

shore from farther east. The effective outside beach of the moment (which projects well beyond the Headland) appeared as recently as 1912, and when it has been pushed inshore a certain distance it is to be expected that a still younger beach will take its place.

The crests of these beaches become dotted about with plants soon after they appear, and such of these plants (especially *Psamma*) as have the power of arresting sand blown in from the shore at low tide become the starting-points of sand dunes. The plants settle by preference on the crest because their seeds are brought by the sea in the drift, and it is a characteristic of drift lines to reach the level of the highest tide of the cycle.

Thus it has come about that the dunes form five or six successive ranges parallel to the shore. Each range as it arises tends to screen the preceding one from the source of blowing sand, consequently it is found under these conditions that vertical growth slows down till it becomes stationary. Later, unless the dunes become entirely covered with a turf of vegetation, they shrink gradually as sand is blown from their summits.

All stages in dune development and destruction can be studied on the Headland. First, the isolated tufts of plants which collect little heaps of sand; next, the blending of these into systems as the level rises and the grass spreads. At this stage vertical growth has been found to average about one foot a year. The highest ranges do not exceed 25 feet above mean sea-level. Farther back the dunes are lower and are closely turfed over, especially by mosses and in some places by lichens. Owing to the large population of rabbits on the Headland bare sand is being continually exposed to the wind, and the disappearance of the older dunes is only a question of time, unless the rabbits are exterminated or effective shelter be given by the planting of trees. Excellent examples of disappearing dunes are to be found as the Bend is approached along the line of telephone poles, where an extensive area of bare shingle (the "desert") has been exposed. However, "Nature abhors a vacuum", and with the lowering of the ground to tidal level the higher spring tides get access, and, bringing drift and seeds