

large quantities of stones of 15 or 20 tons' weight each were torn from below low water, and carried completely over the top of the Break-water, a further extension of the fore-shore was made, and a projecting buttress built to secure the foot of the south slope, to afford additional security to the light-house, and to prevent the stones from the fore-shore being carried over to the north side.

Quantity
of stone
used.

From the time of its commencement in August, 1812, until the 31st of March, 1841, there had been deposited upon this work 3,369,261 tons of stone.

Cost.

The expenditure upon the whole work, when completed, will, it is estimated, be within one million and a half sterling.

The main body of the work is composed of blocks of limestone from the quarries of Oreston, adjoining the harbour of Catwater. They were deposited from vessels constructed for the purpose. In certain portions of the work the blocks have been subsequently ranged from a diving bell. The buttress and the works now in progress round the west end are composed of granite masonry, dove-tailed horizontally, and fixed vertically by iron levis cramps.

Subsequently to the reception of the plan of Messrs. Rennie and Whidby, most of the leading engineers of the day were consulted, under whose directions the author has superintended the execution of the work.

The communication is accompanied by six elaborate drawings by Mr. Dobson, illustrating in detail the various stages of the work, and the mode of construction.

Mr. Ren-
del.

Mr. Rendel could have wished that the account of this interesting work, the most extensive of the kind in Great Britain, had entered more fully into details, not only of the difficulties met with and overcome, but of the peculiarities of the construction: there were many points connected with it of great importance to engineers. He would allude to one only upon which no information was given: the amount of interstice in the whole cubic content as compared with the mass of materials employed; an accurate account had been kept of the quantity of stone deposited, and knowing the cube of the mass at a given period, he had ascertained the amount of interstice or vacant space in the old part of the works to be at one time 37 per cent. This great deficiency of solidity had arisen from the employment of an excess of large stone, or rather from a deficiency of small stone to fill the interstices between the large stones.