

work began at the mouth of the Hudson and was carried northward. At the beginning of the work in the Hudson valley the contoured maps were relied on for obtaining the elevations of the deltas and terrace deposits; later in the Champlain valley the use of the aneroid barometer was availed of in checking data of the same sort and for getting elevations where this mapping has not yet been extended. More precise and satisfactory methods of measurement would have more than doubled the length of time which the work has taken. The field work was mainly done during the summer seasons of the four years from 1900 to 1903 inclusive.

After work in the Champlain valley had been begun by the writer, Mr G. K. Gilbert of the United States Geological Survey, who had previously made an examination of the country from Lake Ontario around the northern slopes of the Adirondacks into the Champlain valley as far south as West Chazy, generously offered to the author through the state geologist the results of his investigation. I have made the freest use of these notes both in the search for localities and as a check on my conclusions, and particularly have I been guided by Mr Gilbert's observations and conclusions in regard to the fixation of the marine limit on the northern side of Covey hill in Canada. The placing of the marine limit from that point southward, however, is entirely on my own responsibility and this distinguished geologist is in no way involved in any mistakes which I may have made in my endeavor to determine the extent, the elevation and the degree of tilting of the ancient water levels described in this paper. In this report no use has been made of the data from the northwestern slope of the Adirondacks other than to include a record of the fossil shells found near Norwood, N. Y. Special acknowledgments are due to Dr F. J. H. Merrill, who has in many ways both in the field and in the office contributed to the work of the author. I have also to thank the officers of the Geological Survey of Canada for numerous kindnesses in the granting of information and guidance, and to Prof. A. P. Coleman for giving me the advantage of his greater experience with ancient shore lines by personally visiting with me some of the critical areas of northern New York.