capsule, the support of the soft pseudopodia and the substratum of the skeleton; the calymma acts also as a hydrostatic apparatus, whilst the radiating pseudopodia are of the greatest importance both as organs of nutrition and adaptation, as well as of motion and sensation (§ 15). If, however, the vital functions as a whole be divided in accordance with the usual convention into the two great groups of *vegetative* (nutrition and reproduction) and *animal* (motion and sensation), then the central capsule would be mainly the organ of reproduction and sensation, and the extracapsulum the organ of nutrition and motion.

The numerous separate vital phenomena, which by accurate physiological investigation may be distinguished in the unicellular Radiolarian organism, may be distributed in the above indicated conventional fashion into a few larger and several smaller groups; it must always be borne in mind, however, that these overlap in many respects, and that the division of labour among the different organs in these Protista is somewhat complicated, notwithstanding the apparent simplicity of their unicellular organisation. A general classification of the groups of functions is difficult, because each individual organ discharges several different functions. Thus the central capsule is pre-eminently the organ of reproduction and inheritance, but not less (though less conspicuous) is its importance as the psychical central organ, the unit regulating the processes of sensation, motion, and also nutrition. In this last respect it is comparable to the nerve-centres of the Metazoa, whilst the peripheral nervous system of the latter (including the organs of sense and the muscles) are in the present instance represented by the pseudopodia, which are at the same time the most important organs of nutrition and adaptation. In the calymma also in similar fashion several different physiological functions are united.

203. *Metastasis.*—The functions of metastasis and nutrition have in all Radiolaria a purely animal character, so that these Rhizopoda from the physiological standpoint are to be regarded as truly *unicellular animals*, or Protozoa ("Urthiere"). Since they do not possess, like plants, the power of forming synthetically the compounds (protoplasm, carbohydrates, &c.) necessary for their sustenance, they are compelled to obtain them ready-formed from other organisms. Like other true animals they evolve carbon dioxide by the partial oxidation of those products, and hence they successively take up the oxygen necessary to their existence from their environment.

The question whether the Radiolaria are to be regarded as true animals I discussed fully from various points of view in 1862, and finally answered in the affirmative (L. N. 16, pp. 159–165). Afterwards, when in my Generelle Morphologie (1866) I sought to establish the kingdom Protista, I removed the Radiolaria along with the other Rhizopoda from the animal kingdom proper and placed them in the kingdom Protista (Bd. i. pp. 215–220; Bd. ii. p. xxix). Compare also my Protistenreich (L. N. 32) and my Natürliche Schöpfungsgeschichte (vii. Aufl., 1879, p. 364). Both these steps appear fully justified when considered in the light of our present increased knowledge. From the *physiological* standpoint the Radiolaria appear as unicellular *animals*, for in this respect the animal character of their metastasis (that proper to an oxidising organism) furnishes the sole