

Of the foregoing section the subdivisions G and H, doubtless represent the Trias or Jura-Trias which with similar lithological characters is very extensively developed in the Rocky Mountain region further south. The conditions indicated are those of an inland lake, and the occurrence of mud-cracks, ripple-marks, and the impressions of salt crystals show that considerable surfaces were at times dry, or but lightly covered by water. These beds have not been found further north in the range than the North Kootanie Pass, and it would appear probable that this is about the ancient limit of the Triassic inland sea. About the Peace River, Triassic beds have been found, but they are dark shales and sandstones quite different in character, and hold marine fossils of the age of the 'Alpine Trias' of the Western States. The Permian is not certainly known, though subdivision F may represent it. The trap E is evidently a contemporaneous flow, and has not been found further north than the Triassic beds. The massive limestones, D., are the most characteristic beds of this range and appear to be persistently so throughout its whole extent. From fossils elsewhere found they are known to be Devonian or Devonian-Carboniferous. They must vary much in thickness, as on the Crow Nest Lake, forty miles to the north-west, they have a volume of 9,600 feet.

The unconformably underlying divisions C., B. and A. may now be provisionally classed as Cambrian, on the evidence of a few fossils found in the Columbia valley, and from analogy with beds described in the Western States since this section was first published, though it is quite possible that Silurian beds may also be included. In some places, west of the Flathead River, the red beds included with these are characterized by sun-cracks, ripple-marks and prints of salt crystals precisely resembling those of the Trias and indicating similar conditions of deposit, though of vastly greater antiquity. Contemporaneous flows of diorite or diabase are also found at some horizons, and in tracing this series of rocks, which must in the aggregate be of great thickness, from point to point in the range, its lithological character is found to be very varied, and the subdivisions worked out in the neighbourhood of Waterton Lake, would appear to be inconstant.

In the Peace River district, on the 55th and 56th parallel, the axial mountains of the range are composed of massive limestones of Devonian and probably also of Carboniferous age, associated with saccharoidal quartzites. On the west side these were believed to underlie a series of argillites which occasionally becomes micaceous schists and slates, and also includes quartzites. These are known to occupy a long trough east of the Parsnip river, and cross the Misinchinea with considerable width. The Triassic shales, with *Monotis*, &c., being