## Benjamin Hall Blyth, M.A., Past-Pres. Inst.C.E. By W. A. Tait, M.Inst.C.E.

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BENJAMIN HALL BLYTH, secundus, was the eldest son of a well-known civil engineer of the same name, and was born in Edinburgh on May 25, 1849. He was educated at Merchiston Castle and the University of Edinburgh, where he graduated in Arts, half a century ago, at the early age of eighteen. He was then apprenticed to the firm of B. & E. Blyth, founded by his father and uncle, and, after serving his time, was admitted in 1871 to partnership in the firm, which had then become Blyth & Cunningham.

During his apprenticeship the firm was engaged on the construction, among other large works, of the Callander and Oban Railway, through the heart of the Scottish Highlands. Mr Blyth had thus the best possible opportunity of obtaining a thoroughly practical knowledge of every variety of field work, which stood him in good stead when he came personally to have the oversight of extensive works.

In 1892, on the retirement of the late Mr George Miller Cunningham, he became senior partner of the firm of Blyth & Westland, now Blyth & Blyth.

As a member of the successive firms above referred to, Mr Blyth was responsible for the design and construction of many large and important undertakings, representing a cost for works alone of ten millions sterling.

The first large work of which he personally took charge was the Citadel Station at Carlisle, involving the reconstruction of the lines of four English and three Scottish railways, in order to separate the passenger from the goods traffic and to remove several dangerous level crossings. At the same time his firm were constructing for the Caledonian Railway Company the original Central Station in Glasgow, with its connecting lines, including a large viaduct over the Clyde. Other stations which have been built or reconstructed by his firm include the present Waverley and Princes Street Stations in Edinburgh, the General Station at Perth, the Joint Station at Paisley, and the Central Station at Leith.

For a couple of years preceding Mr Cunningham's retirement the firm were joint engineers for the Glasgow Central (Underground) Railway—a

work presenting many troublesome points, to which Mr Blyth gave very close attention.

Among important bridges designed and carried out by his firm were the new North Bridge, Edinburgh, the new Broomielaw Bridge, Glasgow, and others over the rivers Ayr, Dee, Gala, Spey, Tay, and Tweed.

One of the last works on which Mr Blyth was engaged was a large new dock at Methil intended mainly for the exporting of Fife coal. This work comprised the construction of a sea wall more than a mile in length, which had to be carried out regardless of the severe storms which are so frequent on the east coast.

These engineering works, in so far as they suggest physical strength and solidity, may be said to be peculiarly apt memorials of him who was responsible for their design and construction.

Although his professional career was after the time known as the "railway mania," he saw a portion at least of the good times for engineers which, thanks to peace agreements, etc., are now at an end. Then, as now, almost every large work required Parliamentary sanction, which could only be obtained by following the course prescribed in Standing Orders—namely, detailed advertisements in the Edinburgh or London Gazette and in the local newspapers in the middle of November, followed by the deposit of plans and sections at the end of that month. The greatest secrecy had to be maintained, especially in railway schemes, lest some opponent should come forward with a competitive proposal. At the last available moment, and of course under great pressure, a large staff of assistants would make the necessary surveys, etc., in the field during the day, and develop them indoors at night, with the result that men, regardless of wetting and other discomforts, did not have their clothes off for a fortnight or more at a time.

He was consulting engineer to the North British and the Great North of Scotland Railway Companies.

Like his father, Mr Blyth had a high reputation as a professional witness, and his services were in great demand in Parliamentary, court, and arbitration proceedings, where he was able both to express his points with great clearness and to take good care of himself in cross-examination.

Blyth was ever ready to maintain the best traditions of his profession. He took enormous trouble on numerous occasions to assist, gratuitously and whole-heartedly, brother engineers who, in his view, had been shabbily treated by the companies, authorities, or individuals who employed them.

It is, of course, common knowledge that Parliament has not yet solved the problem of housing. Blyth used to refer humorously to a passage in one of his firm's early specifications which read as follows: "Proper accommodation shall be provided for the workmen, and there shall be not more than two navvies in one bed."

He read several papers to the Institution of Civil Engineers, and frequently took part in the discussions upon others. He was elected a member of the Institution in 1877, and after serving for some time on the Council was chosen as President in 1914, being the first engineer practising in Scotland to hold that office.

While President he had the satisfaction of persuading the Council to refrain from practising one war economy which might have had the effect of interrupting the Institution's annual grant to the National Physical Laboratory.

While holding the office of President, Blyth was asked by the War Office to preside over a Commission, to be nominated by himself from leading members of the Institution, to advise as to the best designs, material to be used, and method of construction to be adopted in connection with the hutted camps throughout the country. Most of the then existing hutted camps were inspected, and a voluminous report was prepared and handed to the War Office for future guidance.

He was also the first Chairman, and was largely intrumental in the formation, of the Metropolitan Munitions Committee, but failing health ultimately compelled him to resign that position.

It was probably a professional brother who paraphrased the first Psalm thus:—

"That man hath railway business
Who walketh all the day
In converse with rough working men,
And keeps in Blyth's way."

Arising out of an arbitration in regard to the available rainfall at the head waters of the river Tweed, he was joint author of a paper published by the Royal Society of Edinburgh. In this and another nearly similar arbitration, where Parliament had decreed that a series of rain gaugings were to be taken for a limited number of years, he readily joined in a recommendation to the authorities concerned that these gaugings should be continued as a means of adding to the available data upon this very important subject.

In regard to University matters, Mr Blyth always regretted that science degrees in engineering were only created some years after he had finished his college course.

He was a member of a committee in raising a fund for duplicating the Natural Philosophy Chair in Edinburgh University, and he was a hearty supporter of the proposal to fix age limits for all future members of the Senatus.

Blyth was fond of many sports and pastimes—archery, bowls, curling, football, golf, shooting, etc.; but probably he was most in evidence in playing at and legislating upon golf.

He was the first Chairman of the Rules of Golf Committee, set up by the Royal and Ancient Club of St Andrews in preference to a Golfing Union. He took great pains in framing clear decisions upon the various knotty points which were submitted from all parts of the globe.

When there was a proposal to abolish golf on Bruntsfield Links, Blyth, who had long ceased to play there, as he had plenty of private courses to play on, threw his whole weight and Parliamentary skill into the protection of his less fortunate fellow-citizens, with the result that golfing on Bruntsfield Links was only stopped by the Town Council after they had provided a proper substitute course on the Braid Hills.

He married, in 1872, Millicent, youngest daughter of Thomas Edward Taylor, of Dodworth Hall, Yorkshire, who predeceased him in 1914; and he is survived by an only daughter, the wife of Mr John Charles Couper, W.S.

At the date of his death, Mr Hall Blyth held the following appointments:—Chairman of the Edinburgh and District Tramways Company; Chairman of the Scottish Canadian Mortgage Company; Director of the National Bank of Scotland; Director of the Edinburgh Life Insurance Company; Director of Merchiston Castle Schools; Director of the Royal Hospital for Sick Children.

Mr Hall Blyth had an impressive personality. Exceptionally tall and massive, he had a distinctive appearance on the platform. His campaigns in East Lothian as Unionist candidate in opposition to Lord Haldane and Mr J. D. Hope were carried through with characteristic vigour and energy. For some years he was Chairman of the Unionist Association for Haddingtonshire. In recognition of his services he was presented with his portrait, the presentation being made at Haddington by the Rt. Hon. A. J. Balfour.