In 1882 Mr. Protheroe became Chief Assistant to Messrs. Gotto and Beesley, and on Mr. Gotto retiring from the firm in 1890, he remained with Mr. Beesley for two years in a similar capacity. During that time he was engaged in preparing contract drawings for drainage works at Rio de Janeiro, the drainage and water-supply of Campos (Brazil), and the drainage of Brentford, Chatham, Cheshunt, Hayes and other places. Mr. Protheroe resided from 1893 at Fleur-de-lis, near Cardiff, where he died on the 2nd of April, 1896. He was elected an Associate Member on the 12th of January, 1892.

JAGANNATH SADASEWJEE, born on the 2nd of November, 1826, was educated at the Elphinstone College, Bombay, and from 1844 to 1847 studied there in a class of engineering, to which Mr. W. Pole had been specially sent out from England as Professor. In this class Mr. Sadasewjee proved a very promising pupil. In September, 1848, he entered the Public Works Department of the Bombay Presidency, and was employed at Poona in surveying, estimating, and construction work, being soon recommended for promotion to the grade of Assistant Engineer. He was then appointed—under the Bombay Municipality—as an assistant to the late Mr. Henry Conybeare, who was at that time engaged on the Vehar Waterworks,[1] and who, in a testimonial dated the 30th of March, 1855, spoke in high terms of the manner in which Mr. Sadasewjee assisted him in preparing a report on that important undertaking.

In 1856 Mr. Sadasewjee was appointed Municipal Surveyor of Karachi, which was then a rising port. Among the works which he designed and carried out in that capacity may be mentioned the Elphinstone Bridge, and the improvement of the water-supply. He also devoted much of his time to instructing the Engineering class, established by the Government at Karachi. The improvement of the Harbour of Karachi by the construction of the Manora Breakwater and other important works,[2] from the designs and under the superintendence of Mr. W. H. Price, was commenced in 1860. Mr. Sadasewjee was engaged on that arduous undertaking and was highly commended by Mr. Price for his energy and zeal, and as having been "successful in devising the means of overcoming many difficulties encountered in the progress of the works, thereby,

[1] Minutes of Proceedings Inst. C.E., vol. xvii. p. 555.
[2] *Ibid*, vol. xliii. p. 1.

in more than one instance, effecting important saving." On the commencement of the dredging operations in the New Channel, he was chiefly occupied in the management of the work of landing the spoil, as well as in making out the lines for dredging and excavation, and in superintending the latter work, which was performed by hand-labour.

Mr. Sadasewjee resigned his appointment in the Public Works Department in 1862, to enter into partnership in the firm of Dinshaw, Jagannath & Co., contractors. Amongst other works, this firm constructed the Karachi-Kotri division of the Sind Railway. In 1865 he again took service under the Bombay Municipality as an Assistant Engineer, in which capacity he rendered material aid in connection with the scheme for the main drainage of Bombay and in the preparation of a report on the extension of the Vehar Waterworks. Mr. Sadasewjee then became an Assistant Engineer on the staff of the Great Indian Peninsula Railway Company, after which he served as Local Fund Engineer in Khandesh. On the recommendation of the late Mr. Thomas Ormiston,[1] the Engineer to the Bombay Port Trust, he was engaged by the Kutch Durbar, to construct a pier at Mandvi, a work which he successfully carried out, with great advantage to the trade of that port.

Mr. Sadasewjee's next and last appointment was that of Executive Engineer to the State of Baroda. His chief work in that capacity was the design of a complete system of water-supply for the city of Baroda, including the construction of an impounding reservoir, 12 miles north-east of Baroda; a 30-inch cast-iron main; settling tanks and purification-works; and a covered-service reservoir and distribution-works. In the flat, alluvial country, of which the eastern portion of the Baroda territory consists, it was a difficult problem to secure an adequate supply of water by natural collection, the delivery of which should be dependent on gravitation only, while the material available for the embankments was little better than sand and mud. Mr. Sadasewjee, however, brought the works to a successful completion, to the great sanitary advantage of the crowded city of Baroda. In a Paper[2] read before the Institution in November, 1893—in conjunction with accounts of the Tansa (Bombay) and Jeypore Waterworks—he gave a detailed description of the undertaking.

On the completion of these works, Mr. Sadasewjee was directed to make plans for the drainage of the city of Baroda, and, with

[1] Minutes of Proceedings Inst. C.E., vol. lxxi. p. 409.
[2] *Ibid*, vol. cxv. p. 43.

that object in view, to visit Calcutta and Rangoon for the purpose of examining the results of the Shone system there in operation. While thus engaged, it became apparent that the exertion and exposure he had undergone during the construction of the Baroda Waterworks had seriously impaired his health. He went to his native city of Bombay for rest and change; but paralysis had shown itself and he died there on the 26th of March, 1896.

Mr. Sadaswejee was a man of quiet habits and unobtrusive character, and was greatly respected by all with whom he was associated. His energy and painstaking assiduity were highly commended by those under whom he served. He was elected an Associate on the 14th of January, 1868, and was subsequently placed in the class of Associate Member.

GEORGE PARKER BIDDER, M.A., Q.C., was born on the 18th of August, 1836, in London. He was the eldest son of George Parker Bidder,[1] known from boyhood for his powers of mental calculation and who was President of the Institution in 1860 and 1861. The subject of this notice was educated first at King's College School and at the University of Edinburgh, where he gained distinction in the mathematical classes under the late Professor Kelland. Passing to Trinity College, Cambridge, he obtained a scholarship there, and in 1858 graduated as seventh wrangler. Two years afterwards he was called to the Bar at Lincoln's Inn and joined the Home Circuit, his success as a Junior being marked and rapid. He was Counsel for a large scheme originally proposed for the Forth Bridge by Sir Thomas Bouch, which was reported upon by Mr. W. H. Barlow and Dr. Pole in 1873, and his conduct of that case determined the course of his subsequent career. This lay mainly among Parliamentary Bills, arbitrations, and compensations, involving engineering, scientific or statistical evidence. Clear and lucid statement, easy exposition of intricate argument, that mastery of evidence and "first principles" which makes cross-examination so effective, were the weapons with which Mr. Bidder achieved his success. The rapid calculation of his father in the witness-box was one of the puzzles to parliamentary counsel of the last generation; the same power, in the son's hand, has proved perturbing to more than one engineering witness of later date, and he is perhaps best known for successful contest with expert evidence, alike in the box and in the convincing analysis of his subsequent

[1] Minutes of Proceedings Inst. C.E., vol. lvii. p. 294.