

which affords those of *Stagonolepis*, by the Rev. G. Gordon, of Birnie, and is noticed in a note to a paper on the sandstones of Elgin by Sir Roderick Murchison, also published in the fifteenth volume of the 'Geological Journal.' It is supposed to have been a Saurian reptile, of from 6 to 8 feet in length.

Besides these, numerous slates covered with reptilian footprints are from time to time dug from the neighbouring quarries of Cummingstone.

The sandstones containing these remains were originally believed to belong to the upper division of the Old Red Sandstone series, and are described as such by Sir R. Murchison in the paper above referred to. In the note to that paper, however, it is remarked that, in consequence of the high organization of these reptiles, and their affinity to those found in Mesozoic strata, and as the stratigraphical relation of these sandstones with the undoubted Old Red Sandstones of Elgin cannot, from overlying soil, be positively determined, there is considerable reason to suppose that they may belong to a more modern epoch; and since that time they have been looked on by most geologists as Triassic. The question of age has again been opened up lately by the discovery of footprints similar to those of Cummingstone in sandstones, believed to be Old Red, in Ross-shire. At present it would be premature to give any opinion as to the true position of these reptiliferous sandstones; but, as this is being very carefully wrought out by well-qualified parties, it is to be hoped that a short time will suffice finally to set at rest this *questio vexata*. JAS. POWRIE, F.G.S.

*Reswallie, February 12, 1863.*

#### *Analysis of Red Chalk.*

DEAR SIR,—The article on the above subject, by R. Calvert Clapham, Esq., in the 'Geologist' for January, 1863, p. 29, will no doubt have been read with pleasure by geologists taking interest in such matters, more especially those who study the chemical properties of the two strata mentioned in the article above alluded to. At the same time I beg to refer Mr. Calvert Clapham to a paper on the Red Chalk of England, by the Rev. T. Wiltshire, in the 'Geologist' for 1859, p. 161. In speaking of the analysis of the Red Chalks of Speeton and Hunstanton, Mr. Wiltshire states that "one of the members of the committee of the Geologists' Association, Mr. Rickard, has been good enough to make me an analysis.

"The Speeton is as follows:—

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| Carbonate of lime, with a little alumina | 81.2 |
| Peroxide of iron . . . . .               | 4.3  |
| Silica . . . . .                         | 14.5 |
|  | 100  |

From Hunstanton—

|                             |      |
|-----------------------------|------|
| Carbonate of lime . . . . . | 82.3 |
| Peroxide of iron . . . . .  | 6.4  |
| Silica . . . . .            | 11.3 |
|                             | 100  |

The above results of Mr. Rickard are nearly the same as those produced by Mr. Calvert Clapham. The latter gentleman seems to have paid more minute attention to the minor contents of the substances analysed.

Mr. Calvert Clapham states that "at Speeton it (the Red Chalk) is in some places a soft red clay, and is used to colour bricks and red pottery." Whenever the Red Chalk is found soft, like clay, at Speeton, it is because of its being displaced from its original bed and ground to a powder by large masses of white chalk which overlie the red chalk, falling upon it, and then the rains falling upon, or small streamlets passing through it, give it the consistency of "soft red clay;" but it is not to be found in a soft clayey state *in situ*. I must beg respectfully to state, that Mr. C. Calvert is labouring under a mistake, when he states that the red chalk is used at Speeton for colouring either bricks or rough pottery: it is not so used; but an article very much the same in colour is used, viz. Venetian red, a sample of which I enclose for your inspection, and remain,

Your obedient servant,

EDW. TINDALL.

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*Mammalian and Human Remains, Isle of Portland.*

SIR,—Will you allow me to send you some remarks relating to an account, in the 'Times' of the 1st of January last, of some human and other bones which have been discovered associated together in fissures of the rock of Portland Island, during the building of the fortifications there?

The following is the passage in the 'Times':—"The sections of the wonderful geological strata which form the Island of Portland are seen for the first time, in the straight rocky walls of the ditch, in all their curious variety. What is most singular is, that at regular intervals of twenty-five or thirty yards, and commencing about twenty feet below the surface of the ground, are a series of vertical faults or gaps, about two feet wide, which, as far as can be judged, penetrate to the lowest substrata of the island, and traverse it completely from north to south. In these extraordinary clefts, human bones have been found, with those of wild boars and horns of reindeer, not fossilized, but with all their osseous structure as perfect as if they were not fifty years old."

In 'Willis's Current Notes' for August, 1852, there is a nearly similar account of human and other bones found in the fissures of the Portland rock. The account says:—"It appears that in the year 1844, some human bones were discovered on the ledges of a fissure in a quarry belonging to Mr. Weston, at different depths, from twenty-five to forty feet. These fissures run parallel with each other throughout the island, from north-east to south-west, at stated distances, varying from forty-five to sixty feet, and the quarrymen say that they always know when they are coming near to them from the form the upper layers of loose stone and rubble assume, losing their longitudinal stratification, and having all the appearance of having been dragged out of their position by a mighty rush of water from above into the fissure. These fissures do not extend to the surface-soil by five or ten feet, and run down to the blue clay, through the several strata of stone, etc., to the depth of from eighty to a hundred feet, having many ledges or shelves in them, and generally covered with stalactitic formations. On several of these ledges a number of bones of all kinds of animals were found, including those of the human species. These were preserved and shown by Captain Manning to the late Rev. Dr. Buckland, on his next visit to the Castle; but the doctor having doubts as to the place where they were found, accompanied Captain Manning to the fissure, where a lad was let down who brought up more of the bones in his presence.