

Then there was a long period of quiescence, during which the base-level of the country was raised, permitting heavy accumulation of gravel in the valleys, while at the same time the hills and ridges were worn down to mature forms. At the mouth of the valley of Bonanza Creek the local gravels, derived from the watershed of the creek itself, accumulated to a thickness of more than 200 ft. These gravels can still be recognised forming terraces at many places on the hills several hundred feet above the bottom of the valley, and Mr. McConnell, who has carefully measured them, has shown on a map accompanying his report a pay-streak running in a very straight line through and beneath them. According to the laws here formulated, this pay-streak was formed in the bottom of the old V-shaped valley, which represented the valley of Bonanza Creek at the White Channel period in its youthful stages, and it now tells us the original position of the bottom of that V-shaped valley.

Just before, or at the termination of, the second cycle of erosion, the Klondike River brought a heavy load of sediment down from the mountains to the east, and covered the bottom of its own valley, and the mouths of its tributary valleys, with a bed of gravel, which, opposite the mouth of Bonanza Creek, has a thickness of 150 ft. The influx of this gravel caused the lower portion of the latter stream to move westward, almost to the limit of its own flood plain, and to be ready to begin a new rock valley with the advent of the next erosion cycle.

After the deposition of this upper gravel in the valley of the Klondike River a period of elevation[†] set in and the third cycle of erosion was inaugurated, which has continued down to the present time.

With the advent of this cycle of erosion the Yukon River was rejuvenated and again began to actively deepen its channel, and at the same time the tributary streams also began to deepen their old channels, or to cut out new ones, in order to keep pace with the master-stream. The Klondike River, the largest affluent of the Yukon in this district, probably did not lag very far behind it in the work of downward erosion, but its tributaries, such as Bonanza and Hunker Creeks, undoubtedly continued to flow in narrow, V-shaped

* Report on "The Gold Values in the Klondike High Level Gravels." By R. G. McConnell, Ottawa Government, 1907.

† In a paper published in the *Scottish Geographical Magazine* for June, 1900, entitled "The Basin of the Yukon River in Canada," I stated that this elevation was probably in the nature of a tilting from the south-west towards the north-east, but in view of the fact pointed out by Mr. McConnell that the rock terrace of the White Channel period, on the sides of the valley of the Yukon River, now rises steadily northward from the mouth of Stewart River to the mouth of Forty Mile River, this opinion is no longer tenable.