stone moors, near Buxton, with similarly-worn rock-surfaces, and with the addition of loose shingle, and a covering of clay, *not* derived from the limestone rock, which rock, he tell us, has suffered *no* decomposition since the sea left the locality. Since I first wrote on this subject Mr. Pengelly has announced his discovery of *Pholas*-borings in limestone cliffs, at considerable altitudes above the present sea-level, and others have brought forward facts, which not only show the absence, or limited extent, of subaërial disintegration, but prove that the sea was, at least, the last denuding agent to which the surface of the land has been subjected, ice at high altitudes excepted.

D. Mackintosh.

DENUDATION OF VALLEYS.

To the Editor of the Geological Magazine.

Sir.—Every one who lives amongst the hills, as I do, on the Cotswolds, who has his eyes open, must discover parallel cases to those described by Mr. Hull, in your October number; *i.e.*, valleys commencing on high ground and descending to the sea, some having rivers, others being dry. Being only a field-geologist I have no theory to support, but study facts, and have my opinion, which I am ever ready to alter when truth requires it.

The valleys in the Cotswold Hills that I am acquainted with are depressions in the Oolitic beds, they have a basement of clean Oolitic gravel, with the edges taken off, but not formed into pebbles, proving that it has never been subjected to coast or tidal action, or long continued attrition. Some of these valleys begin at the crest of the Oolitic range, now elevated one thousand feet above the sea, and gradually descend the south-east slope of the Cotswolds until they reach the summit level of the Thames, four hundred feet above the sea; others are more local, descending from ground, five to six hundred feet above the sea.

It is clear that the dry valleys cannot owe their origin to river-action; and the river-valleys are only channels, which receive the springs of the Fullers-earth or local clay beds. The action of these rivers is never a denuding one, even when in flood, little solid matter being carried off. It is, therefore, impossible to conceive that these extensive valleys are the result of river-action, We know that the Oolitic matter once formed a sea bottom, nearly, or quite level, and that it is now elevated one thousand feet above the sea-level. It may be assumed to have been lifted up one thousand five hundred feet, and it is impossible for this to have taken place without cracks in the surface, and being unequally elevated, and tilted to the south-east during its elevation, sea currents must have run in these cracks, and here we have an enormous power at work, quite sufficient for the denudation that has taken place; and action of this kind and degree will account for the cleanness of the gravel bottoms of these valleys.

In the great estuary of the Thames, all these Cotswold valleys, wet

or dry, terminate, with one exception, which runs into the Severn. I may add, we have no fresh water deposits in our valleys.

Yours, THOS. C. BROWN.

FURTHER BARTON, CIRENCESTER.

OBITUARY.

JACQUES AMAND EUDES DESLONGCHAMPS was born at Caen, in Normandy, on the 17th of January, 1794. His parents were poor, and imposed upon themselves severe privations in order to afford to their son a liberal education. At the age of eighteen he had so much distinguished himself through his medical studies and examinations, that he was appointed an assistant-surgeon to the frigate "La Gloire." In 1812 he became surgeon-assistant-major to the Military Hospital of Caen, but soon afterwards left the navy and went to Paris, in order to complete his medical studies, and to take his degree of Doctor of Surgery. During his sojourn in Paris, medicine was not, however, his only study, for comparative anatomy, botany, and physiology had occupied much of his time, and of those sciences he made himself eminently proficient, as well as in the art of drawing. When in Paris he became intimate with Cuvier, and his young mind was so deeply impressed by the wonderful discoveries of Mammalian remains brought to light through the genius of that celebrated naturalist, that on his return to Caen he lost no time in exploring the many quarries that surrounded his native town. Great, indeed, was his surprise and delight when he found them replete with fossil remains of all kinds; and the discovery of a specimen of *Teleosaurus Cadomensis* so elated him, that from that time comparative anatomy and palæontology became his chief and favourite studies. At Caen he met Lamouroux, and with him studied the corals, and was one of the contributors to the "Encyclopédie Méthodique," as well as of the "Dictionnaire des Sciences Naturelles." He was the chief founder both of the Museum of Natural History of Caen (of which he was honorary curator), and of the Linnæan Society of Normandy, and has for years been the principal contributor to its transactions. In 1825 he succeeded Lamouroux as Professor of Zoology to the Faculty of Sciences of Caen, and on the 22nd of October, 1847, was elected Dean of the said Faculty, which chairs he retained till the day of his death. No professor could be more popular or more respected, and he inspired his pupils with a true love of science; indeed his noble mind was constantly bent on doing good, and in affording relief and encouragement to all those who were in need of his aid or advice. So important and varied were his researches and publications, that he was universally recognized as one of the most eminent palæontologists of his day. He published many excellent memoirs and monographs of the Fossil Mollusca which occur in the Oolitic and Liassic deposits of Normandy, and those which treat of the genera *Pleurotomaria, Plicatula, Turritella, Trochotoma, Eligmus*, etc., are particularly remarkable. He also