

Veatch of the Geological Survey and with them found feldspathic pebbles, which would in my opinion place the deposit within the Pleistocene series of Long Island. Messrs Fuller¹ and Veatch² now regard the deposit as an exposure of the Manhasset series, presumably pre-Wisconsin, and I see no reason at present for not accepting their conclusion. The deposit is necessarily mentioned here on account of its supposed bearing on the marine limit at the mouth of the Hudson. These recent investigations show, it seems to me, that the Far Rockaway gravels even if deposited beneath sea level long antedate the retreat of the Wisconsin ice sheet.

INTRAGLACIAL EVIDENCE OF WATER LEVELS

The following notes on particular localities by no means give a complete diagnosis of the retreatal stages of the Wisconsin ice sheet. In none of the cases have the ice margins been traced away from the floor of the Hudson valley to the higher levels of morainal accumulation and marginal drainage which undoubtedly can be traced when detailed mapping is undertaken. The account begins with the outermost moraine on western Long Island and on Staten Island.

Terminal moraine and outwash plains. The terminal moraine on western Long Island is confronted on the south by a gently sloping creased plain of gravel and sand sheeting over older glacial gravels and deposits of Cretaceous age. The surface of this plain is apparently in the state in which it was left when the ice retreated from the crest of the moraine on its northern limits. Its southern margin, now below sea level, exhibits along the shore line unmistakable signs of recent subsidence. Thus at Babylon, dredging in the drowned outer portion of one of the creases brought up abundant land vegetation from a depth of 10 feet of water. That the material was not transported and deposited was shown by the growth of roots in the peaty layer which formed a part of the mass. Similar facts have long been well known.

*Port Washington and College Point deltas.*³ At Port Washington on Long Island north of the terminal moraine is a well

¹Fuller, M. L. Resurvey of Long Island. Science.

²Veatch, A. C. Diversity of the Glacial Period on Long Island. Jour. Geol. 1903. 11:762-76.

³See N. Y. State Mus. Bul. 48. 1901. p.653-59.