

is blown up the windward slopes to the crest and over the crest, where it falls in an ever-advancing talus on the lee side, lying at the critical angle of repose for loose sand—about 30 degrees. Plate VI, the upper picture, shows a wandering dune at Le Touquet invading a dune valley. A willow, *Salix repens*, is growing through and occupying the advancing sand.

In this way the dune ranges on the Kurische Nehrung have been advancing yearly some 18 to 20 feet for a considerable period, burying farms, villages, and cultivated land in their progress. It appears that in the Swedish war of 1657 the Prussians themselves were compelled, as a measure of military precaution, to disafforest a considerable stretch of these dunes,<sup>1</sup> whilst later disafforestations occurred in the eighteenth century, though whether at the hands of the Russian troops in the Seven Years' War or from accidental fires is uncertain. In the case of the Gascony dunes the mean rate of advance was about 30 feet a year, though on certain occasions at particular places 70 to 80 feet have been recorded. If in Britain the consequences of neglect to stabilize our dunes are by comparison trivial, it is because the areas involved are relatively small. A well-authenticated case occurred in Cornwall at Peranzabuloe, near Truro, where the church of St. Piran, overwhelmed in the eighth or ninth century, emerged from the sand once more in the year 1835; another is the Culbin Sands in Elgin.

In a smaller way in quite recent times the reopening by the wind of a system of covered dunes in Jersey, in the Bay of St. Ouen, north of the Corbière Rocks, may be mentioned. Here the drifting sand has advanced some distance up a small valley, the obstruction causing a lake to collect. At the worst only a small area of pasture land has been flooded; the example is cited because the phenomena of wandering sand, cause and effect, can be studied here in compact compass (Plate VI, 2).

On the North Wales coast definite records exist of recent movements of sand dunes.

West of Prestatyn, North Wales, sand dunes rise to a height of nearly 100 feet, and a wide plateau of sand stretches on their

<sup>1</sup> Voss, in *Zeitschr. f. Allgem. Erdkunde*, N.F., 11 Bd., Berlin, 1861, p. 251.