Mr. Barrington's ability as an engineer was considerable, while his unvarying kindness and consideration to those working under him, and his pleasant manner and keen sense of humour, made him universally popular. He was elected a Member on the 6th of February, 1872.

THOMAS FLETCHER CHAPPÉ DE LEONVAL was born on the 3rd of December, 1824, at Hulme, near Manchester. At four years of age he had the misfortune to fall into a caldron of boiling water, from the effects of which he did not entirely recover until he was ten. He was educated at private schools in Southport, Tutbury, Worksop and Paris.

Mr. Chappé's career as an engineer began in July, 1840, when he was articled for seven years to Sir William Fairbairn.[1] During that time he assisted Mr. Eaton Hodgkinson[2] in carrying out the well-known researches as to the crushing strains of metals and other materials,[3] and in the experiments undertaken to ascertain the best shape of tube for the Britannia Bridge. He also superintended the erection of a corn-mill for Messrs. Poynton at Oddshod in Cheshire. In 1846 Mr. Chappé's indentures were cancelled by Sir William Fairbairn in order that he might accept an appointment as an assistant engineer on the Midland Railway, in the service of which company he remained eleven years. During that time he acted as resident, under Mr. W. H. Barlow, on the construction of the branch to the docks at Gloucester, of the Birmingham extension, and of the Stonehouse and Gloucester line. The last was a work of some difficulty, as the traffic of the Great Western and Midland Railways had to be carried on while several bridges were rebuilt with elliptical cast-iron arches. One of these was an arch of 83 feet span at Standish, 6 miles from Gloucester, the erection of which was described by Mr. Chappé in a Paper entitled "Account of Experiments upon Elliptical Cast-Iron Arches,"[4] read before the Institution in 1859.

In the autumn of 1857 Mr. Chappé entered into partnership with his brother-in-law, Mr. Thomas Cross, in a cotton-spinning business carried on at the Waterloo Mills in Bolton. During the

---

[1] Minutes of Proceedings Inst. C.E., vol. xxxix. p. 251.
[2] *Ibid*, vol. xxi. p. 543.
[3] Library Inst. C.E.
[4] Minutes of Proceedings Inst. C.E., vol. xviii. p. 349.

fourteen years of this partnership the number of spindles was increased from 24,000 to 40,000. Mr. Chappé then retired from business and settled in London, where he spent the remainder of his life. He died on the 14th of January, 1895, from heart disease aggravated by bronchitis. He was elected a Member on the 3rd of February, 1857.

WILLIAM BUCHAN CHRISTIE, born on the 16th of November, 1847, was educated at the Dollar Institute, near Stirling. After being engaged for twelve months, under Messrs. Formans and McCall, on the construction of the Glasgow and South Western Railway, he was appointed in July, 1869, under the Stanley regulations, an Assistant Engineer, 3rd-grade, in the Public Works Department of Bengal. In that service he practically passed his life, rising through the various grades to that of Superintending Engineer, to which he was gazetted only two days before his death.

In 1877–78 Mr. Christie rendered excellent service in connection with the Bombay and Madras famines relief works. From 1879 to 1881 he was engaged on the construction of the Teesta Suspension Bridge, situated on the road from Darjeeling to the Thibet frontier. An account of this work, written by Mr. Christie, appeared in the "Professional Papers on Indian Engineering" (vol. x. p. 181), published by the Thomason Civil Engineering College, Roorkee.[1] During the latter years of his service in the Public Works Department of the Government of India Mr. Christie was mostly occupied as Executive Engineer in the Chota-Nagpur Division, Bengal, his work consisting chiefly in widening, macadamizing, bridging, re-aligning, and improving generally all the most important roads in the Division. Portions of these roads, with gradients of 1 in 10, and surfaces like the rocky bed of a dry watercourse, had been previously impracticable for vehicular traffic. These he made comparatively easy, with gradients of 1 in 30, suitable curves and well-finished metalling.

Mr. Christie died, somewhat suddenly, at Chinsurah from an attack of dysentery on the 11th of June, 1894. He was regarded as a most energetic officer, whose thoughts were ever in his work;

[1] An abstract of this account appeared in the Minutes of Proceedings Inst. C.E., vol. lxviii. p. 337.