

and *Echinus acutus* (forma *flemingi*) is curious. The former is very common out among the skerries, while *E. acutus* confines itself to a few localities, but on ascending the fjords *E. esculentus* becomes scarcer, and descends to greater depths, whereas *E. acutus* occurs in the greatest abundance. A similar distribution characterises the sea-urchins *Parechinus miliaris* and *Strongylocentrotus dröbachiensis*, which much resemble one another in outward appearance, and are both exceedingly plentiful in their different localities. *Strongylocentrotus* lives in the more open estuaries and bays of the skerries, whereas *Parechinus miliaris* keeps to sheltered waters, and especially to pools. For instance, in a pool south of Bergen (the Inderøe Poll) I found *Parechinus miliaris* literally in thousands, but there was not a single specimen of *Strongylocentrotus*; in the neighbourhood of Bergen again I collected from another pool of a rather less typical character, sixty-three specimens of *Parechinus*, and only three specimens of *Strongylocentrotus*. This difference has not been explained, though most probably the cause is to be found in the difference in temperature. Pools contain water of a much higher temperature than the sea outside, and most likely *Parechinus miliaris* requires for its reproduction warmer water than *Strongylocentrotus*. It is interesting to note that, according to Petersen, there is the same diversity between these two forms in the Kattegat.

The foregoing is not meant to be even an approximately complete account of the forms inhabiting the skerries and the fjords, my sole object having been to show that the dissimilarity in physical conditions (temperature, salinity, etc.) and in the nature of the bottom, between the skerries and the inner parts of the fjords, determines the difference in their biological conditions.

Pools. Those areas of the littoral zone which have been called pools, or "polls" (see p. 225), are salt water basins connected with the sea outside by a shallow channel. The pools vary in depth, the deepest not exceeding 30 metres. One feature which they all have in common is that their channels to the sea are far shallower than their basins. The surface is always covered by a layer of more or less fresh water derived from the land, having a lower temperature than the salt-water layer underneath. About  $1\frac{1}{2}$  or 2 metres below the surface the temperature in some summers may rise to 30° C. or even more, while that of the surface-layer does not rise above 18° or 20° C..