

of the Thomson and Fraser, two of the principal rivers in the country, and also in the valley of the Columbia River. They are found all along the valleys, from the mouth to very nearly the sources of the rivers, and at different levels, —the terrace on one side corresponding with that on the other. This is not, however, always the case, for here and there one of the pair of terraces has been washed away. As you may well imagine, where the stream has risen unusually high, or a landslip has occurred, a terrace may have been carried away on one side or the other. These terraces give a most peculiar character to the scenery. It is said that Nature abhors a straight line, but here you have nothing but straight lines. Instead of the ordinary undulations met with at the bottom of a valley, or simply an alluvial flat, you have a succession of terraces rising one above the other. In travelling up the river you go along one of these terraces for a certain distance, then suddenly you are brought up by a sloping bank like the face of a railway embankment; you ascend it, and find yourself upon another level plain; you go on for a certain distance, and you come to a similar embankment, and so it is throughout. These terraces have been observed on other rivers; and they are, perhaps, more numerous and extensive on the Columbia River than on the Fraser and Thomson. Similar terraces are not unknown also in other parts of the world. They have been noticed, I believe, in some of the valleys of the Himalayas, and have been described by Dr. Hooker. The parallel roads of Glen Roy in Scotland are well known; and similar benches have, I believe, been seen on some of the rivers of Patagonia. Nowhere, however, are they so numerous, so striking, or prolonged over so extensive a district, as in British Columbia and Washington Territory. They are found over the whole watershed of the Fraser, Thomson, and Columbia,—an extent of country amounting to about 200,000 or 300,000 square miles. The others are merely isolated cases in comparison. The character of the country where these terraces occur is very striking. After traversing the central plains of the North American continent from east to west, and surmounting the steep ridges of the Rocky Mountains, you find, instead of a corresponding plain on the western side, that you are still amongst mountains. The view from the western slope of the main chain over British Columbia is one of the most magnificent, perhaps, in the world. In every direction, as far as the eye can reach, extending apparently to the ocean, nothing but a closely packed mass of mountains is visible; many of them the loftiest snow-clad peaks, and separated only by the narrowest valleys. Washington Territory, which is drained by the Columbia, is less mountainous, but is still intersected here and there by great mountain-ranges.

The nature of the material of which these benches are made, their uniform level, and the straight lines, all prove satisfactorily that they are water formations; and their being found only on the river valleys, and disappearing as soon as you pass through the estuaries, proves that they were formed by the action of *fresh* water. It is a matter of extreme interest, and there has been much speculation, as to how these terraces have been formed. They have been formed by water, but in what way? Do they bear any relation to one another? Are the terraces in Scotland and India and British Columbia all parts of a system resulting from a common cause, or do they depend on local causes?

Mr. Gibbs, geologist to the United States exploring expedition 1853-4, observed these terraces on the Columbia River, and gave an accurate and careful description of them, arriving at the same conclusion as Mr. Begbie, that they are water formations, the relics of extinct lakes. But it seems to me that Mr. Begbie's explanation of this drainage having been effected by the gradual upheaval of the mountains through the river-beds is hardly sufficient; for I think, if that were so, we should have one level flat representing the original bed of the lake, and no terraces of successive elevation. The suc-