

in referring in 1834 the New Jersey deposits to the European cretaceous era. He and Mr. Conrad remarked that the American species of shells were nearly all new, or distinct from those before described, and yet very analogous to those of cretaceous strata already known. The New Jersey rocks have been separated into five subdivisions, but of these two only have proved sufficiently rich in organic remains to admit of their being compared with corresponding strata in distant regions. The lower of these consists in great part of green sand and green marl, and was supposed by Dr. Morton to be the equivalent of the English "Green sand;" while an upper or calcareous rock, composed chiefly of a soft straw-coloured limestone with corals, was thought to correspond with the white chalk of Europe. But after carefully comparing my collection, comprising about 60 species of shells, besides many corals and other remains, I have arrived at the conclusion that the whole of the New Jersey series agrees in its chronological relations with the European white chalk, or, to speak more precisely, with the formations ranging from the Gault to the Maestricht beds inclusive. Among the shells, in determining which I have been assisted by Professor E. Forbes, not more than four out of sixty seem to be quite identical with European species. These are *Belemnites mucronatus*, *Pecten quinquecostatus*, *Ostrea falcata* (*O. larva*, Goldfuss), and *O. vesicularis*. Several others, however, approach very near to, and may be the same as European shells, as for example *Trigonia thoracica*, and at least fifteen may be regarded as good geographical representatives of well-known chalk fossils, belonging, for the most part, to beds above the Gault