

many months there are in the year does not exist, and in some cases the reckoning by moons is not even extended to the whole year. There is a time when nothing particular happens and nobody takes the trouble to observe or name the moons; such a period is, for instance, the depth of winter in the far north. It is next realised that the succession of seasons is intimately connected with the motion of the sun. In northern countries it is noticed by people having a fixed dwelling-place that as midsummer is drawing near the sun is rising further and further north until a limit is reached. In this way the date of the summer solstice; and similarly that of the winter solstice, are determined, and a rough idea of the length of the year is obtained, and is improved by observing the heliacal risings of

certain stars. It is thus found that the year is longer than twelve moons, and shorter than thirteen, and the next problem is how to make the lunar months fit into the solar year by the occasional interpolation or omission of a month. This is the beginning of scientific chronology as we see it arise and developed among the Babylonians and the Greeks.

Prof. Nilsson's valuable work was written by him in Swedish, and translated into English by a colleague in the University of Lund. The translator has followed the original closely, sometimes too closely, and he uses some curious expressions, such as "the phases of the stars," or the "shifting year" of the Egyptians (meaning their vague year). But these are trifling faults in an otherwise excellent book.

### Obituary.

PROF. A. W. REINOLD, F.R.S.

**A**RNOLD WILLIAM REINOLD, who died on April 11, was born at Hull on June 19, 1843, and was the son of John Henry Arnold Reinold, a shipbroker at that place. He was educated at St. Peter's School, York, and matriculated at Brasenose College, Oxford, in 1863, as an open Somerset scholar. He had a distinguished career as a mathematician, obtaining the University junior and senior mathematical scholarships, first classes in mathematics, moderations, and finals, and in the School of Natural Science. In 1866 he was elected to a fellowship at Merton, and in 1869 became Lee's reader in physics and a senior student at Christ Church. He was the late Prof. Clifton's first demonstrator in the Clarendon Laboratory, being succeeded by A. W. Rücker.

In 1873 Reinold was appointed professor of physics at the Royal Naval College, Greenwich. His life-work was done here, as he held the post for thirty-five years, retiring in 1908 on reaching the age limit, and being made a C.B. in 1911. This professorship was a new appointment, so that a laboratory and courses of physics had to be organised; the laboratory buildings were part of the sick quarters of the old hospital, and finally occupied a considerable amount of space. Besides our own naval officers, gunnery and torpedo lieutenants, naval architects and engineers, etc., there were occasionally foreign students working here, and Reinold received a medal from the Emperor of China in recognition of work with Chinese students. It was at Greenwich that he collaborated with Rücker in a series of investigations on the properties of liquid films, the first paper appearing in the Proc. Roy. Soc. for 1877, and the final one in the Phil. Trans. for 1893, with several between. He was a lecturer at Guy's Hospital for most of his time at Greenwich, and a joint editor for several editions of Ganot's "Physics."

Reinold was signally devoid of any hobbies, and seemed to have no recreations. His interests

apart from his work were mainly in the Physical Society, of which he was an original member, if not one of the founders, acting as secretary from the beginning until 1888, when he became president for two years; and in the Royal Society, of which he became a fellow in 1883, and on the council of which he served for some years. He was a sensitive man with a charming manner, and was liked by all who came in contact with him, being always courteous and gentlemanly in the fullest sense. Reinold retained his activities, mental and otherwise, to the end, which occurred very suddenly; he had just undertaken to write an obituary notice for the Royal Society of his old chief, Prof. Clifton. Married about 1866 to Miss Marian Studdy Owen, he leaves a family of one daughter and three sons. W. N. S.

ROBERT ALLEN ROLFE.

SYSTEMATIC botanists, and especially orchidologists, have sustained a grievous loss by the death on April 13, after rather more than three months' illness, of Mr. R. A. Rolfe, who, for upwards of forty years, was an assistant in the Herbarium of the Royal Botanic Gardens, Kew. Mr. Rolfe was born at Ruddington, near Nottingham, on May 12, 1855. He joined the Kew Herbarium staff in 1880, as a result of a public competitive examination, having previously gained some experience among cultivated plants in the famous gardens at Welbeck Abbey, Notts, and at Kew. It was anticipated that he would retire from service next month, and a visit to Central America was projected, for which a grant in aid had actually been voted by the Government Grant Board of the Royal Society.

Mr. Rolfe's contributions to botanical literature have been numerous and important. For many years past he was the generally accepted authority in this country on the Orchidaceæ; it might truthfully be said that his reputation was world-wide. He founded the *Orchid Review* in 1893, and edited and wrote to a large extent the twenty-eight