

are due to the action of late magmatic residues in which water is always the predominating constituent. These deposits have been termed 'hydrothermal' by Niggli, but this usage does not distinguish between deposits of truly magmatic origin and those due to heated waters of non-magmatic derivation. There seems to be need for a term to cover the latter, although admittedly there is often difficulty in distinguishing between the two types. Perhaps the best solution would be to use the term hydrothermal for all cases of ore deposition by heated waters, and to prefix the term 'magmatic' for those in which the magmatic origin of most or all of the water is demonstrable.

Dr. Tyrrell also dealt with ore deposition and the distribution of igneous rocks, and contended that ore provinces follow the distribution of igneous provinces as between the kratogenic and orogenic regions of the crust in any given period of tectonic and igneous activity.

The complexity of origin of ores was emphasised by Prof. R. W. Brock, of Vancouver, and he welcomed Prof. Niggli's sharp distinction between ores due to the solidification of the main mass of a magma, the products of the semi-liquid extract, and the products of the fluid extract that remain in solution through a long range of temperatures. The diversity of opinions upon particular ore

deposits, remarked by Prof. Cullis, he considered satisfactory, as it shows that each deposit is being treated individually, as is necessary since more than one process is involved in most cases. Thus the Kiruna iron ores he regards as due in part to ortho-magmatic differentiation from the local syenite-porphry, in part to later pegmatitic injection, and in part also to vein formation. He was glad that the Kiruna ore may still be considered as in part orthomagmatic, as unquestionable examples of this mode of formation are now difficult to locate. As Prof. Cullis mentioned, the nickel-ores of Sudbury are not altogether safe examples, for Dr. Cyril Knight has assembled a large number of observations that cast great doubt on their orthomagmatic origin, and Dr. T. C. Phemister has brought to light a disquieting amount of evidence that the Sudbury sill consists not of one rock showing pronounced gravity differentiation, but of two distinct rocks. Prof. Brock remarked that we can ill afford to lose this classical illustration of this possible type of ore formation, but it may be wise to prepare ourselves for such a calamity. He considers that small ore deposits are often the more instructive as to processes of formation, and that the problems of economic geology must be solved by patient and informed study in the field, laboratory work being accessory and supplementary.

Obituary.

DR. S. E. LANE-POOLE.

WE regret to record the death of Dr. Stanley Lane-Poole, the distinguished orientalist, which took place at his residence in Brompton Square, London, on Dec. 29, at the age of seventy-seven years. Dr. Lane-Poole, who was born in London on Dec. 18, 1854, was the son of Edward Stanley Poole, of the Science and Art Department, and a great-nephew of E. W. Lane, the translator of the "Arabian Nights", the author of "The Modern Egyptians", and the compiler of an Arabic lexicon—a connexion in which he took considerable pride and emphasised by incorporating "Lane" by a hyphen in his surname.

After being educated privately, Lane-Poole entered Corpus Christi College, Oxford, in 1874, with the declared intention of devoting himself to Oriental studies. Before he took his degree in 1877, when he obtained a third class in the honours school of modern history, he was already at work in the Coin Department of the British Museum, and in 1875 had begun the publication of the Museum catalogue of Oriental and Indian coins, which was completed in fourteen volumes in 1892. He was sent by the Government on archaeological missions to Egypt in 1883 and to Russia in 1886, and from 1895 until 1897 was employed in archaeological research in Cairo. From 1898 until 1904 he was professor of Arabic at Trinity College, Dublin, acting for part of that period as secretary to the Council of the Royal Irish Academy.

The remainder of Lane-Poole's life was devoted to literary work and research. He was the author

of a number of works, some of a highly specialised character, some of a wider appeal, and of several biographies of notabilities, such as Lord Stratford de Redcliffe, Ambassador to Constantinople; Sir Harry Parkes, Minister to China and Japan; and others whose activities had been in fields in which he was interested. Two of his works of outstanding importance in Oriental studies were "Muhammedan Dynasties" (1893), a standard work of chronological reference for scholars, and the Arabic lexicon which he edited from the material amassed by Lane and published in 1893 after a labour of sixteen years. Of a large number of scholarly works dealing with the culture, art, and history of the Moslem world, the best known are "The Art of the Saracens in Egypt" (1886) and the volume on medieval India in the "Story of the Nations" series, which reached its ninth edition.

PROF. A. W. KIRKALDY.

PROF. A. W. KIRKALDY, until recently professor of economics and commerce at University College, Nottingham, and, prior to 1919, professor of finance in the University of Birmingham, who died on Dec. 29, 1931, aged sixty-four years, was one of the few British economists of the generation of teachers, now passing away, who had actual experience of routine business management for he did not enter Wadham College, Oxford, to take up academic studies until he had served in a family business in Sunderland, in many capacities, for several years. It was only natural, therefore, that