

6. *Ranges, Systems, Chains, Cordilleras in North America.*—From the explanations given it is apparent that a *mountain range* includes all the mountain ridges made over the area and border of a *single geanticline*. The Appalachian is an example 900 miles long; it comprises many ridges, but these are made by denudation. Ranges are the individuals or units in mountain structures.

A *mountain system* includes all ranges in a region made in different, more or less independent, geosynclines *at the same epoch*. Besides the birth of the Appalachian Range at the close of the Carbonic era, there was also the birth of an Acadian Range, from Newfoundland through Nova Scotia, and probably to Rhode Island. Here are two simultaneously made ranges on the Atlantic border, and they may be regarded as parts of an Appalachian mountain system. Again, in western Arkansas, the upturned Paleozoic rocks constitute the Ouachita Mountain range, which, as L. S. Griswold has suggested, pertains to the Appalachian Mountain system, the axis of uplift conforming to the southern portion of the latter in Tennessee and Mississippi. As another example, the Wasatch Mountains constitute one of the Laramide ranges. But the mountains to the north of Montana, in British America, described on pages 359–60, were evidently made over another trough in the same line, and correspond to *another* Laramide range. So there are others, and as many as there were independent or partially independent Laramide troughs along this line in the Rocky Mountains; and all the mountain ranges originating from these troughs make up the Laramide Mountain system of North America, over 4000 miles long.

A *mountain chain* is a combination of mountain systems, or mountain belts of *different epochs*. On the Atlantic side, there is, along the Appalachian belt, a combination consisting of the Appalachian system of post-Carboniferous age, the Taconic system of Middle Silurian age, and an Archæan system; and the Palisade mountain system, of Jurassic age, may be added. Together they constitute the Appalachian Chain.

In the Rocky Mountains, the main Rocky Mountain *Chain* of British America, which, as has been stated, is continued southward along the Wasatch Range, includes an Archæan system and the Laramide or post-Cretaceous system. The chain is not continued in sight, south of the Wasatch; but the line is an important geological boundary, it being the western limit of the Cretaceous formation, and the eastern of the Great Basin. The Front Range of Colorado, as it is called, is the course of another Archæan system and also of other Laramide uplifts, and, therefore, of another summit chain, — which may be called the Colorado Chain.

Again, nearer the coast, the mountain belt which includes the Sierra Nevada of California, the Cascade Range of Oregon and Washington, the long Coast Range of British Columbia, as it is called by G. M. Dawson, together with the range to the south, 1000 to nearly 5000 feet high, along the California peninsula, are parts of a Sierra chain, combining ranges or systems of ranges, of Archæan and later time. In like manner there is a