

accumulate in the stagnant soil which automatically render the ground unsuited for *Psamma* to flourish, has not been determined. Be this as it may, the dune pioneers illustrate a general property of plants, viz., that after the lapse of a certain period they grow soil-weary and are replaced by another vegetation phase. The underlying causes here are probably the same as those which determine the necessity for the agricultural operation known as rotation of crops.

Whilst the preceding account may serve to illustrate the general phenomena of dune building, it will be understood that even on an advancing coast-line a spontaneous vegetation may not arise fast enough to fix the sand blown in from the shore. In point of fact it rarely happens in wild, unregulated dunes that there is equilibrium between the sand supplied and the capacity of the natural vegetation to fix it. Commonly such a dune area retains a high degree of mobility, and where the system is extensive, as on the Biscay littoral and the Prussian Baltic coast, artificial methods of dune control have been developed.

In view of the interest of these methods and their comparative neglect in this country, a short description of them will be given in the next chapter of this book.

Whilst the dune systems of Gascony, Southport, and Blakeney Point (Norfolk) occupy coast-lines which have in recent times advanced seawards owing to the accumulation of materials, this is by no means always the case. Some coast-lines are stationary, whilst others—perhaps the majority—are in retreat.

The existence of parallel ranges of dunes is generally an indication that the coast-line was advancing, at any rate, during the period at which the system was laid down, i.e. that new ground became available between existing ranges and the sea to carry the ranges of more recent date. From the nature of the case such ranges do not attain very great heights, since the intercalation of each new range is equivalent to the placing of an additional screen between the older ranges and the source of sand supply.

*With a stationary coast-line, as on the Kurische Nehrung*