

1888.

HEILPRIN, ANGELO.—*The Classification of the Post-Cretaceous Deposits.* Proc. Phila. Acad. Nat. Sci., 1887, pp. 314-322, 1888.

The author again refers to the Miocene of the Atlantic Coastal Plain as consisting of the three divisions: "Marylandian," "Virginian," and "Carolinian."

McGEE, W. J.—*Three Formations of the Middle Atlantic Slope.* Amer. Jour. Sci., 3d series, vol. 35, 1888. *Potomac Formation*, pp. 120-143. *Appomattox Formation*, pp. 328-330. *Columbia Formation*, pp. 367-388, 348-366.

Materials exposed on Roanoke River near Weldon, which he regards as representing the Potomac formation of Virginia, are described (p. 126). This is the only reference to Potomac equivalents in North Carolina.

Concerning the presence of the "Appomattox" formation in North Carolina he says: "And at Weldon it rests upon deeply ravined crystalline rocks, save where inconspicuous remnants of Potomac arkose intervene" (p. 330). The formation is said to be the equivalent of at least a part of the "Orange Sand" of Hilgard. As regards the age of the formation, he states that "It is manifestly newer than the fossiliferous Miocene upon which it rests, and older than the Columbia formation by which it is overlain" (p. 330).

The Columbia formation is divided into the *Fluvial Phase* and the *Interfluvial Phase*. Both phases are mentioned as occurring along the Roanoke River in North Carolina. Terracing is mentioned as occurring along Roanoke River in the vicinity of Weldon.

PENROSE, R. A. F., JR.—*Nature and Origin of Deposits of Phosphate of Lime*, with an introduction by N. S. Shaler. Bull. U. S. Geol. Surv., No. 46, 143 pp., 3 pls. Washington, 1888.

Brief descriptions with chemical analyses are given of the character and occurrence of amorphous nodular phosphates in North Carolina. They occur in Duplin, Sampson, Onslow, Pender, New Hanover, and Columbus counties. The most valuable deposits occur at Castle Hayne and near Wilmington, and these are briefly described (pp. 70-75).

1889.

FONTAINE, WM. M.—*The Potomac or Younger Mesozoic Flora.* U. S. Geol. Survey, Monograph XV, 2 vols., 1889. Text 377 pages.

Describes the deposit of supposed Potomac at Weldon as consisting of a thin layer of sands and gravels resting directly upon the crystalline rocks. He believes it referable to the Potomac upon lithologic grounds. He says: "It suggests the idea that the Potomac may be found as far south as this place. The exposure, however, is too slight to be taken as anything more than suggestive of probabilities" (pp. 45-46).

HOLMES, J. A.—*Historical Notes Concerning the North Carolina Geological Surveys.* Elisha Mitchell Sci. Soc. Jour., vol. 6, Pt. I, January-June, 1889, pp. 5-19.

Gives a brief account of the several North Carolina State surveys that have been called geological surveys, including lists of publications.