

Besides these constant and essential elements, the central capsule contains very commonly (but not constantly) some other enclosed structures, viz. :—

4. An internal or intracapsular skeleton.
5. Intracapsular vacuoles or alveoli.
6. Fat-granules or oil-globules.
7. Crystals of different composition.
8. Pigment-granules.

*The Extracapsulum*, or the outer part of the Radiolarian body is also constantly composed of three essential elements,—

1. *The Calymma*, or the thick extracapsular *jelly-veil*, completely enveloping the whole central capsule.
2. *The Matrix*, or the maternal tissue of the external protoplasm, enveloping immediately the capsule-membrane as a thin continuous layer of *extracapsular sarcodæ* (ectosarc).
3. *The Pseudopodia*, or the very numerous thread-like filaments of protoplasm, which radiate from the matrix; whilst their inner part is enclosed in the calymma, their outer part floats freely in the sea-water.

Besides these three constant and essential elements, the extracapsulum contains very commonly (but not constantly) some other enclosed structures, viz. :—

4. An external or extracapsular skeleton.
5. Extracapsular vacuoles or alveoli.
6. Fat-granules or oil-globules.
7. Pigment-granules or a peculiar large body of dark extracapsular pigment, the "phæodium."
8. "Xanthellæ" or "zooxanthellæ," peculiar yellow cells, which contain starch and are unicellular yellow Algæ, living as "Symbiontes" in true Symbiosis with a great many Radiolaria.

*The Nucleus* of the Radiolaria is a large true simple cell-nucleus, originally a solid spherical, roundish or longish body of nuclein. It is placed either in the centre of the capsule (in most Periphyllæ) or excentrically (in most other Radiolaria). Originally solid, the nucleus is commonly differentiated later into an outer dense nuclear-membrane and an inner softer or fluid content; either with one single nucleolus or with a variable number of nucleoli. Originally always simple, the nucleus becomes afterwards constantly divided into numerous small nuclei, each of which, together with a part of the surrounding