raised from out of the Mediterranean ; in the wider Bay of Bengal the diffusion of river sediments is complicated by tidal action and periodical winds ; and the North Sea gives us in addition, all the variations of opposing and con-current tides, entering from opposite points, and diverted into a variety of channels by the form of the coast and the inequalities of the sea bed. How various are the materials therein deposited! Boulders of granite and other rocks, drifted from the Cumbrian mountains, fall from the Yorkshire cliffs, mixed with oolitic limestones, and chalk and flints ; blocks of Scandinavian rocks are mixed with the silt along the coasts and islands of Den-mark ; the Thames brings tertiary, the Tees secondary; the Dee primary detritus. And all these ingredients, distributed over the shallow bed by violent currents and storms, mix with volcanic sediments from the Rhine, cretaceous mud from the English Channel, and organic exuviæ drifted from the polar circles, or perhaps brought by the gulf stream from the tropical shores of America.

This remarkable sea bed is so nearly level, that its slight inequalities are indiscernible when drawn to a true scale, yet it is really channelled and undulated, and liable to change in the form of its surface, since we are in-formed that currents have cut through Heligoland a channel 60 feet in depth.

Upon such a surface some organic bodies will be entombed entire, where they lived and as they died, (oyster-beds for example, comparable to the fossil oyster-beds in the oolitic system,) others will be displaced, and floated to various distances, and deposited in un-equal states of imperfection. Some bivalve shells will be found in the rocks which they have bored, others with valves just held by the ligament, or widely separa-ted, or broken among pebbles ; fishes entire, or dis-integrated ; their scales and teeth drifted away by the currents, and mixed in various combinations with the unsettled sediments.

Now, most or all of these circumstances may be paralleled among many of the strata ; especially among