MEMOIRS OF DECEASED MEMBERS.

MR. PRICE PRICHARD BALY was born at Warwick in the year 1819. He was educated at the grammar-school of his native town and at Clapham Grammar-school, of which the Rev. Charles Pritchard, now Professor of Astronomy at Oxford, was then the head master. In 1838 Mr. Baly became a pupil of the late Mr. I. K. Brunel, in whose office he made the calculations for the Clifton and the Hungerford suspension bridges, and he subsequently acted as Resident Engineer for the construction of the latter. While thus employed, his attention was directed to the utility of baths and wash-houses for the labouring classes, and with the ardour of an active philanthropy he gave his time and professional services to the original establishment, and the subsequent extension of many of these beneficial institutions in London and various provincial towns, assisted architecturally by his intimate friend Mr. Charles Barry. In 1845 Mr. Baly undertook his first work abroad, superintending the construction, from the beginning to its completion, of the railway from Manage to Wavre in Belgium. He was afterwards appointed Engineer of the Great Luxembourg railway, when only a fourth part of that line was finished; and in 1857 and 1858 he was engaged in designing railways in Holland and in Russia. In the latter year he was employed by the Russian Government to examine the ground between the Black Sea and the Caspian, with a view to the construction of railways to connect those important parts of the empire; his surveys resulted in his reporting favourably on the practicability of carrying lines through that difficult country; and his ability to cope with the obstacles which nature presented to engineering labours obtained the warm support and the cordial co-operation of Prince Bariatinsky, the Governor of the Caucasus. Mr. Baly subsequently laid out the line of railway which has been for some years in operation between Tiflis and Poti; and until the year 1869 he was almost exclusively employed by the Russian Government, with a large staff of engineers and assistants, in designing various public works in the Caucasus. They comprised surveys and designs for ports at Soukhoum-Kali, and Poti on the Black Sea, and at Bakou on the Caspian; and also of works for irrigation and sewage, and

for piers. This latter occupation led to his devoting much attention to the subject of the construction of harbours generally; and he originated a plan of detached open-work piers for the formation of ports, where natural facilities are not afforded, known as Baly's Octopus System of Piers.

He had completed designs for a port at Madras, and was engaged in studies of similar works for the construction of piers at Bournemouth and Folkestone, and at Ostend and Blankenberg, when his too early death removed him from a circle of professional and private friends, who deplore the loss of one whose courteous manner, kindly nature, and genuine honesty, together with a mind stored with knowledge, will ever render him dear to memory. Mr. Baly was singularly gifted with the power of applying mathematical science to practical engineering, and was of most industrious habits, but endowed with greater mental than physical power. He was elected a Member of the Institution of Civil Engineers on the 6th of April, 1852, and died on the 5th of September, 1875.

In 1863, the question of the reconstruction of Westminster Bridge being under consideration by a Committee of the House of Commons, Sir Charles Barry sought the assistance of Mr. Baly to devise a mode of construction in iron, by which the roadway over the arches should be as thin as possible, and the bridge as level as practicable. The evidence founded on this advice influenced, it is believed, the adoption of the plans eventually carried out. Subsequently Sir Charles Barry occasionally asked the opinion of Mr. Baly, for whom he entertained a high respect, on matters referring to any peculiar adaptation of iron in structures.

Mr. JAMES DEES, of Whitehaven, and Riverdale, near Bellingham, Northumberland, was one of those self-trained engineers whom talent, natural aptitude for the work, combined with great application and perseverance, brought in early life into contact with civil engineers; and by the exigencies of the times he was raised to the surface during the railway mania, when the demand for civil engineers far exceeded the supply of those regularly trained in the profession.

The only child of parents in a comparatively humble position, he was born at Meldon, near Morpeth, in March 1815. In early life he began business as a builder and contractor, and, whilst so engaged, he along with one or two others successfully carried out a contract for the construction of the stone railway bridge over the river Tees at Croft, near Darlington, designed by Mr. Henry