VIII.—Note on *Pleurotoma turbida*, Solander, and *P. colon*, Sow.

By the Marquis Antonio De Gregorio.

MR. EDWARDS in his beautiful work (Eoc. Moll. p. 311, pl. 32, fig. 2) described a species of *Pleurotoma* under the title of *Pl. turbida*, Sol. He regards *Pl. colon*, Sow., as a synonym, but not *Pl. colon*, Sow., in Deshayes. In this I think he was mistaken. The species described by Deshayes appears to me different from the *Pl. colon*, Sow., and identical with the species figured by Solander under the name of *Murex turbidus*. In the second edition of his work Deshayes says that he "noted this species for mischief," because it is not found at Soisson, but he retained the name of *colon*, Sow.

The species described and figured by Edwards appears to me different from *Pl. turbida*, and like *Pl. colon*. These last two species are thus distinguished.

Murex turbidus, Brander (Foss. Hant. pl. 2, fig. 31), has the costæ biseriated, the whorls excavated in the middle, the sinus of mouth situated in their depression. *Pl. colon*, Deshayes (non Sow.), is a synonym of the same species.

Pleurotoma colon, Sow. (Min. Conch. p. 106, pl. 146, figs. 7, 8), has the whorls swollen in the middle and nodulous, the sinus is placed on the periphery of the whorl. *Pl. turbida*, Edw. (non Sol.), is a synonym of it.

These two species, I believe, are not only distinct, but belong to different subgenera. *Pl. turbida*, Sol., belongs to the subgenus *Clavatula*. *Pl. colon*, Sow., to the subgenus *Strombina*.

Pl. turbida, Nyst. (Coq. et Polypières des Belgique, p. 513, pl. 40, fig. 8), differs from both, but it is more analogous to *Pl. turbida*, Sol., than to *Pl. colon*, Sow.; but it has the anterior canal more oblong and the ribs not interrupted in the middle.

To conclude, I believe that there are three distinct species:

Pleurotoma turbida, Brander (= *colon*, Deshayes).

Pleurotoma colon, Sowerby (= *turbida*, Edwards).

Pleurotoma turbida, Nyst.

For this last I propose the name of *Lethensis*, from the locality where it has been found.

Palermo, *November*, 1888.

NOTICES OF MEMOIRS.

I.—On some Fossils of the Limestones of South Devon.[1] By Rev. G. F. Whidborne, M.A., F.G.S.

FROM the three localities of Woulborough, Lummaton and Chudleigh about 334 species are known, of which 104 are common to the two former places, and five occur in all three; among these are *Orthis distorta*, Barr; *Pterinea Wormii*, F. A. Rö., *Pt. ala*, Barr., *A. rudis*, Ph., *A. plicatellus* (= *P. plicatus*, Ph., Pal. Foss.), *A. Cybele*, Barr., *A. consolans*, Barr., *P. lateralis*, Sow., *Hoplomytilus crassus*, Sandb., *Megalodon obliquus* (= *M. carinatus*, Ph. not Goldf.), *Pl.*

[1] Communicated to the British Association, Bath, Sept. 1888, Section C. Geology.

Vilmarensis, d'A. and de V., *Pl. pugnans* (= *Pl. minax*, Ph. Pal. Foss.), *H. interscapularis*, Ph. (including *H. depressus*, Aust.), *H. macrotatus*, Aust. (= *H. tuberculatus*, Ph. not Mill.), *H. ornatus*, Goldf., *Pl. fritillus*, Wiet. and Zieler; *H. Vicarii* (= *H. pentangularis*, Ph. not Mill.), *Pl. quintangulus* (= *Pl. pentangularis*, Aust. not Mill.), and *Rh. crenatus*, Goldf.?; *Receptaculites*, sp. and *Serpula*? *semiplicatus*, Sandb.; and also the following which are new, *Pterinea obovata*, a small deep species like *Pt. texturata*, Ph., but without concentric lamellæ; *Pt. placida*, flatter and more angulated than the last and with more distant ribs than *A. urbana*, Barr.; *Pt. dilatata*, which is larger and wider and with fewer and more distant ribs than the preceding, crossed by crowded growth lines; *Pt. crenatissima*, a longer shell with very anterior umbo, and covered with fine granulated lines crossing minute rays; *Pt. bellula*, a species like *Pt. fasciculata*, Goldf., but with few alternating ribs crossed by distant zigzag striæ; *Aviculopecten hirundella*, separated from *Pt. texturata* by its shorter hinge-line and finer reticulation (the right valve has transverse marks similar to those of *Pt. ala*, Barr.); *A. aviformis*, a flat recurved shell much produced and rounded behind, with very small umbo and wings; *A. comma*, similar to the preceding, but much smaller and with reticulated surface; *A. gracilinus*, a flat elongate sub-equilateral form with minute umbo, notched anterior ear and close alternating ribs; *Mytilus Robertsii*, which is more ovoid and less produced in the postero-superior region than *M. dimidiatus*, Goldf.; *M. stultus*, a short squarish form with fine concentric striæ and a few stronger ones; *M. pinnoides*, which is shorter and has a more direct umbo than *M. uncinatus*, Eichw.; *Myalina elliptica*, a smooth convex ovoid shell differing from *Unio castor*, Eichw., in its more incurved umbo and less dilate wings; *Megalodon? columbinus*, separated from *M. carinatus*, Goldf., by its finer regular plaits, more terminal umbo and the contour of its elevated keel; *M.? prominens*, larger than the last, and with coarser wavy plaits, loftier and more projecting umbo and more oblique anterior margin; *Ctenodonta*? *lepida*, a small flat transverse shell, which is narrower and more convex anteriorly than *P. modiolaris*, F. A. Rö.; *Cardiomorpha? polita*, a flat oblique species unlike *A. damnoniensis*, Ph., in its smoothness and its shorter hinge-line; *Cypricardia neglecta*, with fewer stronger ribs and more definite wing than *M. scalaris*, Ph.; *C. guttata*, with fewer plaits and rounder indentations than *C. crenistria*, Sandb.; *C. ensiformis*, a much flatter and wider shell than *C. neglecta*, and with more and finer plaits; *Edmondia? dubia*, a large wide convex shell, with a recurved anterior umbo, deep area and close indistinct bifurcating growth lines; *Hexacrinus perarmatus*, with calix like *H. macrotatus*, Aust., but covered with sharp regular non-confluent tubercles; *H. microglypticus*, with a convex calix, very long basals and fine ornamentation; *Platycrinus aberrans*, with trilobed attachment, elongate calix, three squarish basals, four or five long radials intercalated with one large and one small subsidiary anal; *Haplocrinus decipiens*, a minute crinoid having a short calix with an elevated

conical summit with key-shaped grooves for the arms; *Tricœlocrinus*? *Leei*, with shorter limbs and shallower excavations than *T. Woodmani*, Wachsm. and Springer; and *Serpula*? *devoniana*, a long straight smooth and cylindrical tube.

II.—Dr. Rüst, on the Occurrence of Radiolarians in the Cretaceous Strata.

Beiträge zur Kenntniss der fossilen Radiolarien aus Gesteinen der Kreide, von Dr. Rüst, in Hannover. Palæontographica, Bd. 34, 1888, pp. 181—214, Taf. xxii. bis xxix.

IN his first memoir on the Radiolarians from the Jurassic rocks, which has been already noticed in the Geol. Mag.,[1] Dr. Rüst called attention to the apparent scarcity of these organisms in Cretaceous strata, but a subsequent examination of about two thousand microscopic sections of the rocks of this period has shown that they are very abundant in some of the lower beds, though very rare in the higher beds of the series. Thus, for example, a reddish hornstone of Neocomian age from Katzenberg in the Trauchgebirge was so filled with Radiolarians that it might properly be considered as a former "Radiolarian ooze." On the other hand, in the Upper Chalk only two species were found, and these were in limited numbers. They were very abundant in beds of the age of the Gault at Zilli, near Wasserleben in Saxony, at Oker and Goslar in Hanover, at Braussrote in the Basses Alpes, and at Escragnolles. In these Gault deposits the Radiolarians were mostly met with either in the body-chamber of Ammonites or in true Coprolites. In these latter they were invariably associated with spicules of siliceous sponges as well as fragments of other organisms, indicating, the author believes, that the animals which produced the coprolites largely fed on sponges. A peculiar feature of many of these coprolites is that they are almost entirely made up of small oval pellets, which are supposed to be casts or moulds of intestinal follicles of the Saurians or fishes through whose bodies they passed.

From the Cretaceous marls of Haldem in Westphalia Dr. Rüst only records the six species of Radiolarians, which were first discovered in these beds and described by Prof. v. Zittel, and from the flints of the Upper Chalk of this country he obtained but two species, *Dictyospyris chlamydea*, and *Dictyomitra Anglica*, both of them new forms. The author thinks that this paucity of forms in the Upper Chalk may indicate their comparative absence in the seas of this period, but it is not improbable that the same destructive action which has dissolved the siliceous skeletons of most of the Upper Chalk sponges, has been still more effectual in destroying the far more minute and delicate Radiolarian tests, most of which only range between one-twentieth and one-fourth of a millimètre in diameter.

From the Cretaceous rocks as a whole, 165 species included in 74 genera were obtained, of which 49 species occur in Jurassic rocks. In general characters the Cretaceous Radiolarians more nearly

[1] Dec. III. Vol. III. 1886, p. 79.

approach those from the Jurassic strata than the Tertiary and Recent forms. The new species are arranged according to the classification proposed by Hæckel in his Challenger work, and figures of them are given in the accompanying eight plates. Dr. Rüst also adds a tabular list showing the geological distribution both of the Jurassic and Cretaceous species.—G. J. H.

REVIEWS.

I.—Fossils of the British Islands, stratigraphically and zoologically arranged. Vol. I. Palæozoic, comprising the Cambrian, Silurian, Devonian, Carboniferous, and Permian Species. With Appendix to 1886. By Robert Etheridge, F.R.S. L. & E., F.G.S. 4to. pp. 468. (Oxford, Clarendon Press, 1888.)

THE ranks of our geological army, like that of most other special scientific bodies, are well-filled with workers of all kinds, nor are writers and compilers absent from its many-sided staff.

Text-books are now so numerous that it is often difficult to advise the tyro which to adopt,—nor are the writers of separate essays and memoirs by any means waning, to judge from the constant flow of these productions which find their way into the pages of the Geological Magazine, the Quarterly Journal, and other similar publications.

The writing of original articles, and describing individual specimens, form perhaps the lightest stratum of our geological architecture.

Monographs on special subjects have also their attractive aspect, but they may fairly be reckoned amongst the more solid portions of our palæontologic structure.

Text-books may be, and very often are, the necessary outcome of a long course of oral instruction, carefully and conscientiously given to students in training; or of an equally arduous pursuit of field-work; but some, doubtless, have originated mainly from a careful application of "scissors and paste," with connective tissue of more or less firm consistence—usually less.

But of those who mainly work for the benefit of others, none deserve our gratitude more than the compilers of Catalogues, especially of such a confessedly arduous work as that of a Catalogue of British Palæozoic Fossils, such as that now before us, prepared by Mr. Etheridge. Indeed, the sources of information lie so scattered, and so much diligence and discernment are needed in dealing with and assorting the varied matters to be gathered together, that one can hardly over-estimate the gravity of the task.

And when all is done—if it ever is done!—much promptitude seems needed to seize the right moment for publication and to get it out before the next flood-wave of new matter pushes the patient and indefatigable compiler back again and prevents him from ever getting his Catalogue issued, or at any rate before it must be