the high-class mining engineers, who became the judges of the various mechanical inventions which were annually submitted in competition for the prizes and premiums offered by the Society. This awakened in him the natural mechanical genius which the young man possessed. In 1840, Mr. Jordan being appointed the Keeper of Mining Records in the Museum of Practical Geology, Mr. Robert Hunt, F.R.S., became his successor, and James Trathan afforded him valuable aid, from the knowledge which he had obtained during the seven years he had been actively, though indirectly, connected with the Cornwall Polytechnic Society. A close intimacy was formed between Mr. Hunt and young Trathan, who always took great delight in the photographic and physical experiments which Mr. Hunt was then pursuing. A disastrous fire and a series of misfortunes compelled Mrs. Trathan to resign her business, and James Trathan sought employment amongst the engineers. He visited his old friend Mr. Jordan in London, but was not successful in meeting with an engagement. Then, through the influence of Mr. S. W. Jenkin, M. Inst. C.E., he obtained a situation on the works of the Liskeard and Caradon railway, at that time in course of construction; and acted as assistant engineer and superintendent of rolling stock. After the completion and opening of the line he was for many years traffic manager, indeed his connection with this line continued to within about twelve months of his death. In the year 1855 he became a member of the firm of Jenkin and Trathan, Civil Engineers, Liskeard, and in 1867 of the firm of Jenkin, Trathan, and Truscott, and was engaged on various works in connection with:—The East Cornwall Gunpowder Company, the Liskeard and Looe Union Canal Company, the construction of harbour works at Looe and Polperro, the Liskeard waterworks, the Lostwithiel and Fowey railway, the Newquay and Cornwall Junction railway, the Looe water and gasworks, the Bodmin waterworks, waterworks for the Cornwall County Lunatic Asylum, the Camborne waterworks, the Topsham waterworks, the Dorking waterworks, the Plymouth, Stonehouse, and Devonport tramways, Ivybridge drainage and waterworks, the Cornwall Minerals railway and other railways connected with that Company, and various other works of lesser magnitude. He was also for many years manager of the well-known Cheesewring granite quarries. During the last few years of his life he was obliged, by the state of his health, to retire in a great measure from active work. He died at Teignmouth on the 8th of June, 1880, in his fifty-seventh year. Mr. Trathan was elected an Associate of the Institution on the 1st of December, 1857.

MR. JOHN DAVID BARRY was born at Chester on the 4th of February, 1832. He was the only son of John David Barry, well known to many of the older Members of the Institution in connection with the establishment of some of the earliest trunk lines of railway in France, and notably as the most active founder, and subsequently Director, until his death in 1874, of the Orleans and Bordeaux line, the construction of which, under English control, was in a great measure due to the persistence and energy which the elder Mr. Barry displayed in calling the attention of English bankers and railway contractors to the importance of the French General Law of Railways of 1842.

After serving his pupilage for two years at Glasgow under the late Mr. R. Napier, M. Inst. C.E., Mr. Barry was engaged for some time on railway surveys in France, and also acted for two years as assistant-engineer under Mr. G. Woodhouse, engineer for the construction of Le Mans railway. In the spring of 1855 he went to Scinde, as first-class assistant-engineer on the Scinde, Punjaub and Delhi railway, where he remained for three years. Whilst at Kurrachee, during the hot season of 1857, the mutiny broke out. Sir Bartle Frere and General Scott were temporarily absent at Clifton (5 or 6 miles from Kurrachee), leaving in command Brigadier Louth, with only two companies of Europeans and a small force of artillery. The 14th and 21st Native Regiments had made all their preparations to mutiny at midnight and murder their officers, when, an hour before the appointed time, a Havildar with some difficulty succeeded in bringing their plans to the notice of the brigadier, who immediately proceeded to surround and disarm them. But, owing to the small number of European troops, this was incompletely effected, and some of the Sepoys, under cover of the darkness, succeeded in escaping with their arms, so that it became necessary for a time to patrol the camp at night. This work was entrusted to volunteers, under the command of Captain Johnson, and of these volunteers Mr. Barry was one of the most active and efficient. Twenty-seven of the fugitives were tracked and captured.

Returning to Europe in 1858, Mr. Barry was engaged for the next few years on railway surveys in Italy and in Germany, and was appointed chief of a considerable staff of engineers, with whose assistance he laid out the German portions of the railway connections which now form what is popularly known as the direct line from Paris to Hamburg and Bremen. In 1865 he proceeded to Spain, and during the succeeding five or six years resided at Barcelona, where he held the post of Chief Engineer to some Cata-

lonian companies formed for the construction of the important irrigation canals known as the "Tamarite" and "Cinco Villas" in Aragon, as well as that of Chief Engineer to the San Juan de las Abadesas railway company in Catalonia, and subsequently to the "Principe Alfonso" company, which undertook the construction of a canal for the irrigation of some extensive districts in New Castile. He returned from Spain to Paris in 1871, interesting himself in matters connected with applications of electricity to lighting purposes and as a motive power, and had much to do with the first introduction of the Gramme dynamo-electric machine into England.

In 1875 Mr. Barry went to California, where he was engaged until three months before his death in conducting the working of gold quartz and gravel mines, for the successful management of which he made himself a great reputation. Several of his reports on Californian gold mines have been printed as pamphlets, and of these he presented three to the library of the Institution. On the fever for Indian gold mines breaking out in the early part of the present year, he came to England in the expectation of drawing the attention of enterprising speculators in such mines to the superior and more solid claims of Californian reefs and gravel beds, but when apparently on the eve of a great success, an acute attack of heart disease occasioned his sudden death on the night of the 23rd of June, 1881.

Mr. Barry enjoyed the respect and esteem of all who knew him, and his tact and kindness to all about him, together with a peculiar charm of manner, had gained him the affection of a large circle of friends at home and abroad. He was elected an Associate of the Institution on the 7th of December, 1858, and occasionally attended the meetings. During the discussion on "Irrigation," in the session of 1867-68, he addressed some interesting remarks on the subject of "Irrigation in Spain" to the meeting, and he also contributed, through the Secretary, some observations on the "Mechanical Production of Cold," which are printed in vol. xxxvii. of the Minutes of Proceedings.