down into deep water. In severe onshore gales the crest assumes a slope of 1 in 9. After a period of slack weather or offshore winds it is sometimes as steep as 1 in 2½. One curious phenomenon on the Bank is the automatic grading of the stones composing it. Starting from the west end at Abbotsbury, the stones average about 1½ ounces, whereas at the east end they increase to about 13 ounces.

The late Mr. Clement Reid, F.R.S., has noted the great difference between the wear of pebbles from varying geological deposits. He points out the curious fact that on coast-lines which are entirely of chalk, the sand is not flint sand but quartz sand, and he states that the distinction between the two classes of sand under the microscope is quite easy. A flint pebble taken, say, from the Brighton beach, if carefully examined, will frequently be found flawed with a number of minute fissures, and the life of such a flint, in spite of its great hardness, would be considerably less than, say, a greenstone pebble from Penzance beach, the wear on which would be regular and slow, the pebble stone being polished by attrition to an extreme smoothness of surface.

The Chesil Bank, notwithstanding its enormous bulk, responds to the forces which normally operate on its face, i.e. the action of travel along the frontage of the shore under the impulsion of wind-waves and currents, and a movement bodily in the shoreward direction by the impact of gales. In storms vast quantities of shingle are thrown right over the crest on to the back of the bank. Moreover, owing to the fact that the Fleet, especially in its upper reaches, is hardly affected by the tides, and consequently approximates to mean sea-level, a difference in water-level on the two faces of the bank amounting to 10 feet or more occurs at spring tides and leads to active percolation from the sea to the Fleet. A striking result of this percolation is the removal of shingle from the foot of the landward slope with discharge of the same on to the shore of the Fleet. This shingle removal where it occurs keeps the slope of the bank on this side at the angle of repose for the materials, about 33 degrees. The profile of the bank shown in fig. 7A, besides showing the various topographical features, indicates by the dotted line the manner