

that time the land has gradually been raised out of the waters, and with this elevation the southern or Acadian fauna has crept northward and established itself around Prince Edward Island, as the Acadian Bay attained its present form and conditions. But how is it that this fauna is now isolated, and that intervening colder waters separate it from that of southern New England. Verrill regards this colony of the Acadian Bay as indicating a warmer climate intervening between the cold Post-pliocene period and the present, and he seems to think that this may either have been coincident with a lower level of the land sufficient to establish a shallow water channel, connecting the Bay of Fundy with the Gulf, or with a higher level raising many of the banks on the coast of Nova Scotia out of water. Geological facts, which I have illustrated in my *Acadian Geology*, indicate the latter as the probable cause. We know that the eastern coast of America has in modern times been gradually subsiding. Further, the remarkable submarine forests in the Bay of Fundy show that within a time not sufficient to produce the decay of pine wood, this depression has taken place to the extent of at least 40 feet, and probably to 60 feet or more.\* We have thus direct geological evidence of a former higher condition of the land, which may when at its maximum have greatly exceeded that above indicated, since we cannot trace the submarine forests as far below the sea level as they actually extend. The effect of such an elevation of the land would be not only a general shallowing of the water in the Bay of Fundy and the Acadian Bay, and an elevation of its temperature both by this and by the greater amount of neighbouring land, but as Prof. Verrill well states, it would also raise the banks off the Nova Scotia coast, and extending south from Newfoundland, so as to throw the Arctic current further from the shore and warm the water along the coasts of Nova Scotia and Northern New England. In these circumstances the marine animals of Southern New England might readily extend themselves all around the coasts of Nova Scotia and Cape Breton, and occupy the Acadian Bay. The modern subsidence of the land would produce a relapse toward the glacial age, the Arctic currents would be allowed to cleave more closely to the coast, and the inhabitants of the Acadian Bay would gradually become isolated, while the northern animals of Labrador would work their way southward.

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\* *Acadian Geology*, p. 29.