From Dictionary of Business Biography", 1986

Sir William Preece (from the Electrician *vol 18, 8 April 1887).*

PREECE, Sir William Henry

(1834-1913)

Consulting electrical engineer

William Henry Preece was born at Caernarvon, North Wales, on 15 February 1834, the eldest surviving son of Richard Mathias Preece, then on the staff of a local bank but formerly a school teacher in Glamorgan, and a well-known Wesleyan Methodist preacher (in Welsh and English), and his wife Jane, daughter of John Hughes, a Caernarvon shipbuilder. Richard Preece, having twice been mayor of Caernarvon, decided in 1845 to move to London to give more scope for himself and his numerous family. William was sent to the strictly Anglican King's College School and received some training at King's College, London. His father suffered heavy financial losses in 1848 and 1851 with the result that William had to leave college and could not be commissioned into the army as his father had hoped. Instead he entered the engineering profession in 1852 in the office of Edwin Clark (1814-94), engineer with the Electrical & International Telegraph Co. Here in 1853-54 he worked closely with Faraday who was studying electromagnetism at the Royal Institution.

Preece was promoted to superintendent of the Southern district of the E&ITCo in 1856, with headquarters at Southampton; in 1858 he was additionally appointed engineer to the Channel Islands Telegraph Co; and in 1860 he was also appointed to the post of superintendent in the London & South Western Railway Co, with the task of organising a telegraph system for that company. He held all three posts simultaneously for a time. On the nationalisation of telegraphs in 1870, Preece became a Divisional Engineer in the Post Office, becoming Electrician in 1877 and Engineer-in-Chief in 1892; he retired from the Post Office in 1899.

In his official career in the Post Office, Preece was responsible for many technical innovations, and although not an inventor himself, he was quick to see the possibilities of other people's ideas. The British telegraph system was technically one of the best in the world, and Preece adopted several advanced systems (eg quadruplex working in 1879 and the Delany multiplex system in 1886) to preserve its leadership. He took up telephony actively after Bell's demonstration of 1876, although he appeared to subscribe to the general British Government view of the 1880s that telephony had somewhat limited potential in comparison with telegraphy. Nevertheless, he made experiments in long-distance telephony, developed an erroneous theory of it, and in spite of this, engineered a highly-successful cross-Channel telephone link providing speech communication between London and Paris in 1891. When the Post Office obtained the monopoly of trunk telephony in 1895, Preece was responsible for the upgrading and extension of the national long-distance telephone network.

Preece had developed ideas on wireless communication from his observation of interference effects between telegraph and telephone lines,

and demonstrated wireless telegraphy from Portsmouth to the Isle of Wight in 1882. Later on he set up a permanent wireless link to the island of Flat Holm in the Bristol Channel. These were conductive or inductive systems. When Marconi approached him in 1896 with his wireless system based on electromagnetic radiation, Preece seems to have seen the potential of this new approach and collaborated in experiments in 1897, unfortunately by 1900 he had lost faith in Marconi.

Preece had a private consulting practice for many years while in the Post Office, and continued consulting long after his retirement. He had been taking an interest in the developments in electricity generation and in electric lighting in the 1870s and had started to take part in the discussions at meetings concerned with these topics at least as early as the end of 1878. As with telecommunications, he was sometimes badly wrong in his opinions; for instance, in 1879 he stated that 'a subdivision of the electric light is an absolute ignis fatuus' {*Telegraphic Journal* (1879) 60}, by which he meant that parallel operation of incandescent lamps was impossible; yet it was precisely on the basis of parallel operation of incandescent lamps that electric lighting systems developed. He published his first paper on electric lighting in 1881, but had given a public lecture on the subject at the Albert Hall in 1880.

He was consultant to the Bristol Corporation in 1884 and submitted his first report to them on 4 December 1884, recommending them not to proceed with setting up an electric lighting system until the science and art were more advanced. He submitted similar reports on 16 October 1885 and on 20 September 1887, but on 31 May 1889 he advised that the time was now ripe for the Corporation to go ahead, the recent improvements in plant having been very significant and the financial situation being more suitable. Preece then became responsible for the preparation of plans and specifications and for supervising the contractors; he employed Gisbert Kapp (qv) as his assistant. He managed to find time to attend meetings of the Corporation and its committees at Bristol every few weeks. The Bristol Central Electric Lighting Station opened in 1893, but Preece remained as consultant at Bristol for many years. Although demand quickly outstripped the capacity of the station, it was technically very satisfactory.

Preece was adviser and supervisor for the Worcester electricity undertaking, 1892-94. This was Britain's largest nineteenth century hydro electric station used for public supply, with a water-generated capacity of about 400 kW. It was partially successful, and endured for over fifty years but the hydraulic calculations were defective, and it was often short of water.

As an example of his activity, during the two years 1892-93, Preece was in addition to his work at Bristol and Worcester, consultant to at least 1 other electric light schemes, having in every case to visit the place concerned, study its problems, and prepare a report making definite technical and financial recommendations — sometimes a good deal more than this. In one or two cases he worked with his son, A H Preece, who was also a consulting engineer.

In slightly different fields, Preece was consultant to the Government on lighting the House of Commons as well as lighting in Malta and Gibraltar, the British Museum and the Dublin Museum; in 1894 he was consultant to the Commission of Sewers regarding gas explosions in the City of London

and in 1895 was a member, with Lord Kelvin and Major Cardew, of the Board of Trade Committee appointed to report on the proposed new electric lighting regulations.

Preece's extensive private practice did not escape the eye of parliament; questions were asked in the Commons as to how a full-time civil servant could be allowed to do this private work, which was against the rules. The official answer on 20 May 1892 was 'That the case of Mr Preece is exceptional' {*PD* 4th ser 4 col 1442} and no action was to be taken to hinder him.

Preece was distinguished by administrative ability and some scientific and technical insight, but above all by his immense industry, incredible activity, and remarkable breadth of interest. Throughout most of his working life he successfully conducted several professional careers simultaneously, each one of which would be regarded as a full-time job by most people. In addition to various branches of electrical engineering, he took an interest in several other technical fields; eg sanitary engineering, on which subject — concentrating mainly on water supply and sewage disposal — he gave the inaugural address as president to the 1899 Congress of the Sanitary Institute. He published profusely. It is difficult to make an accurate count of his published papers and lectures, for not only were most of them reprinted in several journals, but he frequently gave substantially the same paper to several societies and institutions. However, a reasonably reliable figure is 136 separate papers and printed lectures, although their contents overlap a good deal. Of these, no fewer than 99 belong to his specially-productive period, 1877-94. In addition to the papers and printed lectures, there were innumerable published contributions to discussions and many unpublished lectures. He was a very popular public speaker.

In recognition of his work, Preece was elected president of the Society of Telegraph Engineers (later the Institution of Electrical Engineers) in 1880 and again in 1893, and of the Institution of Civil Engineers in 1898-99. He was elected FRS in 1881 and knighted in 1899.

Preece was connected by his sisters' marriages to the leading telegraph engineers, Latimer Clark and F C Webb. He himself in 1863 married Agnes, daughter of George Pocock, a solicitor, of Southampton; she died in 1874 after bearing seven children. Thereafter Preece's eldest sister, Jane Elizabeth, herself unmarried, looked after him and his family at Gothic Lodge, Wimbledon. Sir William Preece died at Caernarvon on 6 November 1913 leaving £32,320 gross.

D G TUCKER

Writings:

Preece's writings were extremely numerous. A comprehensive bibiliography was compiled in 1974 by Mary Lane and Joyce Bartle and is available in typescript form in the Library of the Department of Electronic and Electrical Engineering at the University of Birmingham and in the Archives Department of the Institution of Electrical Engineers. A select bibliography is appended to Baker, *Preece*, below.

(with Sir James Sivewright) *Telegraphy* (Longmans Green & Co, 1870 and many other editions until 1914).

Sources:

Unpublished

Institution of Electrical Engineers, London, archives.

Post Office RO, London, Preece Collection.

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Published

Edward C Baker, *Sir William Preece, FRS* (pp, 1976).

Engineer 14 Nov 1913.

P D, 4th Ser, 4, Col 1442 (20 May 1892).

Telegraphic Journal 1879.

D G Tucker, 'The First Cross-Channel Telephone Cable: The London-Par Telephone Links of 1891' *Transactions of the Newcomen Society* 47 (1974-76).

—, 'Sir William Preece (1834-1913)' *ibid* 53 (1981-82).

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PRICE, Sir William

(1865-1938)

Milk retailer and wholesaler

William Price was born in the parish of Llanwrtyd Wells, near Brecon i 1865, the sixth of at least nine children born to William Price, a farmer an his wife Magdalene. Little else is known of his background or earl education. His migration to London in the early 1880s followed a well worn path trodden by generations of other Welshmen of similarly humbl rural origins. The milk trade was their introduction to the harsh realities o city life, but at least it was a familiar employment in an otherwise alie environment. When he first came to London (he and his wife, whom h married in 1885, became members of the Welsh Presbyterian Church i Shirland Road, Paddington, in 1886) William Price found himelf staring a the premises of the famous Aylesbury Dairy Co in St Petersburgh Place but lacking the courage to go in and ask for a job. He later had the unusua experience of buying the Aylesbury for United Dairies, and using thos same offices as his headquarters.

Rather than risk rebuff by the prestigious Aylesbury Dairy Co, Pric decided to set up a business on his own. He bought a small retail dairy i