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River might eventually be necessary. The hope of avoiding this alternative seemed to rest upon the success of three lateral explorations. The first, that by way of the Otter branch, the success of which has already been mentioned. The second, that by way of the southerly opening, towards the supposed head of the Restigouche. The third, with a view to the discovery of a more favourable descent from the north-west branch of Green River, into one of the more northerly valleys of the Toledi, or, if necessary, into the valley of the

Rimouski.

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Leaving Mr. Ramsay with directions to make these three explorations, as far as practicable, I proceeded to employ as much as might be available of the rapidly-advancing season, in order to ascertain, by canoe, the character of such other routes as the country might afford from the Restigouche north-westwardly. The routes I had in view are distinguished on the sketch as No. 2 and No. 3.

Omitting the circumstantial matters of the exploration, I will commence my description at the Wagan Stream, the most southerly branch of the Restigouche. From hence, at an ascertained elevation of about 550 feet above the level of the sea, appears to be a favourable range of comparatively flat country, as observed from several commanding points of view, and as described by those who have passed over it towards the Sisson branch, a favourable stream of moderate current, through a flat valley, and joining the main Tobique River, where the elevation has also been approximately ascertained at about 600 feet above the sea. The exploration of this extension of our route continued by way of the right-hand branch of the Tobique towards Boistown, would probably have occupied the remaining portion of the season, had circumstances permitted me to leave the country behind me with satisfaction. This route, as marked by the dotted line in the sketch, is not much less favourable for communication with route No. 1, than with No. 3; but natural obstacles would render it apparently more difficult for continuation north-westward by route No. 2.

I may indeed here remark, that natural obstacles seem to magnify both to the north and south of the Restigouche, as we advance eastward. Above the confluence of the Wagan, the banks of the Restigouche are comparatively favourable all the way up the stream as far as explored or observed. Descending the same stream below the Wagan, the banks become more abrupt and steep, but are neither so close or angular, but that much cutting may be

avoided by occasional bridging, and the inclination of the valley is very favourable.

The mean rate of descent from the Wagan to the sea cannot exceed seven feet per mile by the course of the river, but the much greater part of the aggregate descent must apparently occur above the Quatawamkedgwick, and cannot be estimated at a less mean rate than 10 to 15 feet per mile. But diverging from the valley of the Restigouche by route No. 1, we find the banks of the Gounamitz higher and steeper than those of the head of the Restigouche, by route No. 3, and again we find the banks of the Quatawamkedgwick by route No. 2, still higher and steeper than either, rising in fact 1000 or 1200 feet very abruptly above the bed of the river.

With regard to the last-mentioned route, it was at first my design to explore the Quatawam-kedgwick by canoe to its extreme northerly source, to have found the most favourable communication thence to the valley of the Rimouski, and to have explored the latter as far as practicable. But insufficient opportunity of preparation, the advanced state of the season, and unforeseen causes of delay, obliged me to abandon the more difficult part of the undertaking, and I discontinued my ascent of the Quatawamkedgwick about a mile up the north or main branch, returning thence and ascending by the south branch, less for the purpose of exploration than for a more direct return to the party I had left at Green River. As far as I am able to speak from personal observation of route No. 2, the rate of inclination of the valley of the Quatawamkedgwick is no doubt favourable, say not exceeding 15 to 30 feet per mile up to the south branch. Above this point, the inclination of both the north and south branches appears to be steeper, at least for some distance, say not less than 35 feet per mile; but I have reason to believe that towards the head of each of these branches, but especially the north branch, there is much flat ground. But to render these inclinations available, however, it is most probable that the amount of bridging and cutting would prove to be heavy, owing to the very limited portion of flat margin, and the abruptly steep, and generally rocky character of the banks. An exact survey might prove these obstacles to be more avoidable than they appear to be; but without such survey no safe opinion could be formed.

These remarks will be understood to apply only to the main Quatawamkedgwick. The valley of the south branch is at several points wholly unfavourable for a railway, but it affords

lateral openings which might be available.

Upon returning to Green River by way of the portage from the south branch, I found that the party I left there, having explored the Otter branch route, and cut out and surveyed the portage, had proceeded on their way to explore from the north-western branch of Green River, with the view already explained; but having met you on the way, received your directions to return, and to explore more minutely the apparently objectionable part of the valley of Green River before described, and shown in sketch No. 2, until I should rejoin them. This circumstance fortunately coincided with directions which in the meantime I had found it necessary to send them, to return and meet me at the portage; foreseeing, in consequence of unexpected casualties and delays, that it would be impracticable to rejoin them either in the valley of the Rimouski, or of the Toledi, as at first intended.

We had already been warned by snow and severe frost that only a small portion of the season remained. It appeared most desirable that this should be employed in tracing the supposed communication southerly from the east branch of Green River to the head of the Restigouche, and to join the survey to the end of my exploration by canoe, a little above the