

CHAPTER X.

ADAPTATION AND NUTRITION. LAWS OF ADAPTATION.

Adaptation and Variation.—Connection between Adaptation and Nutrition (Change of Matter and Growth).—Distinction between Indirect and Direct Adaptation.—Laws of Indirect or Potential Adaptation.—Individual Adaptation.—Monstrous or Sudden Adaptation.—Sexual Adaptation.—Laws of Direct or Actual Adaptation.—Universal Adaptation.—Cumulative Adaptation.—Cumulative Influence of External Conditions of Existence and Cumulative Counter-influence of the Organism.—Free-will.—Use and Non-Use of Organs.—Practice and Habit.—Functional Adaptation.—Correlative Adaptation.—Correlation of Development.—Correlation of Organs.—Explanation of Indirect or Potential Adaptation by the Correlation of the Sexual Organs and of the other Parts of the Body.—Aping or Mimetic Adaptation (Mimicry).—Divergent Adaptation.—Unlimited or Infinite Adaptation.

HAVING now in our two last chapters discussed the most important laws and theories of inheritance, we now turn to the second great series of phenomena bearing on natural selection, viz. to those of adaptation or variation. These phenomena, taken as a whole, stand in a certain opposition to the phenomena of inheritance, and the difficulty which arises in examining these consists mainly in the two sets of phenomena being so completely intercrossed and interwoven. We are but seldom able to say with certainty—of the variations of form which occur before our eyes—how