

Roux in his work on the 'Struggle of the Parts in the Organism,' was hailed by Darwin as "the most important book on development that has appeared for some time."<sup>1</sup> In modern books on physiology the process of selection is a familiar conception; but if in natural history, in the life of plants and insects, there still remain many extraordinary instances of selection

<sup>1</sup> The work appeared in 1880, and is referred to by Darwin in a letter to Romanes ('Life and Letters,' vol. iii. p. 244; 16th April 1881), where he suggests also a similar consideration of plant life and structure. It has been republished in Roux's 'Gesammelte Abhandlungen zur Entwicklungsmechanik der Organismen' (Leipzig, 1895, 2 vols.), with an interesting preface (vol. i. p. 139, &c.), and many historical and critical digressions. It originally emanated from the earliest school of Darwinism in Germany, represented by Haeckel, Gegenbaur, and Preyer, at Jena. It has been found very suggestive, and has been the beginning of a very large controversial literature in Germany, in which the fundamental problems of biology have been discussed, and have received new formulations. The idea of the struggle of individuals for survival, suggested by Darwin, is applied by Roux to the different parts and organs within the developing organism. Du Bois-Reymond almost contemporaneously published his brilliant and celebrated address on "Exercise" ("Ueber die Uebung," 'Reden,' vol. ii. p. 404). In England Roux's suggestive treatise does not seem to have been much noticed, and Prof. Roux himself attributes this to the inadequate notice of the book by Romanes in 'Nature' (vol. xxiv. p. 505), in which his doctrine

was erroneously compared with Spencer's ideas of "direct equilibration." Prof. J. A. Thomson, in 'The Science of Life,' refers to the importance of Roux's work (pp. 138, 229), and of his 'Archiv für Entwicklungsmechanik.' Roux has been classed by some of his critics among the "organicists," a school represented in France chiefly by Claude Bernard. The main thesis of this view seems to be that the phenomena of life consist in the play of two factors—the organisation and the environment of the living thing. Roux applies the process of natural selection and consequent adaptation, which Darwin sees at work in a crowd of living things, to the organisation of the individuals themselves, each of which is a microcosm, a society of autonomous units, say of cells. He has accordingly gone a step farther back than the older "organicists," studying the development, the genesis of the organism on Darwinian lines. M. Delage accordingly dates from him a new school of "organicism." "L'organicisme commence, à mon sens, avec Descartes (1642), se continue avec Bichat, Claude Bernard, et arrive avec Roux (1881) à une théorie si profondément modifiée, bien qu'elle dérive du même principe, qu'elle peut être considérée comme toute moderne" ('L'Hérédité,' p. 408).