

physical conditions of the ground seem to me very unfavorable." Prof. G. K. Gilbert, on June 15, 1881, wrote: "My first geological field work was in the drift of the Erie basin, and the problem of the origin of the basins of the great lakes has always had great attraction for me. Had I been able to understand its solution, my working hypothesis would have been that which you have demonstrated so thoroughly. \* \*

\* The matter has certainly never received a demonstration until your paper appeared. \* \* \*"

At this time the writer was struggling to find the outlet of the basins, and looked in every possible direction for buried channels without avail. While the St. Lawrence valley, beyond the outlet of lake Ontario, was evidently only a continuation of the drowned valley occupied by the lake, and while the lower St. Lawrence indicated an elevation of the continental region to more than 1,200 feet (when the cañon of the Saguenay was being excavated), the evidence of the local oscillation of the earth's crust was not yet forthcoming. The deep cañon of the Dundas valley, and the observations of Prof. Gilbert that the Irondequoit bay was drowned to a depth of 70 feet was taken as evidence of terrestrial oscillation, but later the writer found that the St. Lawrence, after leaving Ontario, was in part flowing over a valley buried or drowned to a depth of 240 feet; accordingly the Dundas and Irondequoit valleys were no evidence of local oscillation, which had to be found elsewhere.

In concluding a notice of this early work,\* the modern aspect of the Niagara river was emphasized, and the valley of St. Davids was regarded as of inter-glacial origin—in deference to the prevailing theories of the time—in place of being, as is now known, the channel of an insignificant stream of greater antiquity. The Finger lakes of New York were explained as closed up valleys which had formerly drained the rivers of the highlands of New York, as for example Seneca lake, which has since been found to be the ancient course of Chemung and its tributaries. About this time the writer, from the data collected by the Geological Survey of Pennsyl-

\*A short study of the Features of the Great Lakes, etc. J. W. Spencer. Proc. A. A. A. S., vol. XXX, 1881, pp. 131-146; and Surface Geology of the Region about the western end of lake Ontario. J. W. Spencer, Can. Nat., vol. X, 1882, pp. 213-236, and 265-312.