

a scientific expedition in 1922, of which he was a member. The uranium ore containing radium occurs in some caves in the lower Carboniferous limestone at Tyuya-Muyan. The ore, oxides of copper, uranium, and vanadium, was found impregnating the walls of limestone caves. Mineralogically, the ore was very little studied. Some new minerals have been previously described by Nenadkevitch, such as tyuyamunite ($\text{CaO} \cdot 2\text{UO}_3 \cdot \text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$), alaite ($\text{V}_2\text{O}_5 \cdot \text{H}_2\text{O}$), turanite ($\text{V}_2\text{O}_5 \cdot 5\text{CuO} \cdot 2\text{H}_2\text{O}$).

Apparently the ore is of hydro-thermal origin.

The estimated reserves of this ore are 5,000 tons (with 1 gramme of radium per 250–350 tons of the ore).

The total reserve of radium must amount, therefore, to 15–20 grammes.

Besides this deposit, radio-active ores are known to exist in various parts of Turkestan. A vanadium-nickel silicate ore is found in a black siliceous shale of Silurian age in the Alai mountains, and a number of radio-active minerals have been found in many other places.

The paper by D. Beliankin on the quantitative mineralogical analysis of syenite from Biella (Piemont), is an attempt to give a modal analysis of that particular rock by combining separate analyses of the rock, isolated minerals and the planimetric mechanical analysis. The results show that the Biella syenite is very closely related to the Plauen syenite, although the relative proportions of feldspars (microcline, oligoclase) are different.

D. Beliankin also gave a very suggestive paper on liquid crystals and another in collaboration with V. Vlodayetz on the geological survey along the eastern shore of the Kola peninsula.

S. T.

OBITUARY.

John Herbert Milton, F.G.S., F.L.S.

The death of Mr. J. H. Milton, F.G.S., F.L.S., which occurred on 8th March, 1925, in his sixty-third year, will be deeply regretted by geologists throughout the country, among whom he was widely known and esteemed. For over forty-three years he had been connected with the Merchant Taylors' School, Crosby, Liverpool, where, at the time of his death, he held the position of senior master. Although not actively engaged in geological work, he took a deep interest in the science, and until recently was a familiar figure at meetings and excursions of the British Association and other societies. He was especially interested in the Carboniferous Limestone, and as President of the Liverpool Geological Society he devoted two addresses, which are published in its *Proceedings*, to its corals and brachiopods. A man of many social gifts and much charm of manner, he was an admirable leader of excursions, and will long

be remembered by those who have enjoyed his companionship in the field.

T. A. J.

William Whitaker, B.A., F.R.S.

William Whitaker, who died on the 16th January, 1925, was by birth and education a Londoner, and it was fitting therefore that he was also pre-eminently the London geologist. The vaguely defined and heterogeneous deposits of the Chiltern country attracted his attention during part of his school days at St. Albans, and helped in forming his resolution to interpret them. After graduating B.A. at London University, he joined the staff of the Geological Survey in 1857, under the Directorship of Sir Roderick Murchison, and from thence until his retirement in 1896, most of his time was devoted to the mapping and the study of the Tertiary and Quaternary deposits of the south and east of England. He followed in the footsteps of Sir Joseph Prestwich, substantiating and augmenting the conclusions drawn by him. He had a passion for collecting records of sections of wells and temporary exposures and many of these have since been published by the Geological Survey in the series of Memoirs on the water supply of the counties. He was recognized as a leading authority on questions of water, and served on numerous committees and commissions dealing with both private and public supplies. Until the last much of his time and his colossal energy were devoted to the subject.

He was the leading spirit for half a century of the London Geologists' Association, and as director of excursions was always popular and ever ready to help and guide. He served for two periods as President.

The original one-inch survey maps and the accompanying memoirs of the London Basin were largely the result of his work, and his memoirs on the "Thames Valley" and on "The Geology of London" will ever remain classics and form indispensable parts of the geologist's equipment.

His services to geology were freely recognized by the Geological Society, who awarded him the Murchison Medal in 1886, the Prestwich Medal in 1906, and the Wollaston Medal in 1923. He served as President from 1898 to 1900, and was elected a Fellow of the Royal Society in 1887.

All who had the privilege of knowing him will agree with Sir Aubrey Strahan's words: "Unselfishness, transparent honesty, and kindness were the conspicuous features of his truly lovable nature."
