FEB. 27, 1871.]

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benches, These valleys are from one to five miles in width, and 700 or 800, sometimes, as Canoe Creek, 1200 feet deep by my measurement. The surface is scored and grooved in every direction by the action of great whirls and torrents, but mainly as if vast quantities of oozey mud and débris had been pushed down into the valley from the side hills. In many places I have noticed very curious little conical hillocks, just like the peaks of volcanoes, but formed of the same aquatic gravel and loam. In two or three I have found a sort of core of bed rock, and it seemed as if their formation was due to this latter arresting the lacustrine deposit, and these may thus have been formed into a cone by the whirl of eddies or by the effect of gravity, as may be seen any day by tilting over a cart of gravel on a small boulder.

There is yet one other phenomenon to which I have alluded, which occurs frequently in British Columbia, as might be expected from the steepness of its mountain sides, the nature of the bench formation which adheres to them, and the vast quantity of snow and rain which falls in so mountainous a country—viz., landslips.

Three, at least, of these have within the memory of man fallen into the Fraser, and nearly dammed up, however temporarily, that enormous river, viz., one about 12 miles above Lytton, the ruins of which still remain, one about 10 miles above Lilloett, and one two or three miles below the present Fort Alexandria, which caused a flood sweeping away the old fort with all its contents, and causing the loss of many of the Hudson Bay Company's employés there. The fort was thereupon established on the bench referred to by Mr. Robinson. There are several "dry" landslips, if I may so term them; of these two or three examples may be seen near Soda Creek, one of which is about one mile long and half a mile wide. Other beautiful examples may be seen in the Pavillon Creek, nearly 21 miles from Lillott, on Thomson River, 15 miles from Lytton, on Bridge River. Some of these are several miles in length, and must include thousands of acres. In most of them trees growing at the time of the slip are still growing on the displaced mass, leaning at every angle with the horizon.

In some the bench seems to have gone down sheer, bearing with it, unharmed, all that was growing on it, and leaving a perpendicular cliff. In some, the displaced surface seems to have moved painfully and grindingly over the subjacent bed-rock, and the surface is broken into a thousand irregularities; at Pavillon, and on Thomson, the mass looks not unlike an earthern "glacier du Rhin."

Dr. Cheadle made the following observations on the paper:—The benches, or terraces of British Columbia are levels or ledges found on the side of the valleys