

You will observe that I have paid more particular attention to the higher levels of the flood period, or the pleistocene drainage, than to the pliocene, or later tertiary drainage, when our humble but interesting ancestors must have already spread themselves by their characteristic enterprise, over all the "known and unknown" parts of the temperate latitudes of the globe. The great valley of the St. Lawrence which is now filled by Lakes Ontario, Erie, Huron and Superior undoubtedly existed in the Pliocene tertiary, that is, before the advent of the flood period. It must also have had an outlet.

The confluent ice body into which the ice streams developed at the period of extreme precipitation and cold ended southwards in Pennsylvania and Ohio as is delineated by H. Carville Lewis, of the Pennsylvania Geological Survey, (Report 2 in 1884).

Necessarily great river valleys existed before the advent of the ice streams, and of the confluent ice body referred to. They were at first followed by them; but finally in many instances they were filled up and altered in course by the debris of the glaciers; and neatly plastered over, and hidden beyond suspicion, by the loaming clays of the happy Canadian farmer. These ancient rivers of the preceding (tertiary) epoch had already cut down deep into the Cambro-Silurian bed rock; for this country had been untold ages out of water. You cannot go to the Chats Rapids, and to the Grenville and Lachine rapids, and point to the exposed bed rock in evidence of the depth of the former erosion, because the ancient streams, as is well known, have been diverted in many well known cases.

Suppose this country to be raised 1,000 feet higher above the sea, and new streams to have dug down until they unearthed the old ones, in patches and remnants; these filled with gold to tempt the miner to a frenzy of investigation, and you will have before you the conditions of the mining industry of surface geology on the Pacific Coast. Every body in that school becomes a geologist by profession. The Chinaman and the white man together become experts, because their fortune depends upon their reading nature skilfully and correctly.

In reading the record of the boulder clays and of the leda clays of this country we read the history of its former rivers, and naturally of its inhabitants, its vegetable and animal life, the kinds that existed before the flood of our own most ancient and interesting tradition.