ical, electrical, and chemical irritation of their contractile protoplasm. Consciousness and the capability of will and thought are probably wanting in all Protista. However, the same qualities are in the same degree also wanting in many of the lower animals, whereas many of the higher animals in these respects are scarcely inferior to the lower races of human beings. In the Protista, as in all other organisms, the activities of the soul are traceable to molecular motions in the protoplasm.

The most important *physiological characteristic* of the kingdom Protista lies in the exclusively *non-sexual propagation* of all the organisms belonging to it. The higher animals and plants multiply almost exclusively in a sexual manner. The lower animals and plants multiply also, in many cases, in a non-sexual manner, by division, the formation of buds, the formation of germs, etc. But sexual propagation almost always exists by the side of it, and often regularly alternates with it in succeeding generations (Metagenesis, vol. i. p. 206). All Protista, on the other hand, propagate themselves exclusively in a non-sexual manner, and in fact, the distinction of the two sexes among them has not been effected—there are neither male nor female Protista.

The Protista in regard to their vital phenomena stand midway between animals and plants, that is to say, between their lowest forms; and the same must be said in regard to the *chemical composition* of their bodies. One of the most important distinctions between the chemical composition of animal and vegetable bodies consists in the characteristic formation of the skeleton. The skeleton, or the solid scaffolding of the body in most genuine plants, consists of a substance called cellulose, devoid of nitrogen, but secreted by the