

## CHAPTER XI.

## NATURAL SELECTION BY THE STRUGGLE FOR EXISTENCE. CELLULAR SELECTION AND PERSONAL SELECTION.

Interaction of the Two Organic Formative Causes, Inheritance and Adaptation.—Natural and Artificial Selection.—Struggle for Existence, or Competition for the Necessaries of Life.—Disproportion between the Number of Possible or Potential, and the Number of Real or Actual Individuals.—Complicated Correlations of all Neighbouring Organisms.—Mode of Action in Natural Selection.—Homochromic Selection as the Cause of Sympathetic Colourings.—Sexual Selection as the Cause of the Secondary Sexual Characters.—The Struggle of Parts in the Organism (Roux).—Functional Self-Formation of Suitable Structures.—Teleological Mechanism.—Cellular Selection (Protista) and Personal Selection (Histonæ).—Selection of the Cells and of the Tissues.—The Principle of Selection in Empedocles.—Mechanical Origin of what is Suitable for a Purpose from what is Unsuitable.—Philosophical Range of Darwinism.

IN order to arrive at a right understanding of Darwinism, it is, above all, necessary that the two organic functions of *Inheritance and Adaptation*, which we examined in our last chapters, should be more closely examined. If we do not, on the one hand, examine the purely mechanical nature of these two physiological activities, and the various action of their different laws, and if, on the other hand, we do not consider how complicated the interaction of these