

lies beneath, overlaid by a thin stratum of red clay, apparently derived from it; but the higher-lying gray stratum in which the shells occur had a different origin: it is simply the partially consolidated mud of a quiet sea-bottom; and though its group of organisms manifest decidedly the boreal character, I cannot doubt that they lived at a time when, either from some change in the currents of the coast, or from the elevation of the protecting islands outside,—an effect of a general rising of the land,—the sea was no longer an exposed one. They in all probability mark that later stage of the wintry period to which the last-formed group of our local glaciers belonged, and in which our gradually-emerging country presented, age after age, a broader and yet broader area, won from the deep.

One period more, and I shall have completed my survey. All the shells which have hitherto been found beneath our latest terraces of upheaval still exist on our coasts. They represent a time, perhaps not greatly in advance of the earlier historic ages, when the country had begun to exist under its present climatal conditions. Some of these modern shells are, however, found to occur in very different proportions, in certain localities, from what they do now. The only specimens of *Pholas candidus* which I have been able to procure from the Lower reaches of the Cromarty Frith occur in a clay-bed of the old coast period which underlies an arable field in the *Lones* of Fern, a full mile from the sea. My only specimens of *Scrobicularia piperata* from the Frith of Forth have been derived from the brick clays behind Portobello, more than a quarter of a mile beyond the reach of the tide. My first found Scotch specimens of *Thracia convexa* I collected last year from a raised sea-bottom near North Queensferry. The upheaval of the land seems to have altered the conditions, in certain localities, favorable to the production of shells such as *Scrobicularia* and *Pholas*; and *Thracia convexa*, though it