

neighbouring inlets in such a position as to suggest that they may in part represent a moraine marking a stage in retreat of the ice. They form the projecting points of a comparatively shoal bank off these inlets, which, in their upper parts, are very deep. Boulders here occur in great abundance on the beaches, and are probably derived from a Boulder-clay or morainic material underlying the well-bedded deposits.

*Glaciation of the Queen-Charlotte Islands.*

These islands were the subject of geological examination in 1878. They form a compact archipelago widely separated from the southern extremity of Alaska to the north, and the western coast of British Columbia to the east, and may be regarded as a partly submerged mountain system, the axis of which lies in a N.N.W.-S.S.E. bearing. In its central part summits surpassing 4000 feet, and still bearing patches of perennial snow, are frequent, but it falls at both ends. On the north-east side of the mountain axis, at its north end, is a wide triangular attachment of flat land forming the greater part of Graham Island.

In these islands we find everywhere evidence of the descent of glacier-ice from the mountains toward the sea, but (with one important exception subsequently noticed) none of the passage across the group of any more ponderous ice-mass. The channels and fiords penetrating the southern portion of the islands show in general distinct and heavy glaciation which has evidently been local in character, the scoring and grooving being parallel to the main directions of the valleys, and changing with their course. In Houston-Stewart Channel, separating Prevost and Moresby Islands, the ice has evidently flowed from the axial mountains both eastward and toward the open Pacific to the west. Many of the boulders of the beaches are distinctly glaciated, and, as they lie in some places rudely packed together, seem to have been little disturbed since they were deposited by the ice. Sands, clays, and other detrital deposits referable to the period of glaciation are here almost entirely wanting, and the water round the coast is deep.

Further north, near Laskeek, where the width of the islands becomes greater, there is evidence, in the comparatively slight degree in which the rocks at the outer ends of the inlets are glaciated, that the glaciers did not long stretch much further out than the present coast-line. At Cumshewa Inlet (lat. 53°), and further north at Skidegate Inlet, the character of the coast changes, becoming low; but both these inlets still head in the high axial mountains of the group. Traces of the glaciers of these inlets are found nearly to their mouths; but while the upper parts are still deep and fiord-like, they are partly blocked at their seaward extremities by transverse bars, and shallow water extends far off shore.

Further north a series of fiord-like valleys are still found penetrating the eastern side of the mountainous axis of Graham Island, and the shoal-water found off Cumshewa and Skidegate is repre-