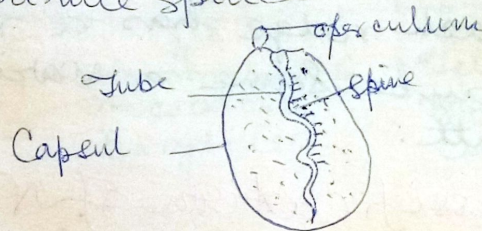


Nematocyst

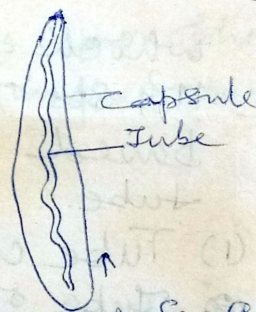
Present in Coelenterates, diagnostic feature. Huxley has given the name Cnidaria & Anidaria.

Shape of Nematocysts: → generally oval in shape but in some cases nematocysts are cylindrical, elongated or spherical. Each nematocyst has a capsule and this capsule is rounded at one end & pointed at the other end. Capsule contains narrow tube. At upper or pointed end is covered by a lid known as operculum. In some cases, tube is provided with minute spines.



In Cnidaria two types of nematocysts are found

- ① spirocysts
- ② Nematocysts proper



Spirocyst of Sea anemone

Spirocysts: → found in Zoantharia

It contains a capsule, cylindrical in shape & internally a spirally coiled tube

difference between spirocyst & Nematocyst

Spirocyst	Nematocyst
① Have capsule and is thin and single walled.	Thorns present
③ There are no spines on the tube.	Impermeable to water when stained with Basic dyes.
② Permeable to water when stained with Acid dyes.	

Nematocysts are scattered through out the phylum and also called stinging or nettle cells. They have thick and double wall capsule. They also contain spirally twisted tube provided with thorns.

In some types of nematocyst tube is in the form of elongated thread and this tube may be of same diameter through out it; ~~may be~~ basal portion is enlarged into long & slender shape known as butt.

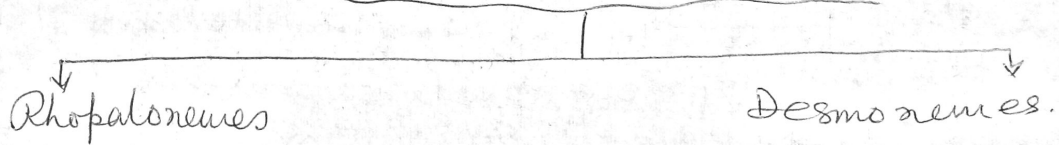
This tube may continue beyond the butt in the form of a long thread. Thus tube on the outer surface has 3 spiral ridges. Each ridge has a row of spines. Spines may be same or variable in size on the butt.

Classification of Nematocyst

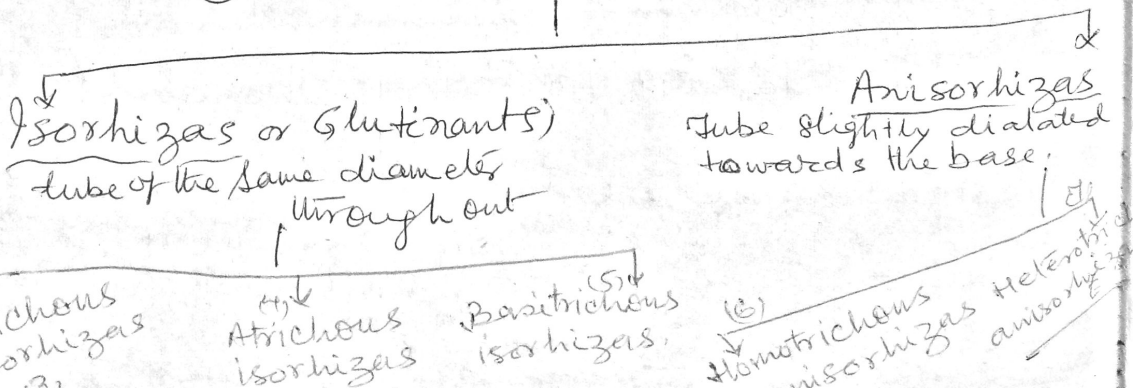
According to R weill - 17 types which are present in Cnidaria. He studied 119 sps of the coelentrals. Classification is based upon the characters of discharge tube.

- (1) Tube closed at the end, ~~tip~~ tip.
- (2) Tube open at the tip. (Haplonemes) without a butt.
- (3) Tube open at the tip (Heteronemes) with a butt.

① Tube closed at the tip

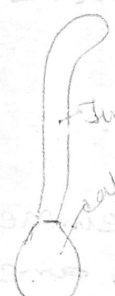
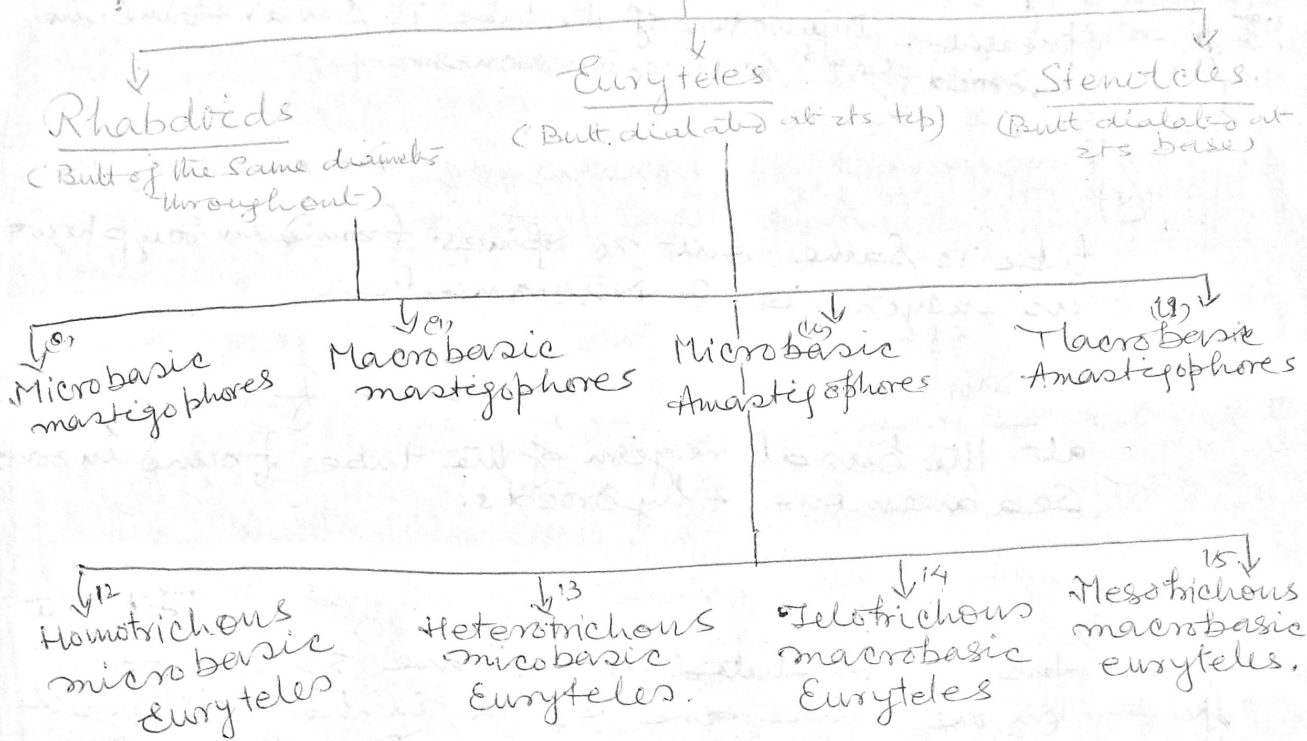


② Haplonemes



③ Heteronemes →

Tube open at the top tube in a butt.



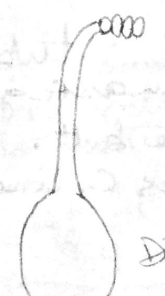
① Rhopalonemes →

This type is found only in siphonophora. There is capsule normal, tube is in the form of elongated sac.



② Desmonemes →

It is also called valvents. Tube is in the form of elongated thread forming a coil like a cork screw. This type of nematocysts occurs in hydra, tubularian hydrozooids and in some siphonophora. When discharged it form a coil of several turns. This coil is used in wrapping around the bristles or other projective parts of the prey.



Discharged