

tion, that the struggle is most severe between closely-allied forms should not be more carefully substantiated than it usually is. Darwin gave some half-dozen examples, not all of which are correct. The necessity for the struggle depends upon: (a) the tendency of organisms to rapid increase; (b) the variability of the physical environment, to which organisms are at best only relatively well adapted; and (c) the secondary consequences of these primary facts; but it is the unfulfilled duty of the student of bionomics to accumulate a mass of precise evidence.

It is plain that the nature of the struggle must vary greatly with the nature of the organism; thus that of the beech-tree must be very different from that of the squirrel. It is plain that the phrase includes at least three different forms of struggle: with related fellows, with foes, and with inanimate nature. The objects of competition include (1) continued individual existence and well-being, and (2) the continuance of family and kin—both of them objects of great complexity. It is also a familiar fact that the struggle varies in intensity with the rate of reproduction and with the variability of the environment. Thus we reach the conclusion that *the struggle for existence is a function of numerous—partly dependent, partly independent—variables.*

Taken literally, the "struggle for existence" seems somewhat too strong a phrase to use in describing the pursuit of such luxuries as a seventh wife, or that continuous endeavour after well-being which ensures a few years longer life to the stronger constitution. But even when the phrase is literally appropriate, we must remember the altruistic colouring of many facts of life—attraction between mates, reproductive sacrifice, parental and filial affection, the kindness of kindred, gregariousness and sociality, co-operation and mutual aid.

Observation shows us what we are tempted to call mere physical attraction between cells which are at the same time entire organisms. In some types of simple many-celled animals, and in most plants, the attraction remains cellular, being confined to the sex-cells. Gradually there appears, as we ascend the animal series, a