

process of occupying new frontages the phases antecedent to the *Juncus* zone are not readily observed, though in cases that have come under our observation *Glaux maritima* was the pioneer plant. In view of the mechanical value of the *Juncus* zone in protecting the shore, fuller knowledge of the circumstances which control its development is much to be desired.

**The Process of Accretion.**—The foregoing account of the salt marsh and the details of its structure and development show that the vegetation covering plays a part both in the accretion of silt, and in resistance to erosion, the importance of which it would be difficult to exaggerate. At every level on the shore of sheltered inlets and estuaries plants establish between the high-water marks of the neap and spring tides. These vegetated areas form the collecting surfaces where silt is retained and permanent rise in level effected. Indeed, this co-operation of plants is practically universal where new land is being organized from supplies of mud or sand transported by the agency of water currents and wind. The vegetation contributes to the operation in two ways. Firstly, it provides a shaggy covering to the ground which entangles the silt upon and between the plants; secondly, by its inherent capacity to grow through these increments (anarhizophytism), the newly-won material is bound and fixed by the roots and underground stems of the halophytes. In other words, the silt forms the soil and the plants keep pace by their growth. At the same time the vegetation of previous years becomes in large part buried, thus enriching or manuring these soils with organic matter, and accounting for one factor in their recognized boundless fertility.

The following unpublished data derived from the Blakeney marshes illustrate the foregoing: these determinations, together with those of garden soils, were made for us by the late Dr. S. M. Baker, whose great knowledge of salt-marsh algæ was always freely placed at our disposal.

The table gives the losses undergone on ignition by the surface soils expressed as percentages of their original dry weights, and may be taken as giving an approximate clue to the organic matter present.