

between the formation of the most perfect anorgana, the crystals, and the formation of the simplest organisms, the Monera and their next kindred forms. For this I must refer to a minute comparison of organisms and anorgana, which I have carried out in the fifth chapter of my "General Morphology" ("Gen. Morph." i. 111-160). I have there shown in detail that there exist no complete differences between organic and inorganic natural bodies, neither in respect to form and structure, nor in respect to matter and force; and that the actually existing differences are dependent upon the peculiar nature of the *carbon*; and that there exists no insurmountable chasm between organic and inorganic nature. We can perceive this most important fact very clearly if we examine and compare the origin of the forms in crystals and in the simplest organic individuals. In the formation of crystal individuals, two different counter-acting formative tendencies come into operation. The *inner constructive force*, or the inner formative tendency, which corresponds to the Heredity of organisms, in the case of the crystal is the direct result of its material constitution or of its chemical composition. The form of the crystal, so far as it is determined by this inner original formative tendency, is the result of the specific and definite way in which the smallest particles of the crystallizing matter unite together in different directions according to law. That independent inner formative force, which is directly inherent in the matter itself, is directly counteracted by a second formative force. The *external constructive force*, or the external formative tendency, may be called Adaptation in crystals as well as in organisms. Every crystal individual during its formation, like every organic individual, must submit and