

the coast transported there by the Gulf Stream. His views are summed up in the following quotations from the second paper referred to:

"The low country has not been produced by the gradual encroachment of the land upon the sea, but became dry land, throughout its whole extent, or nearly its whole extent, at one time."

"Though the low country became dry land throughout its whole extent, or nearly its whole extent, at one time, it was not formed by the sudden transportation, from a distance, into the beds which they now occupy, of the sand and clay which constitute its strata."

"The strata of the low country were formed in the bed of the sea, and this district became dry land either by a depression of the level of the ocean or by the elevation of its bed by a force operating from beneath."

Contributions to the paleontology of the marine Pleistocene of North America were made by T. A. Conrad⁸ in 1835. He lists 67 species of mollusks from Craven County, collected by H. B. Croom.⁹ On the grounds of the large percentage of species in the collection having living representation on the Atlantic Coast, he assigns them to what he terms the "Newer Pliocene." Associated with the mollusks in this bed were sharks' teeth, vertebræ and teeth of fishes, hoof and horns of an elk, and grinder of *Mastodon giganteum*. Enumerating fossils from the same locality in 1842, Conrad¹⁰ referred the bed to the post-Pliocene period, or the upper Tertiary formation. The age of this deposit is now regarded as Pleistocene.

In 1844, Lyell¹¹ noted the occurrence of an assemblage of mammalian bones, including those of the *Mastodon giganteum*, on the Neuse River, 15 miles below New Bern.

A bone bed on Neuse River, from which T. A. Conrad had at one time obtained the remains of the mastodon, elephant, hippopotamus, horse, deer, and elk, all of extinct species, was described by J. W. Foster¹² in 1857. The bed is said to be overlain by a deposit of marine shells, in places 15 feet thick, which belong to the Pleistocene period. He regards the bones as of upper Tertiary age. This is probably the locality in Craven County previously referred to, from which Conrad described a large number of mollusk species. The bone bed is doubtless of Pleistocene age.

The mode of formation and geographical distribution of the swamp lands of eastern North Carolina was described by Ebenezer Emmons¹³ in 1860. He regards the swamp accumulations as of recent origin.

⁸Amer. Jour. Sci., vol. 28, 1835, pp. 104-111.

⁹Amer. Jour. Sci., vol. 27, 1835, pp. 168-171.

¹⁰Proc. Nat'l Inst. Promotion of Sciences, vol. 1, 1842, pp. 171-194.

¹¹Amer. Jour. Sci., 1st ser., vol. 46, 1844, pp. 320-323.

¹²Amer. Assn. Adv. Sci., Proc., vol. 10, pt. 2, 1857, p. 166.

¹³Agriculture. The swamp lands of North Carolina. Pt. 2, Raleigh, 1860, 95 pages.