cause of the movement. Lastly, in the case which presents by far the greater difficulties, the material is limestone and shale instead of cobbler's wax. The author maintains that Professor Lugeon's hypothesis receives no real support from Professor Sollas's experiments, and involves mechanical difficulties which are practically insuperable.

2. "The Coral Rocks of Barbados." By Professor John Burchmore Harrison, C.M.G., M.A., F.I.C., F.G.S.

The results of the author's extended, and in many places detailed, re-examination of the coral rocks in the southern half of Barbados, give no support to Dr. J. W. Spencer's theory of the existence of strata of the "Antigua Formation" in that island. It is now shown that a certain knoll, whence Dr. Spencer collected corals which in his estimation proved that it and other parts of the coral rocks were of Oligocene age, is in part made up of corals which, as stated by Professor J. W. Gregory, "certainly show no evidence of any age greater than the Pleistocene." The author has failed to find any signs of the widespread formation, described in Dr. Spencer's paper as extending from Mount Misery to near Ragged Point, a distance of about 11 miles, and dipping south-eastward at from 12° to 20°. Such a formation would be about 15,000 feet thick; while the facts that nowhere in the island does the combined thickness of the limestone and of its basal or Bissex Beds exceed 280 feet, and that the limestone is not traversed by faults, are fairly conclusive evidence of the non-existence of such a formation. This dip is referred to the action of landslips in some cases, and in others to current-bedding. The author's recent investigations have confirmed the statements made and the views expressed by Mr. Jukes-Browne and himself in the notes published in the GEOLOGICAL MAGAZINE for December, 1902, p. 550.

CORRESPONDENCE.

SANDSTONE PIPES IN CARBONIFEROUS LIMESTONE, ANGLESEY.

SIR,—In the GEOLOGICAL MAGAZINE for January, 1900 (p. 20), was published a paper (read and discussed at the Dover Meeting of the British Association in 1899) on Sandstone Pipes in the Carboniferous Limestone of Anglesey, in which I showed that they formed a part of the Carboniferous Series, and were evidently due to some unusual kind of contemporaneous erosion.

In November last Professor W. H. Hobbs, Secretary of the American Seismological Committee, wrote to me suggesting that these pipes might be the 'craterlets' of Carboniferous earthquakes, produced by disturbance of underground waters in the same way as those of the Calabria, Charleston, and other shocks of recent times. Some of those of Calabria are figured in Lyell's Principles. The Comte de Montessur de Ballore, to whom Professor Hobbs asked me to send photographs, has concurred, after some correspondence, in this explanation.

Both authors will discuss the phenomenon, together with certain kindred ones, in works now in the press, and as these will be published outside this country the object of this letter is to invite the attention of British geologists to this very curious and most original suggestion.

EDWARD GREENLY.

P.S.—Perhaps I might add that the pipes are very near to a zone of powerful faulting, which, though displacing the Carboniferous rocks more than 1,000 feet, was almost certainly a line of movement in much older times. Movement along it, therefore, was very likely going on at intervals during the Carboniferous period itself.

FOSSIL FOOTPRINTS IN THE SECONDARY ROCKS.

SIR,—I am returning to the study of the Triassic footmarks of the Connecticut, and would be glad to correspond with the Officers of Museums with reference to slabs of Ichnites found especially in Great Britain. My experience leads me to believe that the tracks of animals on stone are more abundant than is commonly supposed, and that there is much to be learned from their study. Although rather bulky, a place can be found for them in the Exhibition Rooms, and perhaps exchanges can be negotiated.

C. H. HITCHCOCK,
Curator of the Butterfield Museum, Dartmouth College,
Hanover, New Hampshire, U.S.A.

March 7th, 1907.

CONODONTS IN COAL-MEASURE STRATA.

SIR,—Not long ago I sent you a notice of the occurrence of marine fossils in the Upper Coal-measures (Scotland). From the same bed I have now to record the finding of a few Conodonts, the determinable species being *Centrodus lineatus*, Pander, and *Polygnathus* (*Gnathodus*) *Mosquensis*, Pan. Both these forms were found by Pander, of Russia, in the Mountain Limestone of Moscow, and they occur in both the Upper and Lower Carboniferous Series of Scotland. *C. lineatus* has been got in the Devonian rocks of Canada and Carboniferous of Ohio. The list of fossils from this bed is as follows, all the forms being dwarfed except the Conodonts, which could not be made much smaller:—

Productus semireticulatus.
Chonetes Hardrensis.
C. Buchiana.
Athyris ambigua.
Discina nitida.
Lingula mytiloides.
Pecten, ribbed.
Posidoniella retusta.
Murchisonia striatula.
Dentalium?
Nautilus?
Polyzoan, badly preserved.
Cladodus.
Coprolites and fish-remains.
Plants and vascular tissue.
Centrodus lineatus.
Polygnathus Mosquensis.

The position of this marine bed is pretty well up in the Coal-measure Series, probably a short distance above the Craigmark Ironstone, Craigmark Glen, Dalmellington.

J. SMITH.
DYKES, DALRY,
AYRSHIRE.