

XXVIII. THE CEMETERIES OF THE BAD LANDS.

TERTIARY FOSSILS.

THE "Bad Lands" in the dialect of the trapper and Indian, are regions unfavorable to the pursuit of their occupations; as the snow-covered slopes of the Alps are *Monts maudits* (cursed mountains) in Savoy, and an unavailable ridge in the Pyrenees is *Monte maladetta* to the Spaniard. The Bad Lands of the United States are underlaid by Tertiary strata which have been worn and wasted in innumerable fantastic shapes, and excavated on so vast a scale as to expose to view the relics of the creatures buried beneath the rubbish of hundreds of thousands of years. In order of succession these strata lie further than the Quaternary deposits from the completed surface. Still, there are extensive regions where nothing more modern covers the wastes of the Bad Lands; but that is only because the work of geological building stood still during an epoch.

Inspect the rocks of some Tertiary district; we are pretty sure to find them horizontal or nearly so. Along the Atlantic and Gulf coasts, they slope gently toward the sea. In some parts of the Pacific coast, the Tertiary strata have been tilted to high angles and subjected to metamorphic action. In the interior of the continent they generally lie in positions nearly horizontal. Tertiary strata which slope down to the sea and under it—or once had such a slope—are of marine origin, and contain relics of marine populations. In the interior, we find the fossil remains mostly those of fresh water and the land. In some of the deepest Tertiary of the interior, the aquatic forms are brackish-water species; and those from the lowest beds are sometimes salt water species. These facts are important in setting in order the history of Tertiary times.

Let us visit one of these desert spaces of the continent. We leave the valley of the upper Missouri and travel overland across plains parched by drouth and clothed only with scattered sage brush. The buffalo is not found grazing here;