

shores of the two little bays between Cacouna and Rivière-du-Loup; but I found the most prolific locality to be on the banks of a little stream called the *Petite Rivière-du-Loup*, which runs between the ridge behind Cacouna and that of Mount Pilote, and empties into the bay between Rivière-du-Loup and the pier. In these localities I collected and noticed in my paper on this place* more than eighty species, about thirty-six of them not previously published as occurring in the Post-pliocene of Canada.

We have thus at Rivière-du-Loup indubitable evidence of a marine Boulder-clay, and this underlies the representative of the Leda clay, and rests immediately on striated rock surfaces—the striae running north-east and south-west.

The Cacouna Boulder-clay is a somewhat deep-water deposit. Its most abundant shells are *Leda truncata*, *Nucula tenuis*, and *Tellina proxima*, and these are imbedded in the clay with the valves closed, and in as perfect condition as if the animals still inhabited them. At the time when they lived, the Cacouna ridges must have been reefs in a deep sea. Even Mount Pilote has huge Laurentian boulders high up on its sides, in evidence of this. The shales of the Quebec group were being wasted by the waves and currents; and while there is evidence that much of the fine mud worn from them was drifted far to the south-west to form the clays of the Canadian plains, other portions were deposited between the ridges, along with boulders dropped from the ice which drifted from the Laurentian shore to the north. The process was slow and quiet; so much so that in its later stages many of the boulders became encrusted with the calcareous cells of marine animals before they became buried in the clay. No other explanation can, I believe, be given of this deposit; and it presents a clear and convincing illustration, applicable to wide areas in Eastern America, of the mode of deposit of the Boulder-clay.

A similar process, though probably on a much smaller scale, is now going on in the Gulf. Admiral Bayfield has well illustrated the fact that the ice now raises, and drops in new places, multitudes of boulders, and I have noticed the frequent occurrence of this at present on the coast of Nova Scotia. At Cacouna itself, there is, on some parts of the shore, a band of large Laurentian boulders between half tide and low-water mark, which are moved

* *Canadian Naturalist*, April, 1865.