

VII.—*RETZIA RADIALIS*. Phillips, sp. Pl. xii., fig. 13.

Terebratula radialis, Phillips, Geology of Yorkshire, vol. ii., p. 223, pl. xii., figs. 40, 41; *Retzia radialis*, Dav. Mon. Carb., p. 87, pl. xvii., figs. 19, 21.

A single crushed example of this small species from Scotland has come under my examination; it was derived from the Carboniferous shales of the neighbourhood of Lesmahago by Dr. Slimon. When perfect it possessed a longitudinal oval shape, with valves almost equally and moderately convex. The beak is produced and truncated by a small circular foramen, which is slightly separated from the hinge line by a small hinge area. Each valve is ornamented with about twenty small rounded, radiating ribs, of which the central one in the dorsal valve is at times the largest, and to which, in the ventral one, corresponds a deepened sulcus.

(To be continued.)

FOREIGN CORRESPONDENCE.

BY COUNT MARSCHALL, OF VIENNA.

On Fossil Vertebrata. BY PROFESSOR E. SUESS. Read before the Imperial Geological Institute of Vienna, Feb. 8, 1859.

M. Gastaldi has recently published an essay on the fossil Vertebrata of Piedmont, especially on the Mammals found in the coal of Cadibona, which he and Prof. Michelotti consider to be of Lower Miocene age; while Prof. Sismonda and Dr. Rolle think the shells occurring in it to be rather of Eocene character. The upper portions with *Tetralophodon Arvernensis*, *Hippopotamus major*, &c., are called Pleistocene by M. Gastaldi, while Dr. Falconer has evidently proved them to be genuine Pliocenes like the deposits of the Arne-valley, the Auvergne (partly), and the mammaliferous Crag of England. As it is still to be proved (according to Prof. Heer's deductions) that physical changes must necessarily have affected in the same degree the inhabitants of the dry land as they did those of the sea, much confusion would be avoided by using local denominations (Arno-, Eppelsheim-, Cadibona-fauna, &c.) instead of hypothetical geological terms (as miocene, pliocene, &c.). M. Gastaldi's excellent descriptions and figures have materially contributed to give clearer notions of *Anthracotherium magnum*, *Anthr. minimum*, *Amphitragulus communis*, *Rhinoceros minutus*, *Rh. incisivus*; the last species is still doubtful.

The Swiss lower Molasse, the coal of Kovencedo, near Vicenza, and probably some other more eastern deposits may be coeval with those of Cadibona. The remains of *Rhinoceros* from the brown-coal of Hart, near Gloggnitz, belong to a smaller species not occurring

elsewhere within the Vienna-basin, and possibly identical with that of Nuceto, referred to by M. Gastaldi to *Rhin. minutus*, Cuv. Chev. Fr. de Hauer has remarked, respecting the stratigraphical circumstances, that the coal of Breemberg (W. Hungary) may be of more ancient date than the lowermost marine deposits of the Vienna basin.

Prof. E. Suess on some Fossil Bovidae. Proceed. Imp. Geol. Institute of Vienna, March 29, 1859.

The Imperial Geological Institute of Vienna has purchased a collection of mammalian remains obtained from the Galician Loess, an ancient loam deposited in the valleys of the rivers Wistock and Dunajec. This region, long ago renowned for its abundance of fossil remains, is no less conspicuous for the uniformity of its ancient fauna, represented only by three herbivorous species—*Bos priscus*, *Bos primigenius*, and *Elephas primigenius* (the last by far the most prevalent). The skulls of the two species of *Bos* offer very striking differences in their structure and proportions. In *Bos priscus* the frontal bone is vaulted, and has no superior edge prominent over the surface of the occipital bone; the basis of the horns is somewhat beneath the upper frontal edge; the horns are proportionally short, strong, directed horizontally outwards, with ends slightly curved upwards; the orbits are nearly beneath the bases of the horn-roots. *Bos primigenius* has a narrow concave forehead, forming upwards a strong edge prominent over the surface of the occipital; the horns are inserted exactly on the upper margin of the frontal, and are longer and more curved than those of *B. priscus*; they are directed horizontally outwards, then inclined inwards with ends slightly curved downwards. The orbits are far beneath the roots of the horns, with a deep depression in the middle of the forehead between them.

On Listriodon. Prof. E. Suess. Proceed. Imp. Geol. Institute of Vienna, March 29, 1859.

A molar of *Listriodon splendens*, H. v. Meyer, (*Tapirotherium* of some French palaeontologists) has been recently found in the Leitha limestone of Fünfkirchen, Central Hungary. The same species is known to occur in the Leitha Mountains, between Austria and Hungary; and in France, Département du Gers and Département de la Drôme; a proof that the fauna of the epoch, as the subsequent one of Eppelsheim, far from being a merely local one, extended over a large portion of Europe.

Prof. Unger on the Plants of Egypt. Proceed. Imp. Academy, Vienna, July 14, 1859.

Among the plants, the remains of which are to be found in sepulchres, or figured on the monuments, etc. of Egypt, some fifty

species admit botanical determination. Nearly the whole of these species were objects of culture, and consequently introduced from other countries simultaneously with, or soon after, the immigration of the tribes who peopled ancient Egypt. Many of them, as the date-palm, the flax, the cerealia, etc., may be proved to have been cultivated as early as under the reign of Menes (B.C., 3623). Prof. Unger has found no traces of any change from one species into another having taken place during a period of nearly fifty centuries, from Menes to our times.

Ossiferous Cavern. Proceed. Imp. Academy, Vienna, July 14, 1859.

Prof. O. Schmidt, of Gratz, has found in the Gröbeuzer Alp, Upper Styria, a fissure, or cavern, containing remarkably well preserved remains of the Elk, together with those of another extinct species of the genus *Cervus*.

GEOLOGICAL TOPICS.

THE FIRST TRACES OF MAN ON THE EARTH.

(Continued from page 434.)

The second volume of M. de Perthes' book, that which we have to deal with especially in this notice, is illustrated by twenty-six plates containing nearly five hundred figures. In the interim, too, between the publication of the first and second volumes, that author added greatly to his collection of primitive (antediluvian) and Celtic instruments (those of historic periods). This collection is now unrivalled, and has been accumulated by travels and purchases from all parts of the world. To make sure of the origin of these objects, M. Boucher de Perthes has himself been to search for them, not only in the North, in Denmark, Sweden, Norway, Lithuania, Poland, and Russia, but also in the South, where these stone-implements are much rarer, in Spain, Italy, Sicily, Greece, Turkey, along the shores of the Black Sea, and lastly, he has carried his researches even into Asia and the French African possessions. His object in these travels was not only to collect specimens, but also to consult foreign *savans*; and he acknowledges in glowing terms the courtesy he everywhere met with, and the flattering and ready aid given to his researches. His book, so controverted in France, he found had met with better reception abroad, and moreover that it had also been better comprehended as detailing the proofs that "a race before unknown, a human family of which the origin was lost in the night of Time—a race contemporaneous with the great pachyderms of which we find the remains, had lived upon the soil we tread, and, many ages old, had been witness to terrible revolutions, and at length to that last catastrophe which had changed the surface of the globe, and modified, with its climates, the form of nearly every living species." The former long existence in Europe of this people, which M. Boucher de Perthes considers to have ended with the Deluge, is supported by demonstrative proofs.