

petition, *e.g.* in the reaction of solitary animals to a change of environment; (*c*) the manifold facts of life to which some such word as altruism must be applied; and (*d*) the applicability of the general idea to parts within the organism, or to such processes as the race of many spermatozoa towards one ovum, we recognize that the phrase "struggle for existence" must be taken as a technical expression of what occurs whenever the effectiveness of an organic response is of critical moment in relation to continuance, welfare, and evolution.

In other words, the broadening and deepening of the idea of struggle—one of the features of post-Darwinian biology—leads us to recognize that progress depends on much more than a squabble around the platter; that the struggle for existence is far more than an internecine struggle at the margin of subsistence; that it includes all the multitudinous efforts for self and for others between the poles of love and hunger; that it comprises all the endeavours of mate for mate, of parent for offspring, of kin for kin; that love and life are factors in progress as well as pain and death; that life for many an animal means the well-being of a socially-bound or kin-bound organism in a social *milieu*; that egoism is not satisfied until it becomes altruistic.

Chapter XV.

Psychology of Animals.

Biology and Psychology—Theological Interpretation—Metaphysical Interpretation—Animal Automatism—The Word "Instinct"—The Inclined Plane of Activities—Lamarckian Theory of Instinct—Darwin's Position—The Work of Romanes—Weismann's Position—Lloyd Morgan's Experiments—Open Questions—Psychological Aspects of Mating.

From early times men have interested themselves in what may be called the mental life of animals, but, excepting Descartes, there was little attempt at scientific