

its animal matter, thus indicating the comparatively recent period at which it was drifted with the other materials which now form the shoal of 'No Man's Land.'—Yours truly,  
W. DAVIES.

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MISCELLANEOUS.

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OBITUARY NOTICE.

ANDREW GEDDES BAIN was a native of Scotland, and emigrated to the Cape in early life. After some time he settled at Graaf Reinett, where, having commenced business as a saddler, he resided for some years, with an occasional interlude of a trading trip into the Interior, during one of which he was attacked and plundered by the Natives, and barely escaped with life. On the breaking out of the Kafir War of 1833–4, he accepted the command of a provisional battalion, raised for the defence of the Frontier by Sir B. D'Urban, and did good service to his country in that capacity. Soon after his release from this duty, he was employed to construct a military road through the Ecça Pass; and in this work he displayed engineering talents which earned for him the respect of the Government and the applause of the Colonists. His services were permanently retained by Mr. Montagu, then Secretary to the Government; and he had the direction of most of the roads since constructed in the Colony; some of them were gigantic undertakings, ably carried out.

These works might have been fairly considered full employment for one head and pair of hands; but the loan of Lyell's 'Elements,' from a friend, turned Mr. Bain's attention to Geology; he commenced with zeal the search of the rocks; and this led to the discovery of the *Dicynodon* and numerous other fossil Reptiles in the Lacustrine or Karoo beds near Fort Beaufort. In a paper in the 'Eastern Province Magazine' (Graham's Town, 1857), he tells with great humour of the glee with which these first discoveries were enjoyed by himself and his friend and coadjutor, Mr. Borchers, late Magistrate of Fort Beaufort. He sent many of these Reptilian skulls and bones home; and received the warm approbation of European Geologists for the sagacity with which he had assigned them to their proper place in the animal series, and to the rocks their approximate age and lacustrine origin.

Called by his duties to the Western Province, he searched indefatigably the rich Devonian (or Upper Silurian?) deposits, and added many new species to their then little known fauna.

In the Eastern Province again, in company with Dr. Atherstone, he examined the Sub-cretaceous beds of the Sundays and Zwartkops Rivers, discovered many new species, and ascertained the limits of the formation. But the work by which he has conferred the greatest benefit on Science, and on the Colony, is his Geological Map, published by the Geological Society of London. The industry and ability displayed in this work can only be appreciated by those who are acquainted with the scantiness of the few scattered notices which were all that was known of South-African Geology, and the limited time and opportunity he had for special geological research.

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.