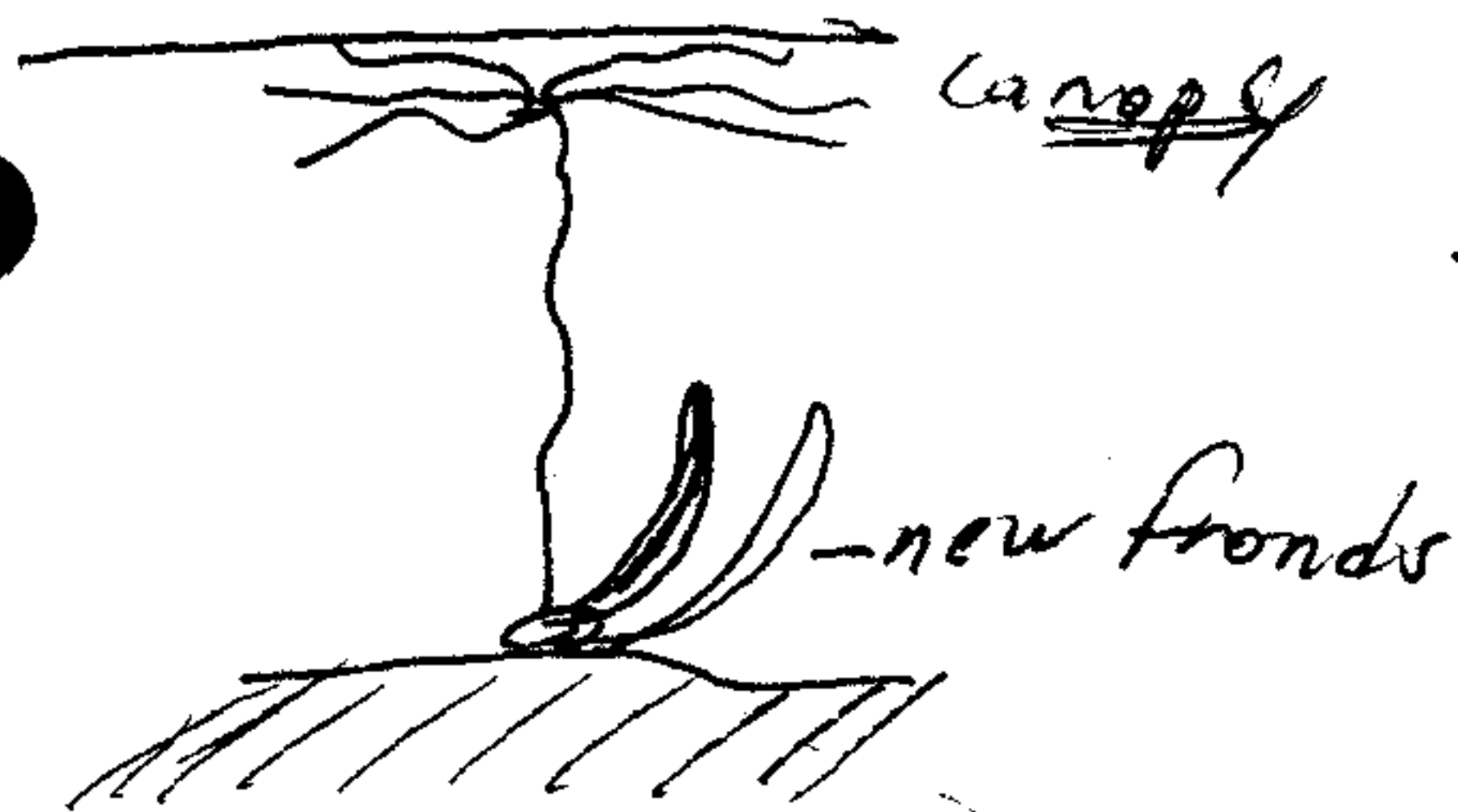


Jim Watanabe - Kelp Ecology



- canopy lost in winter
- but attachments can remain

- new fronds

Growth consequences of annual biomass loss

I) Macrocystis

a) perennials but each frond lasts only a few months

b) translocation possible (helps overcome self-shading)

II) Analyze growth

1) Rate

2) Chemicals

Mannitol = 6C alcohol product of PS

Laminarin = carbo. storage (polym. mannitol)

3) Physical

light transmission

- Wave exposed vs. Calm

- wave exposed have major fluctuations in rate

- Canopy damage experiment

① cleared (all canopy removed)

topped (canopy removed only from experimental plot)

controls