

Of much greater importance is the drift from the salt marshes or backwater left at or near the foot of the leeward slope of the beach. This consists not merely of blankets of matted algæ (*Enteromorpha*, &c.), but of everything on the marshes and mud flats that can be swept up by the tides. Conspicuous components are the leaves and stalks of halophytes (especially *Obione portulacoides*), the dung of rabbits which browse on the marsh, the carcasses of small crabs and other animals which perish, the rhizomes and leaves of *Zostera*. The total amount of drift available is simply prodigious. Whilst mainly it carpets the foot of the lee slope, occasional high spring tides tend to raise the drift to a somewhat higher level. Once deposited, the drift in time becomes buried in the beach by the slipping of the shingle; in this way there is continuous interstratification of drift and shingle. The process being always at work, the lower parts of the bank become thoroughly permeated with humus. Hence the mechanism by which such a beach slowly advances in the landward direction, also ensures the fertility of its soil.

Drift, however, is not mere organic matter; it is also the great agency by which seeds are brought to the bank—the seeds of the plants which establish themselves upon it—and it is under the protection of the drift that they germinate. Thus it comes about that a lesser amount of humus is available for the upper levels of a beach from the ocean drift, and a much greater amount for its lower levels derived from the marshes on the lee side. The utilization of this low-level drift falls to the lot of plants arising from seed from the drift line. If we take the case of *Suæda fruticosa* already described, it is evident that not only do the young plants on establishment directly enjoy this source of humus, but further, that as these bushes gradually ascend to higher levels they take with them a portion of the food derived from this source (cf. p. 106). As a result of constant shingling over *Suæda* grows through to a higher level, and with the progressive disintegration of the deeper-seated parts of its rhizome, these food matters pass once more into the shingle, and are available for the *Suæda* and for such other plants as are able to establish in the surface layers of the beach. Thus we have not only a circulation of combined nitrogen from