

## EFFECT OF ICE IN LAKE UPON THE SHORE LINE.

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On coming to northern Minnesota last year, I visited several islands in Pelican Lake near Orr, in St. Louis County. The country in that region is very stony, mostly boulders of glacial origin. Around the borders of several of the islands, especially the low islands, there was a ridge of cobble stones and boulders, sometimes almost assuming the form of a stone fence. It struck my curiosity. It was spring, however, before I had solved the mystery. At the breaking up of the ice in the lake, a strong southwest wind drove the ice upon the islands on the wind-exposed sides to a height of over twelve feet in one case, a literal glacier being shoved inland. The ice being thus shoved forward and piled up on the land, shoved the loose rock of the shallow lake next the island inland so that the "moraine" thus formed was the stone wall I had noticed. It might also be added that some of the scratchings on shore rocks of lakes in this northern region may be due to the same local action.

