

reached essentially similar conclusions in respect to the Kansas "Dakota" and the marine Kiowa and Mentoo beds of the same State.

In southern Kansas the sediments considered Lower Cretaceous begin with the terrestrial Cheyenne sandstone, in which there are fossil leaves of dicotyledons belonging to species which also occur in the "Dakota" sandstone. The Cheyenne sandstone is succeeded by the marine Kiowa shales, above which are other terrestrial sediments containing fossil plants like those in the Cheyenne sandstone.

In central Kansas the series begins and ends with terrestrial sediments. There are three horizons containing marine fossils which are separated by two horizons of terrestrial sediments in which are fossil leaves. The marine fossils are of the same general character as those in the Kiowa shales. The uppermost marine horizon and the overlying and underlying terrestrial sediments are those known as the "Dakota."

It is quite obvious that all of these strata are of the same general time of deposition, and if the Kiowa shales and the equivalent marine deposits are of Lower Cretaceous or Comanchean age, then the "Dakota" sandstones are of the same age.

Dr. T. W. VAUGHAN mentioned the necessity of critical studies of Washita flora of southern Kansas and comparison of it with the so-called Dakota flora of north Texas, and that plans for conducting this investigation have been made.

Former President John M. Clarke took the chair.

FURTHER STUDIES ON THE JURASSIC OF CUBA

BY MARJORIE O'CONNELL

(Abstract)

During the summer of 1919 Mr. Barnum Brown continued his stratigraphic work in Cuba and made extensive collections from the Jurassic rocks, obtaining a large and valuable series of ammonites which were submitted to the author for study. In addition to this material, a considerable number of ammonites were received from Dr. Rorg, of Havana, from the study of which the existence of the Upper Cortlandian in western Cuba has been established, in addition to the Upper Oxfordian, the discovery of which was announced at the Baltimore meeting of the Society.

A preliminary paleogeographic map of Cuba, Mexico, and adjoining regions for Upper Jurassic time was presented and a list given of additional species of ammonites not heretofore reported from Cuba.

Presented without notes.

Discussed by Dr. T. W. Vaughan, with reply by the author.