

TERMINAL CURVATURE IN WEST SOMERSET.

SIR,—The accompanying short extract from Sir H. de la Beche's "Geological Observer," p. 23, 2nd edit. 1853, contains remarks so apposite on this subject, that I trust Mr. Mackintosh will allow me to call his attention to them, if he should happen not already to be familiar with them.

"The rain-waters not absorbed by the rocks, act mechanically on the surface of the land, removing to lower levels such decomposed portions of the rocks as their volume and velocity can transport. The mixed effects of decomposition from atmospheric causes, and of soaking of the surface on hill-sides, are often well shown in slate countries, a certain depth beneath the soil exhibiting the turning over of the edges of the slates towards the valleys;—as it were the tendency of the moistened matter of the surface to slide by its gravity to the lower ground.

"The accompanying figure" (showing highly inclined strata with the upper portion beneath the soil bent over into a curvature 'against their nap') "will illustrate this fact, one of much importance to the observer, for without attention to it he might commit grave errors as to the true dip of the strata, when only a slight depth of section may be exposed on the hill-side. In the above figure the real dip of beds is represented as the very reverse of that which might be inferred from a hasty glance at the surface. Although it may be supposed that the difference between this sliding down of the surface towards the lower grounds and the true dip was always so apparent as not to be mistaken, the depth to which this action has occasionally extended is sufficient to justify great caution in many districts."

It is to be remembered that ground that is now level may, at the time when this curvature was produced, have been inclined towards then-existing valleys.

H. E. H.

THE GORRAN BEDS AND BUDLEIGH SALTERTON PEBBLES.

SIR,—I observe that in the discussion, on the 20th March, 1878, on Mr. Ussher's paper on "The Chronological Value of the Triassic Strata of the South-western Counties," as reported in the "Abstract of the Proceedings of the Geological Society of London, No. 350," "Mr. Etheridge said that he had been able to ascertain from specimens in the Penzance Museum that the Budleigh Salterton Pebbles came from Gorran [printed incorrectly Gowan] on the southern coast of Cornwall," and that "Mr. Whitaker stated that he had himself, on lithological grounds, suggested the Gorran Haven region as a source for the Budleigh Salterton pebbles."

These statements interest me a good deal, since they are confirmatory of those contained in the following quotation from a paper which I had the pleasure of reading to the Plymouth Institution as long ago as 30th March 1865:—"Having learned that Mr. Peach had lodged in the Penzance and Truro Museums such of the fossils [from near Gorran] as he had collected, Mr. Vicary, Dr. Scott, and I went into Cornwall early in July last (1864), for the purpose of examining them and the rocks in which they were found. The

fossils are in many cases so fragmentary or indistinct that identification is by no means easy; nevertheless, we succeeded in detecting among them several specimens of one of the Budleigh Salterton species of *Brachiopoda*. Having been furnished by Mr. Peach with all needful information, we were so fortunate as to secure the assistance of one of his old collectors, who conducted us to the fossiliferous beds of the Great Cairn and Great Peraver, near Gorran Haven. In the Peraver, we succeeded in finding fossils having the same general facies as those of the "pebble-bed," and inhumed in quartzites identical in structure and even in hue with the pebbles of South-eastern Devonshire." (See Transactions Plymouth Institution, 1864-5, vol. i. pp. 22-3.)

TORQUAY, 4th April, 1878.

WM. PENGELLY.

ON THE ORIGIN OF A QUARTZITE BOULDER FROM THE BUNTER CONGLOMERATE, NOTTINGHAM.

SIR,—A short time ago it was my good fortune to find, in a heap of road-metal, near Nottingham, a liver-coloured quartzite boulder, no doubt derived from the Bunter Conglomerate of the district, which exhibits on its fractured surface a well-defined concave cast of *Orthis redux*—a Caradoc fossil that is, I understand, by far the most frequent species in the quartzite pebbles of the Triassic shingle beds of Budleigh Salterton, Devon, and of similar deposits in the North of France.

In recording the occurrence of the above fossil in this locality, I am content to leave the question whence this and similar pebbles in our Bunter Conglomerate were derived for the consideration of those who are more competent than myself to offer an opinion on the subject.

NOTTINGHAM, March 18th, 1878.

J. H. JENNINGS.

OBITUARY.

JOHN ROFE, C.E., F.G.S., ETC.

BORN, 14 OCTOBER, 1801. DIED, 11 APRIL, 1878.

We regret to record the loss by death of an excellent geologist, a much valued friend, and a frequent contributor to this Journal.

Mr. Rofe was born in London, Oct. 14, 1801, and was educated at Enfield, by the late Mr. Cowden Clarke, and afterwards at Reading with the Rev. Dr. Williams.

He studied engineering under his father Mr. John Rofe, C.E.; and afterwards, in partnership with him, carried out many important public works, notably the Birmingham Gas, and Water-Works; the Reading Gas-Works; Gas and Water Engineering Works were also carried out by Mr. Rofe for the towns of Leicester, Guildford, and Boston. On several occasions he gave valuable evidence in Committee before the House of Commons, with reference to public Towns Water Works and Gas Companies Bills, in which his sound geological knowledge proved of great service to him.

On the 26th June, 1827, he married the daughter of the Rev. Bartholomew Goe, Vicar of Boston, Lincolnshire, and settled in