

BORINGS OF *SAXICAVA* 300-450 FEET ABOVE THE SEA.

SIR,—During the earlier part of this month, when examining the rocks of Carleton Hill, six miles S.S.W. of Girvan, I discovered a number of *Saxicava* borings in the rock at from 300 to 450 feet above sea-level. The borings have been made into bits of limestone occurring in the igneous rocks of which this hill is mostly composed.

I know that the land-shell *Helix aspersa* gets the credit of being able to bore holes in limestone, but although I have known this snail for many years, I have never seen an instance of its having bored a hole; it congregates in clusters into ready-made crevices.

However, to return to the Carleton Hill borings, I pared away about two inches from the surface of one of the bits of limestone, and found the molluscan borings ramifying through the stone exactly in the manner in which they occur in limestone bored by *Saxicava* at the present day.

I know that no geologist will remove these ancient 'Nilometers,' although they may not escape the clutches of the mere 'specimen-hunter.'

The occurrence of borings in the rock of Carleton Hill is quite in keeping with the evidence afforded by the sea-shells obtained in the Ayrshire drift up to more than twice the height of 450 feet, a detailed description of which has been published by the Geological Society of Glasgow.¹

J. SMITH.

MONKREDDING, KILWINNING.
September 26, 1903.

SECTION OF THE THAMES ALLUVIUM IN BERMONDSEY.

SIR,—Will you kindly allow me to correct a misprint in the paper "On a Section of the Thames Alluvium in Bermondsey." In the section on p. 456 the top line is stated to be "sea-level"; this should be "street-level." The actual level of the street here is about 15 feet O.D.

S. HAZZLEDINE WARREN.

CONNAUGHT AVENUE, LOUGHTON, ESSEX.
October 14, 1903.

OBITUARY.

ALPHONSE FRANÇOIS RENARD.

BORN SEPTEMBER 26, 1842.

DIED JULY 9, 1903.

AMONG the geologists of the Continent there was probably none so widely known personally in this country as Professor Renard. Hence the announcement of his death has brought with it to us, not only regret for the loss which science has sustained, but sorrow for the premature decease of one who was familiar to a large circle as a pleasant companion and to not a few as a valued friend. He was born at Renaix, in Belgium, but, though a native of that country, he received his scientific training in Germany, if the writer's memory serves him, at the Jesuit seminary of the Abbey of Maria Laach, before that institution was dissolved. Not improbably the geological attractions of the volcanic district of the

¹ Transactions Geological Society of Glasgow, suppl. to vol. xi.

Eifel largely influenced the direction of his youthful studies. As an original observer he was first known by his work among the plutonic rocks of the Ardennes, to the investigation of which he applied with much success the modern methods of petrographical research. With the co-operation of C. de la Vallée-Poussin, of the University of Louvain, he wrote in 1876 an important monograph on these rocks, which was published as a "Mémoire Couronné" by the Belgian Academy, and which at once established his reputation as an accomplished petrographer. Subsequent papers by him dealt with other aspects of Belgian geology, particularly with the whetstones, phthanites, and dolomites. Prominent among these contributions was his masterly discussion of the metamorphism of that region, wherein, while confirming the general accuracy of the earlier observations of Dumont, he dwelt especially upon the regional character of the alteration, which he regarded as connected with the intense mechanical movements to which the rocks of the whole region had been subjected. It is true that in more recent years he was disposed to question the validity of this conclusion, at least with reference to some part of the metamorphism, which he was led to think might rather be due to the protrusion of igneous rocks still concealed beneath the present surface of the ground. In this change of opinion, however, he was strongly opposed by Professor Gosselet.

Renard's petrographical researches among the rocks of his native country united in an eminent degree the work of the mineralogist, the chemist, and the microscopist. They were marked by a fulness and accuracy of detail, and at the same time by a breadth of treatment, which showed that he studied the problems of rock-history in the field, as well as in the laboratory. Accordingly, when the materials brought home by the "Challenger" expedition came to be distributed among capable experts, it was decided that those which required petrographical qualifications could not be placed in better hands than those of Renard. During a succession of years, in association with Sir John Murray, he published a series of interesting and important papers on the deposits of the ocean-floor. Ultimately these observations were extended and combined in the great monograph on "Deep-sea Deposits," published in 1891 as one of the massive quarto volumes of the "Challenger" Reports. This work will always be looked upon as a classic treatise in Oceanography, and as practically the starting-point of all subsequent research on the subject. Of special interest to geologists were the detection and description of cosmic dust, in metallic grains and bronzite chondres, the recognition that minute crystals of a zeolite are formed on the sea-bottom at a temperature of 32°, and the copious discussion of the origin and distribution of phosphatic and glauconitic deposits on the present bed of the ocean.

Educated for the priesthood, Renard took holy orders and intended to enter the Society of the Jesuits. Until only a few years ago he wore the clerical dress, officiated in the offices of the Church, and was known everywhere as an Abbé. But he paused

before taking the final step that would have completed his adhesion to the Jesuits. To his intimate friends he would now and then disclose an unexpected breadth of view in religious questions. As years passed, the longing for mental freedom grew ever stronger, until at last it overmastered all the traditions and associations of a lifetime, and he finally separated himself from the Church of Rome. Had he contented himself with the announcement of this change of opinion, the outcry against his apostasy in such a country as Belgium would doubtless in any case have been loud and long. But he marked his secession from the clerical order by marrying—an act which could not but intensify the persecution. Many bitter and unworthy reproaches were heaped upon him, and many old friends now shunned him. A man of his gentle and kindly nature must have keenly felt the misrepresentation to which he was subjected. To those who still held to his friendship, he said that he had done what after long meditation he believed to be right, and that the consciousness of his rectitude of aim supported him in the trial. But the hand of death was already upon him. An insidious and fatal disease, of which many years ago he had premonitions and for which he had undergone several operations, now spread through his body and rapidly brought his life to a close on the 9th July, 1903, at Brussels.

Renard held for many years a professorship in the University of Louvain and a Conservatorship in the Royal Museum of Natural History at Brussels. These appointments he vacated when he succeeded to the chair of geology in the University of Ghent, which he retained up to the time of his death. The members of the Geologists' Association were greatly indebted to Professor Renard for much kindness and valuable assistance on the occasion of their visit to the Ardennes in August, 1885. The value of his scientific work was recognized in this country by the Geological Society when it awarded to him the Bigsby Medal in 1885, and by the Royal Society of Edinburgh when it elected him into the select number of its honorary Fellows. From his frequent visits to this country he learnt to speak English fairly well, while his early training in Germany gave him fluency in the language of that country. His genial face, beaming with good-nature, will long be missed at the meetings of the British Association, which he frequently attended.

A. G.

JOHN ALLEN BROWN, J.P., F.G.S., F.R.G.S.

BORN SEPTEMBER 3, 1831.

DIED SEPTEMBER 24, 1903.

By the death of Mr. John Allen Brown, an earnest student of geology, and more especially of the latter post-Pliocene deposits of the Thames Valley, has been removed from our midst.

He was born in London 3rd September, 1831, succeeded his father¹ as diamond merchant, and some forty years ago settled in

¹ John Brown (1797-1861), one of the founders of the Ethnological Society, took a keen interest in geographical, especially Arctic, exploration, making large collections in illustration thereof. He was conspicuous as an advocate of expeditions in search of Sir J. Franklin, and defined the area which that explorer was ultimately found to have reached, but was not listened to at the time.