

the subject deserves to be considered as one of the most important problems which geology looks to the naturalist to resolve. Very different conditions are known to govern the aggregation of the different tribes: they choose different soils — so to speak — love different depths, bear unequally the influence of currents, fresh water, climate. Oysters, for example, by their stationary habits and mutual attachment, exclude nearly all other conchifera from those patches of the sea where they thrive. So, among the fossil ostreæ we find whole beds of vast extent; in the Kimmeridge clay (*O. deltoidea*), and in the lias (*gryphea incurva*). Near the muddy mouths of tide rivers, uniones, anodontes, &c. abound, and are little mixed with other genera; and their ancient prototypes in the estuary deposits of the coal tracts and Wealden formation are similarly circumstanced. Donati found the Adriatic covered with shells and sediments almost identical with the subapennine deposits; the German Ocean yields sands and shells like those of the raised beach at Speeton; the Bay of Morecambe, upraised, would resemble the deposits at Preston; the Baltic bed, with its living shells, is like the undulated gravel heaps and buried testacea of Sweden; and there can be no doubt that a careful scrutiny of the borders and bed of the existing sea would show many conchiferous formations in progress extremely like those of ancient date. It appears a very general fact, that the existence of living marine testacea is limited to a small depth from the surface. In Mr. Broderip's table (*De la Beche's Theoretical Researches*), the greatest depth mentioned (for *terebratula*) is 90 fathoms. It is much to be wished that this interesting subject should attract the attention of the scientific officers of the British navy.

Supposing, what is believed to be true, that the shelly inhabitants of the sea, like the zoophytic tribes, exist in abundance only to a small depth (say 1000 feet), it must follow, that during the formation of the stratified crust of the earth, very general and long continued depression occurred in the ancient bed of the sea: for