erous rocks appear to have been followed by the Mesozoic without extensive intervening upturnings in the region of the Wasatch and through the whole length of the mountains, from western Texas and Mexico to the Arctic Seas.

But west of the Wasatch belt, in the mountain ridges of the Great Basin to the meridian of 117½° W., according to King, Carboniferous limestone is to a considerable extent the surface rock, there being no overlying Mesozoic strata; and this limestone and the older Paleozoic formations are flexed and faulted in mountain-making style. The time of the upturning is uncertain because of the absence of later beds except over the region beyond the meridian of 117½°. But, as King implies, it took place probably at the close of the Paleozoic.

The Eureka Mountains in the Great Basin (near 116° W. and 39½° N.), described by Arnold Hague (*Geol. of the Eureka District, U. S. G. S. Memoirs*, 4to, vol. xx., 1892), are one of the mountain groups of eastern Nevada, which probably was upturned at this time. The prominent ridges, which were produced largely by faults and uplifts (their maximum displacement 13,000′), are: the Prospect Ridges, consisting of Cambrian and Silurian rocks; the Fish Creek Mountains, Silurian; the Silverado and Country Peak, Silurian and Devonian; Diamond Mountain, Devonian and Carboniferous; Carbon Ridge and Spring Hill, Carboniferous. The thickness of the formations, as deduced from several sections, according to Hague and Walcott, is as follows: Cambrian, 7700′; Silurian, 5000′; Devonian, 8000′; Carboniferous, 9300′, — in all 30,000′. This great thickness indicates, as Hague suggests, that a profound geosyncline north and south in trend was here made. The Eureka, Carboniferous, Devonian, and Silurian beds have been traced from the Eureka district westward to that of the Piñon Range, which is an indication that the latter range participated in the geosyncline. How far north the belt extends remains to be ascertained. The Archæan ridge of the East Humboldt Mountains stands to the east and north of the Eureka Range.

The Eureka geosyncline was wholly independent of that of the Wasatch, as shown by the thicknesses of the several Paleozoic formations occurring in the two; for the thickness of the Silurian of the Wasatch is only 1000′, of the Devonian, 2400′, while that of the Carboniferous is 14,000′. Whether the Silurian unconformability in the Eureka region between the Lone Mountain limestone and the underlying quartzyte is a result of an upturning at the close of the Lower Silurian, or of later faulting, does not appear to be determined by the observed facts.

UPTURNINGS IN FOREIGN COUNTRIES.

Regions of upturned rocks are the only kind in which there is good reason to look for unconformabilities. Through the course of Paleozoic time in Europe, disturbances appear to have been more frequent than in America. But they were inferior in extent to those at its close. Murchison remarks that the close of the Carboniferous period was specially marked by disturbances and upliftings. He states that it was then "that the coal strata and their antecedent formations were very generally broken up, and thrown, by grand upheavals, into separate basins, which were fractured by numberless powerful dislocations." In the north of England, as first shown by Sedgwick, and also near Bristol, and in the southeastern part of the Coal-measures of South Wales, there is distinct unconformability between the