

W. Upham mentions (1891) the occurrence of similar warm-water shells in the vicinity of Boston. W. F. Ganong reports (1890) that similar shells have been found in Halifax Harbor, Minas Basin, St. Mary's Bay, and on other parts of the Acadian coast.

These species are relics of a past southern population; none of the shells are found in elevated beaches; and hence the migration from south of Cape Cod took place in the Recent period. Such a migration, extending to the St. Lawrence Gulf, was not possible, unless the Labrador current had first been turned aside; and a closing of the Straits of Belle Isle would have brought this about. This implies an elevation of about 200 feet; and it may be that the rise which introduced the Recent period carried the continent, to the north, to this height above the present level. In the Champlain period of subsidence the Straits were open, this being proved by the cold-water shells of the now elevated beaches.

FOREIGN.

Whatever the facts relative to interglacial epochs in Europe, it appears to be certain that after a long period of glaciation there was a time of widely extended subsidence, initiating a period of ameliorated climate; and that this period was similar to that of the Champlain period, not only in this initiating subsidence, but also in marine deposits and other phenomena. This period of subsidence in Europe had, like that of America, its sea-border formations in Sweden and Norway closely like those of the coasts of Maine and the St. Lawrence, even to the "*Leda clays*" and "*Saxicava sands*," and its extensive fluvial formations along the river valleys. According to J. Geikie, the submergence of Great Britain after the epoch of maximum glaciation was probably 500 feet. This author inserts, as has been stated, a return of glacial conditions, and then another interglacial before the Glacial epoch generally recognized as the second; and estimates the subsidence of Scotland during this second interval as 100 feet. A 100-foot terrace forms a wide plateau in the estuary of the Forth. The depression ten miles east of Glasgow was at least 524 feet, as indicated by the presence of marine shells in beds of clay, which are overlaid as well as underlaid by beds of till. The marine shells present are those mainly of Arctic seas, like the St. Lawrence species. Among them are *Saxicava rugosa*, *Pecten Islandicus*, *Natica clausa*, *Trophon clathratum*, *Yoldia arctica*, *Mucoma sabulosa*.

Northern Germany was submerged during interglacial time. In Sweden the depression exceeded in some parts 600 feet. Near Uddevalla, in southern Sweden, at levels of 200 to 400 feet, shells of *Mya truncata*, *Saxicava rugosa*, *Astarte borealis*, *Natica clausa*, *Buccinum Grænländicum*, etc., are in great abundance; and show thereby that the subsidence was of long continuance. Erdmann concludes that, at this time, the Baltic was connected with the North Sea, over the region of lakes from Stockholm westward, and with the Arctic Ocean by a great channel leading northeastward over Finland to the White Sea. The Caspian and Aral were united and connected with the Arctic Ocean, and so continued to the close of the Champlain period. As in America, the period was the time of flooded rivers and lakes, and of the most extensive freshwater formations in the world's history. Dupont states that with the