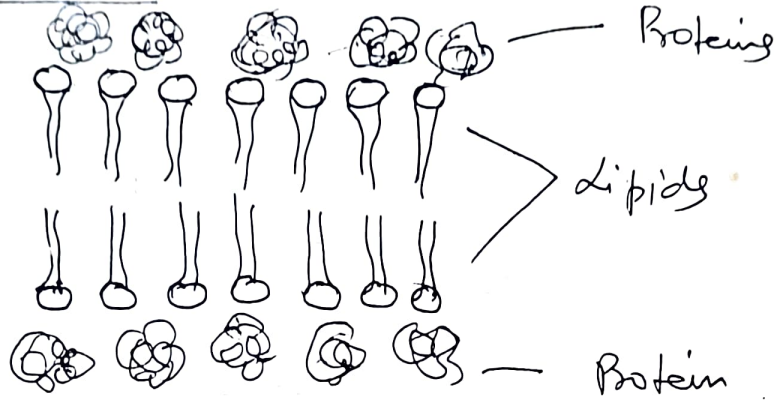


MIT. PARTICLES



Mole. Str. of Mit. Membr.

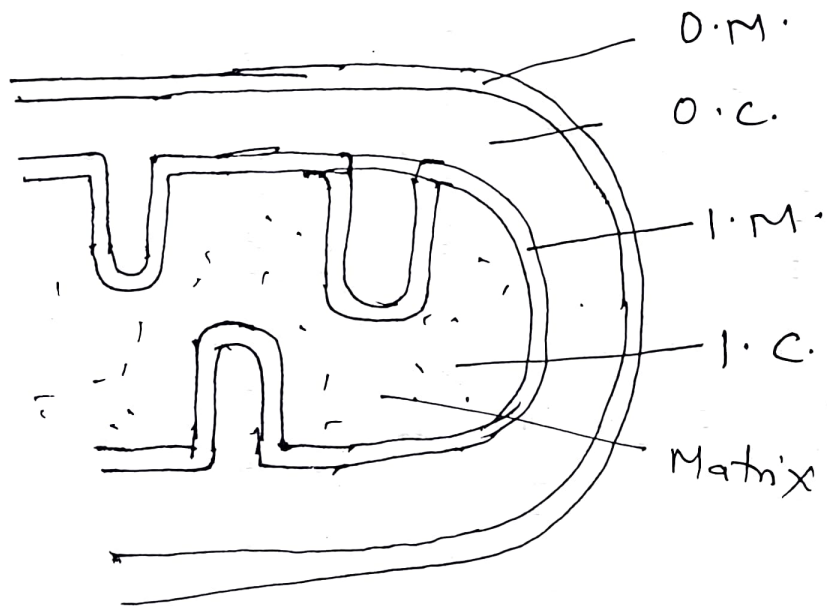


Fig: Membrs. & Chambers of Mitochondria

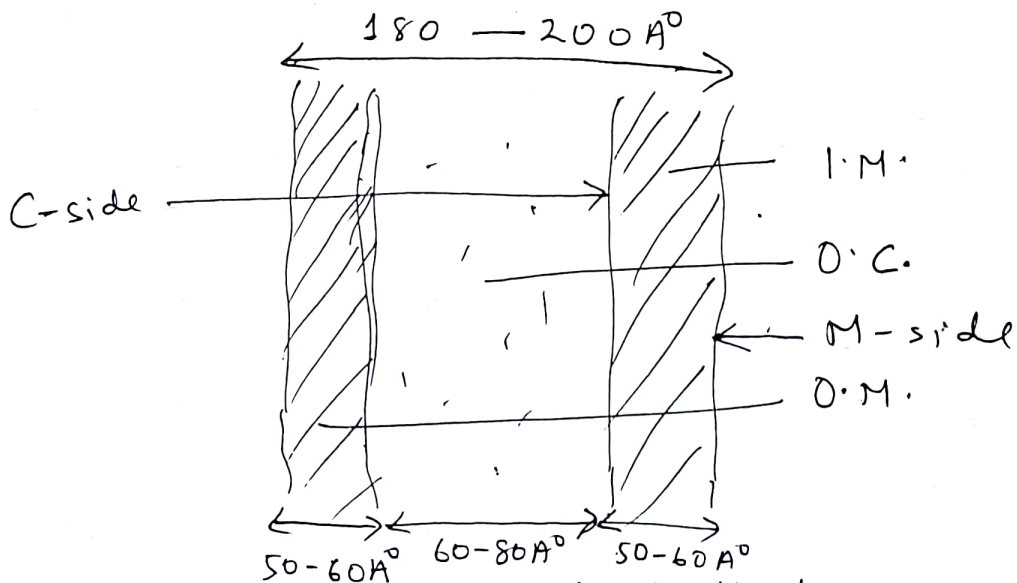


Fig: str. of Mit. Double Membr.

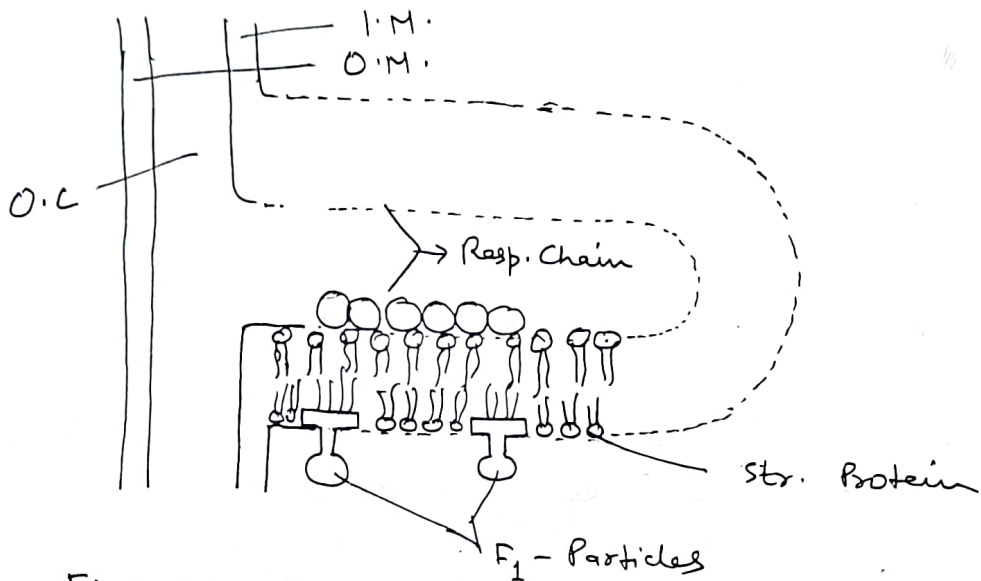


Fig: ~~Mole. Orgⁿ~~ Mole. Orgⁿ. of a mit. crista
(After Robertson - 1975)

① MIT. PARTICLES:

Usually, 2-types of particles are formed on the ~~outer &~~ inner surface of outer memb. (O.M.) & on the inner surface of I.M. Respectively, they are: —

- O.M. particles &
- I.M. particles

② O.M. Particles:

- stalkless particles as simple spheres. ~~up to 60 Å~~
- also known as "subunits of Parson" (Parson, 1967).
- each stalkless particle is a hollow cylinder of 60 Å long & 60 Å wide & a central hole of 20 Å.
- x [- centre to centre spacing betⁿ subunits is 80 Å]

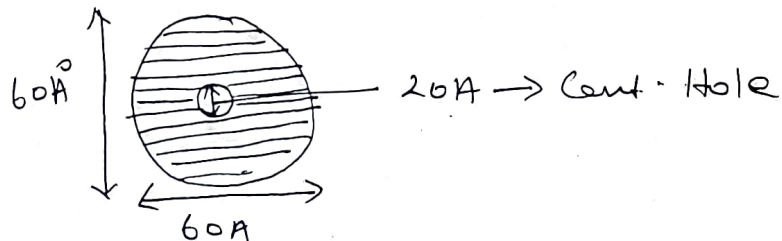


Fig: O.M. Particle

③ I.M. Particles:

- also called as "subunits of Fernandez-Moran" or "elementary particles" or "ATPase - Complex" or "F₁ - particles".
- spaced at 100 Å intervals.

- each F_1 -particle consists of 3-parts, namely: $\rightarrow$

- Head
- Stalk
- Base

- no. is estimated to be 10^4 to 10^5 .

- A/O, curr. views, head piece contains ATPase proper.

The stalk consists of oligomycin sensitivity conferring protein & the base ~~cont~~ contains protein channel.

$\times$ [Formerly, it was responsible for electron tr. system, ~~by~~ hence called elec. tr. particle (ETP) by Parson (1963). ~~But~~ But, A/O, RACKER ('67-70), these ~~retnt~~ spl. ATPase involved in ~~cou~~ coupling of oxidⁿ. & phosphorylation]

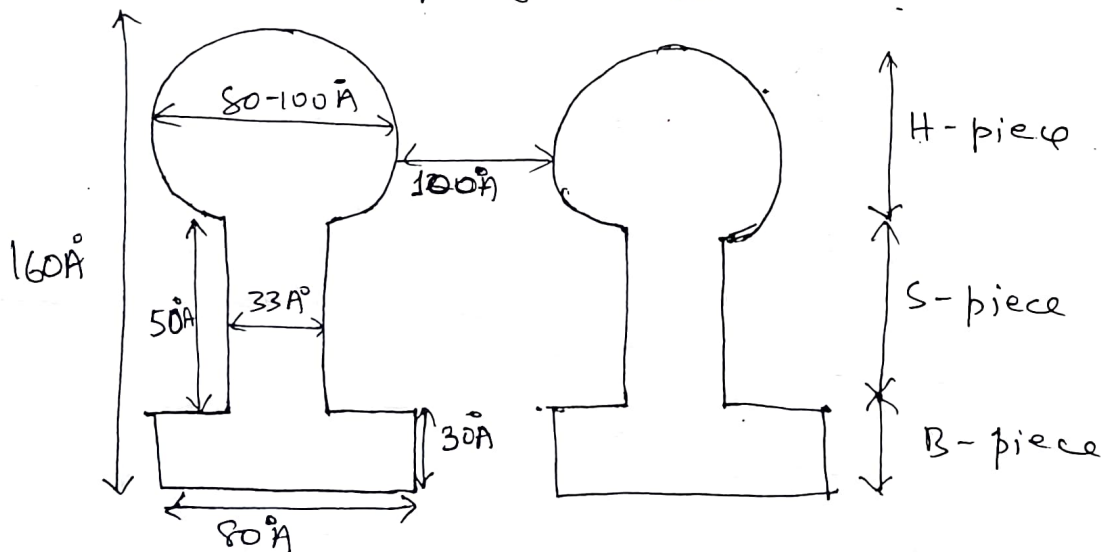


Fig: Dimension of parts of F_1 -particle

CHEMICAL COMPOSITION

A/O, LEHNINGER (1975), mit. contain 65-70% protein, 25-30% lipids, 0.5% RNA, a small am. of DNA as mit. DNA & about 70 enz. Out of ~~total~~ total lipids, 90% as phospholipids, 5% as cholesterol & 5% as free fatty acids & ~~phospholipids~~ triglycerides are found.

He described the distribⁿ. of enzymes in mit. as follows: $\rightarrow$

ENZ. OF O.M. :-

- 1) Monoamine oxidase
- 2) NADH - cyt. $\bar{e}$ oxidase