

Mr. Bain's readiness to impart information on his favourite science, and the ardour he felt and inspired others with in its pursuit, will long be gratefully remembered by those who have been led by him to explore the fertile fields of South-African Geology.

Mr. Bain was a man of powerful frame and great physical energy and endurance; nor did he fail in a well-known attribute of a good geologist,—he was pre-eminently 'good company,' being gifted with great humour, and having a large fund of anecdotes of the early times of the Cape Settlement, rich in incident, which will give employment to the pen of some future Cooper. Moreover he had an excellent voice, and sang with great taste and feeling the songs of Burns and other bards of his native land. He was a warm friend; and brought up a family of ten children to be a credit to his name. Mr. Thomas Bain is employed in the same department as his late father was; and has already done good service in Geology.

The robust constitution of Mr. Bain showed, about two years ago, signs of having felt the strain to which his arduous labours had exposed it; and symptoms of heart-disease showed themselves. He came to this country last summer in the hope of recruiting his health; and had barely time to enjoy the warm reception of Sir R. I. Murchison, Professor Owen, and other leaders of science, to whom his labours had made him known, when the damp and cold of approaching winter rendered his return to the more genial climate of the Cape the only hope of prolonging his life. He died a few days after landing.—R. N. R.

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THE COLOURING MATTER OF THE BLUE FOREST-MARBLE.—The chief colouring ingredient of rocks and of many minerals is iron in its several degrees of oxidation. Thus, we have red and brown jasper, &c., blue and red marls of the New Red Sandstone. Iron in another state of chemical combination has been recently determined by Prof. Church (*Chem. Soc. Journ.*, Nov. 1864, p. 379) to give to the darker portion of the limestone of the Forest-Marble its blue colour. The bedded limestones of this formation are characterized, as is well known to geologists, by dark mesial bands in the blocks into which the rock has naturally divided. The dark band frequently constitutes nine-tenths of the bulk of a thick compact slab; very thin slabs are sometimes without a dark band. The dark stone is most abundant, and is of a deeper tint towards the base of the deposit. The lowermost stratum rests upon a blue clay of exactly the same tint as the dark stone, and owes its colour to the same substance. The colouring material of the dark bands is diffused iron-pyrites; the paler tint of the surrounding parts of the slab is due to the iron-oxide resulting from the oxidation of the pyrites. Similar appearances are familiar to us in the limestones of the Lower Lias, the deeper seated limestones being of a dark-blue colour, and those parts exposed to atmospheric agencies being light-grey or white; whilst intermediate portions exhibit the darker internal band as in the limestones of the Forest-Marble.—R. T.