

*rina*) had true roots, and true leaves, and true flowers; and their spikes ripened amid the salt waters towards the close of autumn, round white seeds, that, like many of the seeds of the land, had their sugar and starch. But these plants kept far aloof, in their green depths, from their cogeners the monocotyledons of the terrestrial flora. It was merely the low *Fucaceæ* and *Conferveæ* of the sea that I found meeting and mixing with the descending dicotyledons of the land. I felt a good deal of interest in marking, about this time, how certain belts of marine vegetation occurred on a vast boulder situated in the neighborhood of Cromarty, on the extreme line of the ebb of spring-tides. I detected the various species ranged in zones, just as on lofty hills the botanist finds his agricultural, moorland, and alpine zones rising in succession the one over the other. At the base of the huge mass, at a level to which the tide rarely falls, the characteristic vegetable is the rough-stemmed tangle,—*Laminaria digitata*. In the zone immediately above the lowest, the prevailing vegetable is the smooth-stemmed tangle,—*Laminaria saccharina*. Higher still there occurs a zone of the serrated fucus,—*F. serratus*,—blent with another familiar fucus,—*F. nodosus*. Then comes a yet higher zone of *Fucus vesiculosus*; and higher still, a few scattered tufts of *Fucus canaliculatus*; and then, as on lofty mountains that rise above the line of perpetual snow, vegetation ceases, and the boulder presents a round bald head, that rises over the surface after the first few hours of ebb have passed. But far beyond its base, where the sea never falls, green meadows of *zostera* flourish in the depths of the water, where they unfold their colorless flowers, unfurnished with petals, and ripen their farinaceous seeds, that, wherever they rise to the surface, seem very susceptible of frost. I have seen the shores strewn with a line of green *zostera*, with its spikes charged with seed, after a smart October frost, that had been coincident with the ebb of a low spring-tide, had nipt its rectilinear fronds and flexible stems.

But what, it may be asked, was the bearing of all this observation? I by no means saw its entire bearing at the time: