

the meantime to adhere to the opinion I formerly expressed; since I am constrained to believe that the above-mentioned palæontologists must have had opportunities of studying this Graptolite as good as those enjoyed by Mr. Carruthers.

Finally, I am sorry that anything I have said should have led Mr. Carruthers to the belief that I wished in any way to dogmatize as to there being a connexion between the capsules and the Graptolites; and I should have thought I had stated with sufficient plainness that I considered that my views were as yet conjectural, and that Mr. Carruthers' opinions might "ultimately be proved to be correct." I am likewise sorry that I should need to recal to Mr. Carruthers' recollection, that the existence of capsules, "vertically compressed," does not rest simply upon my "ipse dixit;" but that Professor Harkness had seen my specimens, and had come to the same conclusions about them as I had. I am, Sir, etc.,

H. ALLEYNE NICHOLSON.

EDINBURGH, *April 13th*, 1867.

A WAVE OF VOLCANIC DISTURBANCE IN THE MEDITERRANEAN.

To the Editor of the GEOLOGICAL MAGAZINE.

SIR,—The accounts of Earthquakes, Volcanic Eruptions, etc., which have reached us from the Mediterranean coasts and islands, during the latter part of the past, and the earlier part of the present year, have been so numerous that they lead me to suspect that they are attributable to one common origin, and are the result of a plutonic agent which convulses the whole Mediterranean.

These disturbances seem to date from the eruption of the islands at Santorino last year. Professor D. T. Ansted was the first to point out the connection of this phenomenon with the eruptions of petroleum, which soon after took place at the sides of Mount Etna. Again, M. Mauget recently sent a paper to the Paris Academy of Sciences, stating that last July the wells and springs of Naples and the neighbourhood suddenly diminished their supply; whilst, by the injection of carbonic acid from the fissures diverging from Mount Vesuvius, the fish were poisoned. This year the earthquake at Algiers has been succeeded by the eruption of a "geyser;" i.e., a column of steam, fifteen or twenty yards high, has burst forth from an aperture three feet in diameter, near the sources of the Ain-Bada. Earthquakes at Cephalonia and Malta I mentioned in my last letter. A more fearful shock, killing thousands of persons, and submerging great part of the land, has been felt at Mytilene, on March 6th. This earthquake was even experienced as far as Constantinople and Smyrna. A volcanic eruption has occurred very lately at Pantellaria, between Sicily and Africa. Recent telegrams announce an earthquake at Naples. The ship "Sidon" announced that on March 7th, being seven miles off Mytilene, they experienced two shocks of a submarine earthquake.

Now does it not seem that all these phenomena point to a great wave of volcanic agency disturbing the Mediterranean, its coasts,

and its islands? It is said that nine proofs are sufficient to substantiate a case, and as we have fully that number, I think we may safely credit the theory. The difficulty is perhaps to find the centre of the disturbance. An eye-witness of the earthquake at Algiers supposes the centre of that shock to be in the Atlas Range; but as that would be too distant to affect the whole Mediterranean, I think it is more likely to be between the volcanoes of Etna and Vesuvius.

Yours, etc.,

THE CRESCENT, SALFORD,
April 10th, 1867.

L. C. CASARTELLI.

MISCELLANEOUS.

REMARKABLE HARD FORM OF ANTHRACITE.—M. Dumas has called attention, in the *Comptes Rendus*, to some nodules of anthracite, remarkable for their hardness, which were placed at his disposal by the Count Douhet; who found them at a dealer's, and secured them for scientific investigation. These nodules have apparently a concretionary structure, and are hard enough to scratch glass, and even harder bodies, with ease. Leaving out the ash, the composition is found to be:—carbon 97·6, hydrogen 0·7, oxygen 1·7, which agrees with the composition of anthracite. Its density is 1·66. With the opacity, density, and composition of anthracite, these nodules possess the hardness and take the polish of the diamond. M. Dumas was not the first to notice this interesting form of carbon. Several years ago M. Mène experimented on some anthracite from Creuzot, Dept. Saône-Loire, France. When this coal was raised to a high temperature in a muffle, it was converted into a friable steel-grey mass, in appearance somewhat metallic. When this high temperature was continued about two hours, the fragments in the crucible were nearly always sufficiently hard to scratch glass and steel with the peculiar sound of the diamond. The composition of this substance was found to be:—volatile substances 1·0, carbon 96·8, ash 2·2; and its density 1·637. At first M. Mène could not procure this hard form of carbon from the anthracites of Valbonnais in Savoy, and Abercraf in South Wales; but by continuing the high temperature for four hours he obtained similar results to the previous experiments. Some pieces of coke, prepared from ordinary bituminous coal, mixed with anthracite, with a view to the utilisation of the latter for blast furnaces, presented numerous brilliant points, which scratched glass. The endeavour to apply this carbon in a powdered state to the polishing of metals like steel was unsuccessful, as the powder always scratched the metal. It is to be hoped these important researches may be continued, the “*Société d'Encouragement*” having offered a prize for chemical investigations on the production of carbon analogous to the black diamond.—*Comptes Rendus*.

T. D.
