

Heinrich Ries<sup>23</sup> in 1897 followed Holmes in referring the deposits along Cape Fear River 10 to 60 miles below Fayetteville to the Potomac group. Clays in the railroad cuts at Spout Springs, which should have been referred to the Potomac, were regarded by him as Eocene.

The first data throwing light on the character of the deeper Coastal Plain deposits near the coast was furnished by Holmes<sup>24</sup> in 1900. He describes the section of a deep well drilled at Wilmington, N. C., in which were penetrated 1,109 feet of Upper Cretaceous strata, at the base of which granite was encountered. Dr. T. W. Stanton, to whom the fossils obtained were submitted, referred the upper 720 feet of strata to the Ripley and the remainder down to the granite to the Eutaw. The section is especially interesting as showing the absence of beds representing the Lower Cretaceous, between the Upper Cretaceous and the basal granite.

The Cape Fear River section was discussed by Lester F. Ward<sup>25</sup> in 1905. He describes the river bluffs at Fayetteville and refers them to the older Potomac of Virginia, stating that the beds of arkose probably represent the "Rappahannock freestone," and the interstratified clays probably correspond to the clay lenses in the "James River deposits." The older Potomac beds are said to be transgressed by marine deposits which occupy the top of the bluffs nearly the whole distance. The latter statement is not upheld by the facts as shown by the recent studies of the region. Higher beds farther down the river, on the evidence of imperfect dicotyledonous leaves, are referred to the newer Potomac. Of the Cape Fear section as a whole he says: "The section seems to be complete from the older Potomac through the Marine Cretaceous, and the later Tertiary overlies this last." He regards the arkosic deposit at Haywood as Potomac. The upper beds along the railroad between Sanford and Fayetteville are referred to the Tuscaloosa, apparently upon lithologic grounds. The exposures in the bed of Little River where the railroad crosses that stream are correctly regarded as older Potomac. The supposed Potomac at Weldon is regarded as still problematical.

A résumé of the results of field studies carried on in North Carolina by L. W. Stephenson during the years 1905 and 1906 appeared in 1907.<sup>26</sup>

Three divisions are recognized in the Mesozoic deposits of the Coastal Plain, and their character, geographic distribution, etc., are described.

<sup>23</sup>North Carolina Geological Survey, Bull. No. 13, 1897, p. 46.

<sup>24</sup>Science, n. s., vol. 11, 1900, pp. 128-130.

<sup>25</sup>U. S. Geol. Survey, Mon. 48, 1905 (especially pp. 390-392).

<sup>26</sup>Johns Hopkins University Circular, n. s., 1907, No. 7 (whole number 199), pp. 93-99.