

## PSYCHIC GRADATIONS

ing the different steps in the psychological ladder, and proving their unbroken phylogenetic connection, has only been seriously attempted during the last ten years, especially in the splendid work of Romanes. We must confine ourselves here to a brief discussion of a few of the general questions which that gradation has suggested.

All the phenomena of the psychic life are, without exception, bound up with certain material changes in the living substance of the body, the *protoplasm*. We have given to that part of the protoplasm which seems to be the indispensable substratum of psychic life the name of *psychoplasm* (the "soul-substance," in the monistic sense); in other words, we do not attribute any peculiar "essence" to it, but we consider the *psyche* to be merely *a collective idea of all the psychic functions of protoplasm*. In this sense the "soul" is merely a physiological abstraction like "assimilation" or "generation." In man and the higher animals, in accordance with the division of labor of the organs and tissues, the psychoplasm is a differentiated part of the nervous system, the *neuroplasm* of the ganglionic cells and their fibres. In the lower animals, however, which have no special nerves and organs of sense, and in the plants, the psychoplasm has not yet reached an independent differentiation. Finally, in the unicellular protists, the psychoplasm is identified either with the whole of the living protoplasm of the simple cell or with a portion of it. In all cases, in the lowest as well as the highest stages of the psychological hierarchy, a certain chemical composition and a certain physical activity of the psychoplasm are indispensable before the "soul" can function or act. That is equally true of the elementary psychic function of the plasmatic sen-