

strata go down under the Tertiary, and probably under the Gulf and a portion of the Atlantic.

There is no proper chalk in the Cretaceous beds of the United States. In the Gulf States, however, is a buffish soft limestone, called the "Rotten Limestone," slightly resembling chalk. As it disintegrates and mingles with vegetable matter, it forms a very rich, black soil. This underlies the very best cotton lands of Georgia, Alabama, and eastern Mississippi. The lower part of the System contains beds of sand interstratified with clays and shales. These convey rain water down and southward from their belts of outcrop. So when holes are bored from the surface down to these water-bearing sands, supplies of water are obtained. Hence it is, that at Selma, Cahaba, and throughout the Cretaceous region, Artesian wells abound.

The Cretaceous rocks of the Gulf States are rich in fossil remains; often, in riding along the highway, one's eye is arrested by some weathered knoll close by the roadside, thickly overstrewn with teeth and vertebræ of sharks and rays of various extinct species—as if one were traveling over a sea-bottom. Here also, are multitudes of small and curious oyster shells, and many other sorts of shells. Where the rivers and creeks have cut through the Cretaceous strata we find excellent sections. One of the most famous of these is at Prairie Bluff, on the Black Warrior river, in Greene county, Alabama. Here the "rotten limestone" is at the top; then come beds of sand formed evidently, not far from the ancient shore, which lay on the north, just beyond Selma and a little south of Tuscaloosa. These sands contain bits of wood, and, in one instance, I remember seeing the trunk of a tree projecting several feet from the cliff toward the river. The wood contained a good amount of *iron pyrites*, but some of it could still be cut with a knife. Here is one layer of cemented sand completely packed with small oysters. How many of these savory bivalves must have gone to waste in those middle geologic ages! But I suppose they served as food for other animals whose appetites were as worthy of regard as man's. In