a number of vents made their appearance and discharged a succession of fragmental materials, which differ from the yellow tuff in showing both macroscopically and microscopically a greater variety of composition, and in the proofs which they furnish of a succession of eruptions both in space and time and a gradual southward shifting and diminution of the vigour of the eruptive energy. The largest and most ancient of the volcanoes of this latest period is that of Agnano, the crater of which is built up of layers of pumice, ashes, lapilli, soft grey tuff, and beds of scoriæ. Not improbably it was from this eruptive centre that the trachy-andesitic lava of Caprara issued. Other volcanoes of the same series are Astroni, Solfatara, the two small vents of Cigliano and Campana behind the north-western slopes of Astroni, the last-named example showing three concentric rings, within the innermost of which a beautifully perfect little crater marks the last efforts of this vent. The crater-lake of Avernus belongs likewise to the latest group, and perhaps it was the water percolating from this basin to the thermal springs of Tripergole which, in September, 1538, gave rise to the explosion that built up Monte Nuovo, the youngest of the cones of the Phlegræan Fields.

CORRESPONDENCE.

THE BASE OF THE KEUPER IN SOUTH DEVON.

SIR,—In replying to Dr. Irving's article in your April number, I must preface the same by regretting my use of the term "dolomitic" which somehow crept in; but which, I think, hardly amounts to a "caricature" of his description. I would further add that I never doubted the existence of the fault at the Chit rock.

On the main issue I still hold that the Otterton Breccias are not again brought up on the east side of the river Sid; and that the beds here described as such, occupy a much higher horizon, being separated from the former by a considerable thickness of red sandstones. On this point, however, I am willing to wait—with an open mind—the results of other observers who may choose to devote their attention to this matter. ALEX. SOMERVAIL.

TORQUAY N.H. SOCIETY.
16*th April*, 1904.

MARINE FOSSILS IN UPPER COAL-MEASURES.

SIR, — On the 23rd April I found in the Craigmark Burn, Dalmellington, Ayrshire, some marine shells in the Upper Coal-measures. They occur in a cliff on the right bank of the stream, about half a mile up from the village of Craigmark. The cliff is about 30 feet high, its upper part composed of dark shale, and its lower part of lighter-coloured shale with nodules and bands of 'curly' ironstone. About the middle of the cliff there is a 9 inch band of bituminous shale with fish-remains, and in the centre of it the marine band occurs.

The fossils are dwarfed and starved-looking, but from their perfect preservation they have evidently lived on the spot where now found, and occur with a few indistinguishable plant-remains. The following are the species I collected:—*Productus semireticulatus*, var., largest one ½ inch, but generally much smaller; common. *Athyris ambigua*, largest ⅜ inch; scarce. *Lingula mytiloides*, rare, and very small. The late R. W. Skipsey many years ago found marine shells in the Coal-measures near Coatbridge, but the specimens were of fair size.[1]

The marine shells I obtained on the 23rd April appear to be pretty high up in the coal strata; and in the stream and on the side of the glen may be seen the Gillyhole Coal, at this part converted into columnar carbonite four feet thick by a small Trap sill; it is one of the finest examples of a 'burnt coal' bed in the west of Scotland. In the same glen there is also a small sill which has assumed a spheroidal structure. I saw no specimens of *Carbonicola* or any other Coal-measure shells in the marine band. I am sending some specimens to the British Museum.

MONKRIDDING, KILWINNING. J. SMITH.
25th April, 1904.

OBITUARY.

PROFESSOR CHARLES EMERSON BEECHER, PH.D.

BORN OCTOBER 9, 1856. DIED FEBRUARY 14, 1904.

(WITH A PORTRAIT: PLATE X.[2])

BY the death of Professor Beecher, American palæontology and geology have sustained a great loss, and one which is also sincerely felt by many friends and fellow-workers in England and on the Continent. Although only 47 years of age, he had attained to a high degree of eminence in his University as a teacher and lecturer, whilst his published researches, especially on Trilobites, the Merostomata, and Phyllocarida, entitled him to the first rank as an original investigator in palæozoology; nor had he neglected the higher forms of extinct life, as is shown by his reconstruction of Dinosaurs in the Peabody Museum at Yale.

Charles Emerson Beecher was born at Dunkirk, New York, Oct. 9th, 1856. He was educated in the High School at Warren, Pa., and graduated at the University of Michigan, taking his B.S. in 1878. During the ten succeeding years he was engaged as an assistant to the veteran geologist, Professor James Hall, upon the staff of the Geological Survey of the State of New York, and many specimens now exhibited in the State Museum at Albany testify to his ability as a collector and his skill in developing and mounting invertebrate fossils.

Professor Beecher was appointed in 1888 to the charge of the invertebrate fossils in the Peabody Museum, under the late Professor

[1] Trans. Geol. Soc. Glasgow, vol. ii, p. 52.

[2] For permission to reproduce Professor Beecher's portrait we are much indebted to Mr. J. McK. Cattell, of *The Popular Science Monthly* Garrison on Hudson, New York, U.S.A.—EDIT. GEOL. MAG.