

road, where extensive exposures of these gravels have been made, the deposit is undoubtedly undisturbed. No implement could have come into this gravel except at a time when the river flowed upon it and when they might have sunk through the loose and shifting material. All the evidence points to the conclusion that at the time of the Trenton gravel flood, Man in a rude state, with habits similar to those of the River-drift Hunter of Europe, and probably under a climate similar to that of more northern regions, lived upon the banks of the ancient Delaware, and lost his stone implements in the shifting sands and gravel of the bed of that stream. The term "Eskimo period" has been suggested³³⁸ for that of the Trenton gravel, in accordance with the view that present boreal races are the descendants of the ancient palæolithic man.

The actual age of the Trenton gravel, and the consequent date to which the antiquity of man on the Delaware should be assigned, are questions which geological data alone are insufficient to solve. The only clew, and that a most unsatisfactory one, is afforded by calculations based upon the amount of erosion. This, like all geological considerations, is relative rather than absolute, yet several calculations have been made, which, based either upon the rate of erosion of river channels, or the rate of accumulation of sediment, have attempted to fix the date of the close of the glacial epoch. By assuming that the Trenton gravel was deposited immediately after the close of this epoch, an account of such calculations may be of interest. If the Trenton gravel is *post*-glacial in the widest acceptation of the term, a yet later date must be assigned to it.

When a student of surface geology, who has lived south of glacial action, examines for the first time the true glacial drift and sees the kame-like ridges and bowl-shaped depressions maintaining regular outlines and steep slopes, he cannot but be struck with the comparatively recent look of these deposits. He cannot but believe that if the great periods of time have elapsed since their deposition, which

³³⁸ Lewis, Proc. Acad. Nat. Sci. Philadel., 1880, p. 308.