

study of the condensation products of camphor with aldehydes and ketones, and gave an elegant method of preparing sodiocamphor by the aid of sodamide; he effected the partial synthesis of camphor from camphoric acid, and characterised the isomeric borneols. His study of cyanocamphor led him to investigate the remarkable behaviour of the cyano-derivatives of carboxylic esters and ketones in general, and enabled him to provide a new synthesis of acetonedicarboxylic ester and of citric acid. He published important series of papers on the phthaleins, the anthrones, the indanones and the synthesis of anthracene derivatives; he introduced the idea that the alcohols could act upon esters in the presence of hydrogen chloride in the same way that water acts, and showed that the reaction leads to an exchange of the hydrocarbon radicle in the ester. He carried out a large amount of work on optical rotatory power and refraction constants of organic compounds.

Whilst Haller was a prolific contributor to organic chemistry, he was also an ardent worker in the cause of technical education in France; he recognised both the necessity for stimulating the scientific industries of his country and the hindrance to progress imposed by the tendency towards centralising higher scientific effort in Paris. Thanks largely to his efforts, the Chemical Institute at Nancy was founded, and in due course chairs in industrial chemistry and in tinctorial chemistry were instituted; this was the first of many similar institutions in France. During the war of 1914-1918 Haller acted as president of the French Explosives Committee, and, in this office and in many other directions, his incessant activity and his wide experience rendered invaluable service.

Haller was possessed of great charm of manner; his kindly courtesy, his modest bearing and his fine presence, coupled with the keen interest which he took in the work of his junior colleagues, endeared him to all who had the honour of his friendship. Like so many men of the same age and from the same province, his life had been saddened; he was an Alsatian who felt keenly the loss of his native land in 1870, and he had suffered family losses in the last war. The many honours which came to him could not obliterate these sad remembrances. He died on May 1 from influenza, following upon an accident in the laboratory.

Haller was a Grand Officer of the Legion of Honour; in 1900 he was elected a member of the French Academy of Sciences, and in 1923 became its president. He was well known in England, and had received honorary doctorates in the Universities of Leeds and Cambridge; he was awarded the Davy Medal of the Royal Society in 1917, and was elected a foreign member in 1921. He served several periods as president of the French Chemical Society, and was elected an honorary member of the English Chemical Society in 1908.

WM. J. POPE.

#### MR. H. LING ROTH.

MR. H. LING ROTH, whose death on May 12 will be widely regretted, was born on February 3, 1855, and was a son of Dr. Mathias Roth, of Harley Street, London. He was educated at University College School and studied natural science and philosophy in Germany. Prior to going to Halifax in 1888, he had travelled extensively. He was engaged in business, but

devoted the whole of his spare time to his studies. About twenty-four years ago he voluntarily undertook the work of superintending the Bankfield Museum, Halifax; about twelve years later he was appointed as half-time Keeper, and afterwards he gave his whole time to the Museum. When he first undertook the superintendence of the Museum, it, like other local museums of that time, was in a chaotic condition, but any one who has visited the Museum from time to time cannot but have been struck by the improvements which he made. It is now a model local museum. In particular it illustrates the growth of Halifax and possesses a remarkable series of appliances illustrating the development of the textile industries. The specimens are carefully chosen, well arranged, and most admirably labelled, so that the Museum is a teaching institution of prime importance. Not only has Mr. Ling Roth given time, knowledge, and skill to the Museum, but he has also enriched it with many donations.

By the death of Mr. Ling Roth the science of ethnography loses a student who has not received the recognition that was due to him. This was mainly owing to his quiet, unassuming disposition, and to the fact that he was not connected with a university or large public institution. His work was characterised by painstaking accuracy, and he had a *flair* for collecting specimens to illustrate the particular subject he had in hand. He was a master of the art of collating information and of presenting scattered records in a readable form, which has been of great use to his fellow-students, but in addition, by his own investigations, he has added considerably to ethnographical knowledge. Most of his memoirs and papers have been enriched by his clever draughtsmanship; his drawings bring out just those details which are essential, and thus really illustrate his theme.

The range of Mr. Ling Roth's interests is shown by the following imperfect list of some of his writings: "Crozet's Voyage to Tasmania, New Zealand, etc.," 1891; "The Natives of Sarawak and British North Borneo," 2 vols., 1896; "The Aborigines of Tasmania," London, 1890, 2nd ed. Halifax, 1899; "Great Benin: its Customs, Art and Horrors," Halifax, 1903; "The Genesis of Banking in Halifax," Halifax, 1914; "The Discovery and Settlement of Port Mackay, Queensland," Halifax, 1908; "Oriental Silverwork: Malay and Chinese," 1910; "The Yorkshire Coiners, 1767-1783, with Notes on Old and Prehistoric Halifax," Halifax, 1906; "Sketches and Reminiscences from Queensland, Russia and elsewhere," 1916; "The Maori Mantle," 1923.

Among numerous papers published by the Royal Anthropological Institute may be noted those on the origin of agriculture, salutations, the significance of the couvade, various memoirs on tattooing in Polynesia, Tierra del Fuego, and Tunis, and American quillwork. The series of articles in the Bankfield Museum Notes is of particular interest, among which may be noted the Fijian and Burmese collections; trading in early days; hand wool combing; hand card making; oriental steelyards and bismars; Bishop Blaise, saint, martyr, and woolcombers' patron; and the very valuable series on primitive looms from all parts of the world, which has been reprinted in a separate volume.

A. C. HADDON.