

CHAPTER XXII.

LIFE ON THE OCEAN SURFACE AND IN THE DEEP SEA. ZOOLOGY AND BOTANY OF THE SHIP. CONCLUSION.

Plants of the Ocean Surface. Fauna of the Sargasso Sea. Protective Colouring of Pelagic Animals. Variety of Pelagic Animals. Flight of the Albatross. Flight of Flying-fish. A Pelagic Insect. Pelagonemertes described. Phosphorescence of Pelagic Animals. Giant Pyrosoma. Uncertainty as to Range in Depth of Pelagic Animals. The Depth of the Oceans and Depressions on the Earth's Surface. Deep-Sea Dredging. Vast Pressure existing in the Deep Sea. Experiment showing this made by Mr. Buchanan. Conditions under which Life Exists in the Deep Sea. Range of Plants in Depth. Food of Deep-Sea Animals. Experiment on the Rate of Sinking of a Salpa. Vegetable and Animal Débris Dredged from Great Depths. The Deep Sea, a High Road for the Distribution of Animals. Deep-Sea Faunas and Alpine Floras Compared. Nature of the Deep-Sea Fauna a source of Disappointment. Remarkable Deep-Sea Ascidian. Localities specially Rich in Deep-Sea Forms. Relations of Deep-Sea Animals to One Another. Phosphorescent Light in the Deep Sea. Colours of Deep-Sea Animals. Cockroaches, Moths, Mosquitoes, House-flies, Crickets, Centipedes and Rats on board the "Challenger." Plants on Board the Ship. Pet Parrot, Cassowary, Ostriches, Tortoises, Spiders, Fur-Seal, and Goat on Board. Adaptation to Sea Life. Smallness of the Earth's Surface. Slow Rate of Travelling. Man and possibly Protoplasm existent on the Earth alone. Necessity for Immediate Scientific Investigation of Oceanic Islands.

Plants and Animals of the Ocean Surface.—The three-fourths of the surface of the earth which is covered with sea is thickly tenanted by its own peculiar forms of vegetable and animal life. These forms of life are termed "Pelagic," to distinguish them from the Marine animals and plants which inhabit the shores and sea-bottoms; they inhabit the surface waters of the open ocean and reach the shores only when washed thither accidentally by the waves and currents. Some of these forms, such as the *Pteropods*, *Ctenophora*, and *Siphonophora*, belong to groups peculiar to the sea surface, and have, no doubt, a most ancient connection with it, whilst others are