

whole human race is from a single couple, and that such is the legitimate construction of the biblical passages mentioning Adam and Eve, did not appear to him to be a question in Natural History; that is, he conceives it to be impossible, from any natural evidence now existing upon the surface of the earth, either to prove or disprove this proposition, or to render it more probable or improbable, and that it must, therefore, rest for its certainty upon revelation, records, and the grammatical construction and just verbal meaning of an ancient language.

November 23d.

The President, Mr. ORD, in the Chair.

A letter was read from the Secretary of the Acad. C. L. C. Naturæ Curiosorum, dated Breslau, 28th Aug. 1852, presenting the volume of its Transactions acknowledged this evening.

Dr. Leidy presented a paper from M. Tuomey, entitled "Description of some fossil shells from the Tertiary of the Southern States," which, being intended for publication, was referred to a committee, consisting of Dr. Leidy, Mr. Conrad, and Mr. Charles E. Smith.

Dr. Woodhouse presented a paper for publication, describing a new species of Numenius; which was referred to Mr. Cassin, Dr. Wilson and Dr. Heermann.

Dr. Owen presented for inspection by the members, a copy of his Report of the Geological Survey of Iowa, Wisconsin and Minnesota, and called attention to some of the illustrations, which were produced by an entirely new method; the copy of the fossil being *medal-ruled* on the steel plate from the object itself.

November 30th.

Mr. ORD, President, in the Chair.

The Committee on Mr. Tuomey's paper, offered at last meeting, reported in favor of publication in the Proceedings.

Description of some Fossil Shells from the Tertiary of the Southern States.

By M. TUOMEY, Prof. of Geology, Univ. of Alabama.

The fossils described in this paper are from a well known locality at Wilmington, N. C. The bed in which they were found is a coarse calcareous conglomerate resembling, in mineral composition, the compact white limestone of the Santee.

Sir Charles Lyell described this structure in the first volume of the Quarterly Journal of the Geological Society of London, and referred it to the Eocene. In a report on the geology of South Carolina I pointed out the existence of one or two cretaceous forms—Ammonites placenta, Morton, and a Trigonina related to *T. thoracica*, Morton, in the same bed, together with Eocene fossils.

Some of the fossils described are much larger than any occurring in the Eocene, yet as a group, no one acquainted with our cretaceous and Eocene fossils could hesitate in referring them to the latter. Besides, Sir Charles Lyell has given a list, from this locality, of several species found elsewhere in the Eocene.

As the deposit is a conglomerate and in the vicinity of cretaceous beds, it would occur to any one that the presence of a few cretaceous forms could be easily explained by supposing the breaking up of a cretaceous bed, and the transportation of its debris and included fossils into the eocene sea, where they were entombed with the molluscous remains of that period. Nevertheless it is evident that the cretaceous shells were filled at the same time, and with the same mineral matter as those of the eocene found with them, for the casts of both are composed of compact white limestone. Now, excepting the stratum on Timber Creek, New Jersey, none of our cretaceous deposits could furnish the mineral matter of either the casts of these shells or the rock in which they are enclosed. Between the Delaware and Chattahoochee the cretaceous rocks are made up of loose, grey, loamy and silicious strata, without white cretaceous beds; and in Alabama, the rotten limestone, which is the prevailing rock, is entirely different from the Wilmington bed; even the cretaceous deposit in the vicinity, from which it might be supposed these remains were derived, is composed of the usual dark-colored silicious stratum of green sand. It would be equally difficult to account for the presence of these fossils, by supposing that they remained empty and were subsequently drifted into the eocene sea, and there filled with sedimentary matter and buried with the forms of that period. At all events, after a careful examination of the locality, as well as the fossils, I could satisfy myself only by supposing the inhabitants of these shells to have lived and died during the eocene period, to have been cotemporaneous with the forms with the remains of which they are buried.

The fossils to be described are for the most part in the form of casts; frequently, however, casts of both the interior and exterior of the shells occur, and they are generally so characteristic that there can be but little danger of mistake, if even hereafter the shells themselves should be found.

1. *TROCHUS NIXUS*: large; axis very oblique; whorls 5 or 6, flat or slightly concave, marked by revolving lines obsoletely cancellated; suture of the cast deep, of the shell basely impressed; umbilicus open, deep.

Dimen. Spiral angle 74° ; ht. 4; br. 5 in.

2. *PYRULA AMPLA*: ventricose, ovate; spire depressed; whorls 4, last one very large.

Dimen. Spiral angle 100° ; ht. 6 in; br. 4.5 in.

This fossil is also found in the white limestone of the Santee.

3. *FUSUS ABRUPTUS*: ovoid; whorls rounded, ventricose, the last one terminating abruptly in the canal.

Dimen. Spiral angle 70° ; ht. 6 in.; br. 4 in.

4. *CONUS MUTILATUS*: spire depressed; whorls flattened; side longitudinally convex.

Dimen. Spiral angle 101° ; ht. 2.5 in; br. 1.5 in.

Casts of shell are abundant at Wilmington, N. C., and in the white limestone of Alabama. It is also found in the eocene beds on the Santee. They are easily distinguished from the other eocene species. In *C. gyratus*, Morton, the spire is more produced; whilst in *C. sawridens*, Con., it is more depressed. Casts of the latter have the spiral whorls in nearly the same plane.

5. *VOLUTA CONOIDES*: conical; spire short; whorls 4, columellar plaits numerous. Resembles *Conus gyratus*.

Dimen. Spiral angle 87° ; ht. 2 in.; br. 1 in.

6. *TRIGONIA DIVARICATA*: cast of left valve, ribs 15, somewhat acute, converging towards the posterior margin, arched on the umbones, divaricating below. After the sixth rib there is a half rib intercalated.

Dimen. Length 2 in; br. 1.5 in.; ht. 1 in.

7. *T. LUNATA*: ribs 14, rounded, slightly ventricose; posterior margin crenulated.

Dimen. Length 1.75 in.; br. 1.25 in.; ht. 1.25 in.