

occupying the same region ; many, perhaps most, of the genera being now represented in our forests—such as *Liriodendron*, *Platanus*, *Acer*, *Populus*, *Salix*, *Alnus*, *Fagus*, &c. These specimens have been collected in localities included between the 36th and 41st parallels of latitude, but range from the 74th to the 110th longitude. Nowhere within this area have I yet detected any traces of palms or any indications of a tropical climate. At the base of the Yellow Sandstone series of New Mexico (Lower Cretaceous) I have found a varied and interesting flora, containing *Pterophyllum*, *Nilsonia*, *Camptopteris*, &c., with a few Angiosperm dicotyledonous leaves. This is evidently the point of junction between the Cycadaceous flora of the Jurassic age and that of the chalk ; for in the entire overlying Cretaceous strata, 4000 feet in thickness, though Angiospermous leaves are abundant those of Gymnospermous plants were nowhere discovered, nor any traces of palms, either leaves or stems. The sandstones of the Cretaceous series contain immense numbers of silicified trunks, but they are for the most part coniferous.

4th. For the glimpses have I obtained of the tertiary flora of North America I am mainly indebted to the kindness of Dr. Hayden who has spent several years in most successfully exploring the geology, botany, and zoology of the country bordering the Upper Missouri. Among his rich collections are fifty or more species of beautifully preserved fossil plants from the Miocene, which have been put into my hands for examination, and of which descriptions will be published, immediately after my return to Washington.

Not having the specimens, or my notes on them, with me, I can speak only generally of the flora they represent. I remember, however, that they include species of *Platanus*,—one of which closely resembles Unger's great *P. Hercules*, and is perhaps as large ; *Populus*, *Acer*, *Castanea*, *Sapindus*, *Carpinus*, *Ulmus*, *Diospyros*, *Quercus*, *Salix*, *Taxodium*, and others which indicate a flora in all its general aspects similar to that now occupying the Valley of the Mississippi. A few plants in the collection would seem to have required a somewhat warmer climate than that which the localities where they are found enjoy at present ; but there are no palms amongst them, nor any of the tropical genera *Cinamonium*, *Sterculia*, *Dombeyopsis*, &c. so common in the Tertiary strata of Europe.

In the enumeration of the Miocene plants of the Pacific coast given by Mr. Lesquereux I find also evidence of a marked and in-