systems, among which are the Kootanie, the Columbia, Canoe River, the Fraser, Bad River, the Parsnip, the Finlay and the Tochieca. The link between Bad River and the Fraser has not yet been surveyed, and its extension, if any, beyond the Tochieca is still unknown. Its width varies from two to fifteen miles, and it is everywhere inclosed, except for some distance along the west bank of the Parsnip, by mountain ranges varying in height from 3000 to 6000 feet or more above the valley.

Width of valley.

The width of the valley does not depend on the size of the stream which occupies it at any particular place. It is fully as wide along the smaller streams and at the watersheds which separate the different streams, as along great rivers like the Columbia and the Finlay. The average height of the bottom of the valley above the sea is about 2300 feet, and the variation in height is about 1000 feet. The heights of the watersheds in the valley are approximately as follows: Kootanie-Columbia, 2740 feet; Columbia-Fraser, 2900 feet; Peace-Liard, 3100 feet. The increase in height of the watersheds toward the north, does not hold good in regard to the depressions. The Columbia leaves the valley at a height of 2050 feet, the Fraser at a height of 2100 feet (?), and the Peace at a height of 2020. The two former streams break through the ranges bounding the valley on the west, while the latter cuts through its eastern walls. None of the streams occupying the great valley, the salient features of which have just been described, are doing much rock-cutting at the present time. Secondary valleys are being sunk in most places through the old floor, but the cutting is usually through glacial deposits. The principal exception to this is in the case of the Columbia, which has done considerable rock excavation in the reach extending from above Donald down to the Big Bend, the point at which it leaves the valley. It now flows, for part of the distance, in a rock-walled narrow channel eroded through the floor of the old depression. In no place is any widening of the old valley going on.

Height above the sea.

Age of valley

The age of the valley has not been worked out, but it is evident that it long antedates the inception of the present drainage system of the country, and may have been in existence before the elevation of the Rocky Mountains proper. Rocks of Tertiary age (probably Miocene) are supposed by Dr. Dawson to underlie part of the southern portion of the valley, while sandstones and conglomerates of Laramie age are found in places along both the Parsnip and Finlay. Glacial deposits are present throughout its whole extent.*

*See on this great valley, sketch of Phys. Geol. and Geol. of Canada, Selwyn and Dawson, 1884, p. 34. Annual Report, Geol. Surv. Can., vol. I. (N.S.), p. 28 B.