unaffected interest in their personal and professional plans. When one of these students was called to the Massachusetts Institute of Technology to begin his teaching career under Professor Crosby's leadership, he had opportunity to know at its best a sympathetic nature which shrank from inflicting pain on any living creature, and which was the logical fruition of the youth who in 1873 contributed to the *American Naturalist* a touching "Instance of Affection and Sagacity in a Dog." With Professor Crosby vegetarianism was not a fad, but a principle.

As a teacher Professor Crosby counted among his students a host of engineers and a goodly number of men who chose some form of geological work as a profession. These will long remember his class-room instruction enriched by a wide acquaintance with geological phenomena in different parts of the world, and his field excursions to many parts of a local area unusually rich in geological problems.

In 1876, Professor Crosby married Alice Ballard, and she and one son, Irving B. Crosby, survive him. For them and for all others who knew Professor Crosby intimately, one memory will always stand out clearly among the many which cluster about his name: the memory of a spirit which remained patient and cheerful while increasing deafness deepened the silence in which he passed the later years of his life. Happily his eyes were undimmed, and from his summer home in New Hampshire he enjoyed, as could few others, the majestic panorama of the Presidential Range. It is fitting that his ashes should return to the New England soil so early trod by his ancestors, and that his name should be carved on a slab of the rock to the study of which he gave much of his life.

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SCIENTIFIC EVENTS

THE NATIONAL PHYSICAL LABORATORY OF GREAT BRITAIN

THE report for the year 1925 of the National Physical Laboratory, just issued, states, according to the report in the London *Times*, that a good deal of research work has been accomplished besides the fundamental work involved in the maintenance of standards of measurement and of quality and performance. It is stated that experiments have been started with a view to finding a suitable method for making absolute measurements of sound intensity. With regard to the primary line standards, the report states that the present limit of accuracy attainable in comparisons must be taken to be about one hundred-thousandths of an inch. In this relation it adds: "A new four-meter standard bar has recently been obtained for work in connection with the verification of surveying tapes. Intercomparison of this with the previous four-meter

standard and two one-meter standards, the comparisons forming a closed series, has given results for the four-meter bars with a probable error of one part in five millions. The length obtained for the old four-meter bar shows that it continues to grow at the rate previously anticipated."

It is reported that the section of the laboratory dealing with barometers has been assisting the Air Ministry and the British Engineering Standards Association in establishing a basis for the graduation of aircraft altimeter aneroids, and that the construction of a new fundamental standard barometer is proceeding. With reference to the work of the physics department, the report says: "Considerable progress has been made with work bearing on the international temperature scale. Proposals for determining this scale will be laid before the Commission Internationale des Poids et Mesures in 1927; it will probably be a practical scale, approximating to the thermodynamic scale as closely as present knowledge will permit, based on a number of fixed points with definite methods of interpolation and extrapolation between and beyond these points."

Mention is made of research into the illumination of rooms by daylight and artificial light, and the effect of different kinds of illumination on the accuracy, speed and comfort of working. It is stated that tests have been made for the Office of Works to determine the minimum daylight factor satisfactory for clerical work. Also the lighting of the Raphael Cartoon Gallery at the Victoria and Albert Museum has been investigated with a view to securing the maximum illumination consistent with the elimination of those portions of the spectrum most likely to cause fading.

Dealing with the program of aeronautical research, the report says: "It is clear that valuable information is being obtained as to the nature of the air flow round an aeroplane and other structures which must in the long run, and probably at no very distant date, profoundly influence both theory and practice in aeronautics. The complications of aerodynamics as applied to the modern problems of flight are very great, and without the guidance that is provided by the study of the essential phenomena and the fundamental principles, the designer would indubitably continue to grope for many years through a tangle of disconnected and often apparently contradictory experimental data."

The report records the assistance given by the laboratory to firms and other bodies from whom inquiries and requests have been received. Frequent visits to the laboratory have been paid by representatives of these bodies and also by visitors from Dominion, Colonial and foreign institutions. An interesting report on the wireless work of the laboratory is included. This concerns an examination of signal strengths under a set of varying conditions. For this purpose a motor-car was equipped with receiving apparatus and in the course of tours extending from Bexhill in the south to Aberdeen in the north and Dartmoor in the west readings were taken about every 20 miles. The transmitting station at St. Assise, near Paris, was used, and one remarkable result of the observations was that signals taken in the vicinity of York were only about 15 per cent. of the intensity of those taken simultaneously at Aberdeen. Apparatus for the measurement of intensity of signals on short wave lengths is now under construction.

NEW FOREIGN MEMBERS OF THE ROYAL SOCIETY

THE Royal Society has elected eight foreign members, to fill vacancies, occasioned by deaths, since 1921. The names of the newly elected members with some details of their respective careers, as given in *Nature*, are as follows:

PROFESSOR MARTINUS WILLEM BEIJERINCK

Professor Beijerinck is regarded as the foremost bacterial physiologist of his time. He was the first to isolate in pure culture the bacteroids of the Papilionaceae and to study filter-passing viruses of plant. He began in 1884 an important series of memoirs, which were published by the Amsterdam Academy of Sciences. They dealt with photogenic bacteria, anaerobes and kindred subjects. Two of his papers may be cited: (1) "Die Bacterien der Papilionaceen-Knöllehen" (*Botanische Zeitung*, 1888), (2) "Les expériences sur les bactéries lumineuses" (*Journal de Micrographie*, 1891).

PROFESSOR NIELS BOHR

Born at Copenhagen in 1885, Professor Bohr received his academic training at the universities of Copenhagen, Cambridge and Manchester. At the last-named he spent four years working with Sir Ernest Rutherford. Returning to Copenhagen in 1917, he gathered round him a band of helpers in attacking the complex problem of atomic structure from the spectroscopic side. Author of the conception to which the name Bohr-atom has been attached, he has made fundamental advances in interpreting spectroscopic phenomena in terms of quantum dynamics. He was Hughes medallist of the Royal Society in 1921, and received the Nobel Prize for Physics in 1922. Professor Bohr delivered the seventh Guthrie lecture of the Physical Society, in 1922, on "The Effect of Electric and Magnetic Fields on Spectral Lines."

PROFESSOR ERNST COHEN

Born at Amsterdam in 1869, Professor Cohen was formerly occupant of the chair of physical chemistry in the university of that city. He is now professor of physical and general chemistry and director of the Van't Hoff