

INTRODUCTION

This report relates to an area whose Pleistocene history, though among the earliest to attract attention in this country, has remained but vaguely known and has been often interpreted as supporting contradictory views. The prevalence of clays in the Hudson valley and the occurrence of terraces early led to the general conception of its having been a marine strait connecting the St Lawrence valley with the Atlantic on the south during the Champlain period of Dana's chronology, and of its elevation and denudation during the succeeding Terrace epoch of that geologist. Of late years the very considerable enlargement of our knowledge concerning the diversity of the glacial period and the recognition of the manner in which gravels, sands and clays associated with retreating ice sheets have been laid down have so far modified earlier opinions concerning the history of other fields, that the state geologist, Dr F. J. H. Merrill, decided to undertake a survey of the glacial deposits of this region for the purpose of obtaining the information which it might give. One of the most important questions which it seemed the region might be expected definitely to determine is that of the extent of the marine submergence which followed the withdrawal of the ice sheet from the Hudson and Champlain valleys; to the solution of this question the data set forth in this report are mainly contributory.

For the better understanding of the conditions of deposition of the glacial deposits the physical geography of the region anterior to the last ice advance is briefly set forth, so far as it is at present understood. To a limited extent the phenomena of the adjacent regions in New England, New Jersey and Canada have been taken into consideration where they appeared to throw light on the problems of this district.

The investigation has been carried on for the most part as a reconnaissance of varying degrees of detail with reference to the main problem in hand, points being sought for examination which promised to be of critical value. It will thus appear when the areas are mapped in detail that many interesting and perhaps important facts have not been seen. It should be stated that the