

Indians, but with the natives of Polynesia; both require looking after before going on a journey, and will seldom burden themselves with food.

At the place where we embarked I tried the velocity of the stream, which I found three miles per hour, but in some places it was much more rapid. The temperature of its water was 48° Fahrenheit.

During the night I succeeded in getting several observations of stars, for latitude and longitude.

The next morning we made a start betimes, in order to reach Astoria at an early hour. A short distance below our encampment we passed the east fork of the Cowlitz, which is smaller and not navigable even for canoes. We also passed the mouths of several small streams on the west side. Plumondon pointed out that side of the river to me as good trapping-ground, and amused me by the narration of many of the difficulties he had to encounter in taking his game. About noon we reached the Columbia.

The Cowlitz river takes its rise in the Cascade Range, near Mount Rainier, and has many short turns in it. Its banks are tolerably high, until it approaches the Columbia. It is only at high water, in the spring and fall, that the river can be used for boating, at which time the supplies from Vancouver are sent, and the grain, &c., returned, in large flat barges. The soil along the river appears to be of a good quality, a clayey loam with vegetable mould, over trap rock and sandstone. The prevalent trees were poplars, soft maples, ash, fir, pine, and cedar, with some laurel, where the prairies are so low as to be flooded in the month of May.

On this river it was reported that coal of a good quality existed, but I examined all the places that indicated it, and only found lignite. This exists in several places, but the largest quantity lies above the East Fork: several specimens of it were obtained.

In the month of September following, I examined the Cowlitz, and found it exhibiting a very different character. A few miles above its mouth there was not water enough to float even a boat, and it was besides filled with rapids. It is not navigable for barges more than three months in a year. The distance we passed down the Cowlitz did not exceed twenty-six miles, although we had been told that it was more than forty.

The route by the way of the Cowlitz will in all probability be that which will hereafter be pursued to the northern waters and sounds. Although there are many difficulties in crossing the rivers, &c., yet it is believed to be the most feasible course.

On our way we met with many canoes passing up, loaded with