

rating purposes. Of strict integrity and upright character, Mr. Jaffrey was a loyal friend and colleague, whose worth was appreciated by all who had the privilege of his acquaintance. He died at his birthplace, Johnstone, near Glasgow, on the 9th January, 1905, in his fifty-first year.

Mr. Jaffrey was elected a Member of the Institution on the 1st April, 1890.

THE RIGHT HONOURABLE SIR BERNHARD SAMUELSON, *Bart.*, P.C., F.R.S., died at his residence, 56 Princes Gate, S.W., on the 10th May, 1905, in his eighty-fifth year. The son of Mr. Samuel Henry Samuelson, merchant, of Liverpool, the subject of this notice was born on the 22nd November, 1820, and received a private education. After spending 6 years in a merchant's office at Liverpool, he was entrusted with the continental contracts of Messrs. Sharp, Stewart and Company, of Manchester, his duties bringing him into contact with many prominent engineers. Subsequently he embarked in private speculation, and with the capital thus amassed he acquired in 1848 an agricultural implement works at Banbury, which, from small beginnings, attained under his fostering care considerable dimensions and transformed that quiet market town into a busy industrial centre.

In 1853 he made the acquaintance of the late Mr. John Vaughan, one of the pioneers of the Cleveland iron-trade, the prospects of which so impressed Mr. Samuelson that he determined to participate in its development, and accordingly erected blast-furnaces at South Bank near Eston. He carried on these works until 1863, when he disposed of them and built more extensive works at Newport, including the largest furnaces in the Cleveland district. To these works he added in succeeding years until in 1872 they were capable of producing 2,500 tons to 3,000 tons of pig-iron per week. For a description¹ of the works read before this Institution in 1871, Mr. Samuelson was awarded a Telford Medal and Premium. In 1870 he began the erection of the Britannia Ironworks at Middlesbrough, covering 20 acres, for the manufacture of all kinds of finished iron on a large scale, for which the works were equipped with what was then the largest plant ever put into operation at one time. The property was subsequently transferred to a limited company. About this time, Mr. Samuelson undertook an extensive and costly series of experiments

¹ Minutes of Proceedings Inst. C.E., vol. xxxii. p. 329.

in the unsuccessful endeavour to manufacture steel from Cleveland ore by the Siemens-Martin process. In this he fared no better than others who had tried to obtain steel from the Cleveland ore, but his attempt, notwithstanding its failure, proved instructive to a degree, and of at least negative value to the iron-masters of the country.

During his long and busy career, Sir Bernhard Samuelson took an active and prominent part in public affairs. His parliamentary career began in 1859, when he was elected for Banbury in the Liberal interest. In 1865 he was again returned for the same borough, which he continued to represent in Parliament until 1885, when, by the Redistribution Act of that year, it was merged in North Oxfordshire, for which division he was returned by a large majority and twice re-elected. On his retirement from Parliament in 1895, he was made a member of the Privy Council.

Sir Bernhard was a great advocate of technical education, and devoted his highest abilities to the advancement of the movement in this country. In 1867, at the request of the Government, he visited the principal industrial centres of the United Kingdom and the Continent, and his report, published as a parliamentary paper, became a standard work of reference on the subject. He served on the Royal Commissions appointed to deal with Elementary Education and Scientific Instruction respectively; and was Chairman of the Royal Commission on Technical Instruction, 1882-1884.

For his many public services, especially in connection with education, he received a baronetcy in 1884. He served on the magisterial bench for Oxfordshire, and was a Chevalier of the Legion of Honour. He was a Fellow of the Royal Society, and a Member of the Institution of Mechanical Engineers and of the Iron and Steel Institute, of which latter body he was one of the founders, serving subsequently on the Council, and as President in 1883-1885. To the local institutions of Middlesbrough and Banbury he extended constant and generous support, and as an employer he was considerably attentive to the needs and interests of his workpeople. Sir Bernhard married in 1844, Caroline, daughter of Mr. Henry Blundell, of Hull. This lady died in 1886 and in 1889 he married Lelia, daughter of Chevalier Leon Serena and widow of Mr. W. Denny, of Dumbarton. His son, Mr. Henry Bernhard Samuelson, succeeds him in the baronetcy.

He was elected a Member of this Institution on the 4th May, 1869.