

commonly occurring. The form of the *regular sarcodictyum* with circular or regular polygonal, usually hexagonal, meshes is constantly maintained during the formation of the regular lattice-shells (*e.g.*, Pl. 12, figs. 5-10; Pl. 52, figs. 8-20; Pl. 96, figs. 2-6; Pl. 113, figs. 1-6). The form of the *irregular sarcodictyum*, on the other hand, with irregular polygonal or roundish meshes, persists during the development of the irregular lattice-shells (*e.g.*, Pls. 29, 70, 97, 106). All this is true also of the *secondary sarcodictyum*, or the exoplasmic network which ramifies over the surface of the secondary calymma. The secondary lattice-shells, which are deposited on the surface of the latter, retain the configuration of the secondary sarcodictyum, by the chemical metamorphosis of which they have originated; this is the case in many SPUMELLARIA which develop several concentric lattice-shells (Pl. 29), in some NASSELLARIA (Pl. 54, fig. 5), in the Phractopeltida among the ACANTHARIA (Pl. 133), and in the double-shelled PHÆODARIA, Cannosphærida, and part of the Cœlodendrida and Cœlographida (Pls. 112, 121, 128). In those Radiolaria which form no lattice-shell whatever, the conformation of the sarcodictyum is usually irregular, with meshes of irregular form and unequal size; sometimes, however, they seem to be very regular, as in many *Acanthometra* (Pl. 129, fig. 4).

95. *The Pseudopodia*.—On the whole the pseudopodia or thread-like processes of the exoplasm exhibit in the Radiolaria the same characteristic peculiarities as in all true Rhizopoda; they are usually very numerous, long and thin, flexible and sensitive filaments of sarcode, which show the peculiar phenomena of granular movement. Their physiological significance is in several respects very great, for they serve as active organs for the inception of nutriment, for locomotion, sensation, and the formation of the skeleton (see note A, below). The presence of a calymma, however, which distinguishes the Radiolaria from the other Rhizopoda, brings about certain modifications in the behaviour of the pseudopodia. If in general all the threads, which arise from the sarcomatrix or fundamental layer and radiate outwards, be called "pseudopodia," then that part of them which is included in the gelatinous substance of the calymma and forms the sarcoplegma may be termed the "collopodia" (or intracalymmar pseudopodia), and the remaining portion, which passes outwards from the sarcodictyum freely into the water, may be described as "astropodia" (or extracalymmar pseudopodia). In many Radiolaria these two portions present some differences in morphological and physiological respects, and certain distinctions are probably generally present (see note B). Apart from this universal differentiation in the different groups of the Radiolaria, specially modified forms of pseudopodia may be recognised as the axopodia and myxopodia of the ACANTHARIA (see § 95, A), and the sarcode-flagellum of certain SPUMELLARIA (see note C).

A. The pseudopodia of the Radiolaria have been so fully described in my Monograph, in 1862, both morphologically and physiologically, that I need only refer to the account there given