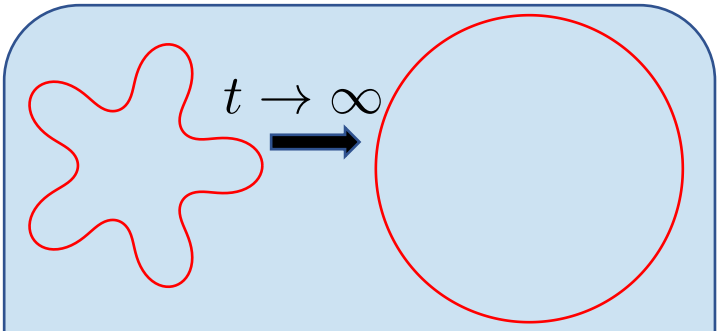
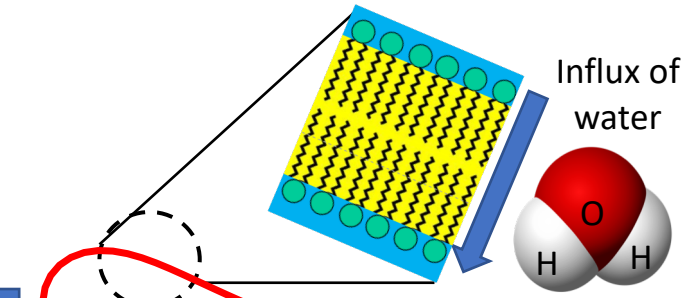
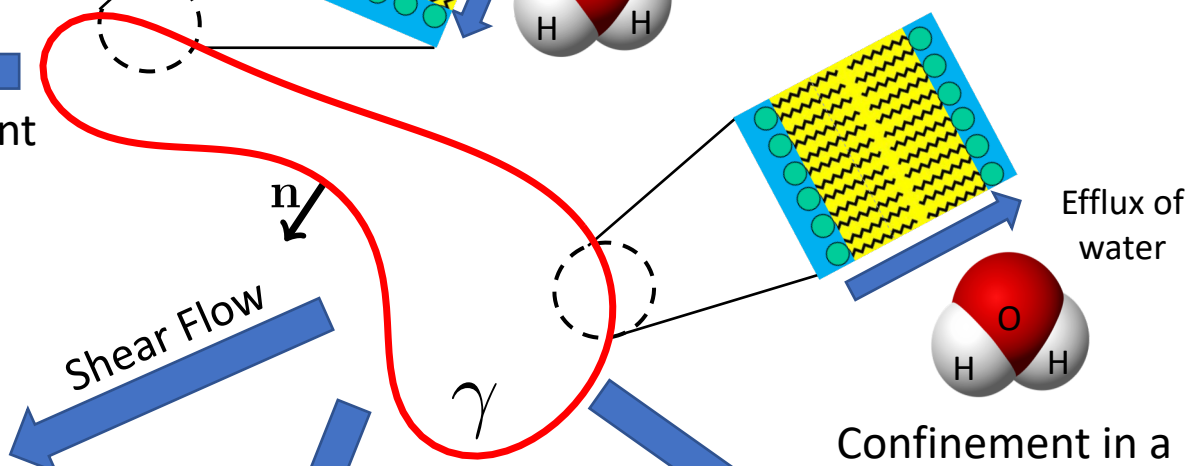


(b) A starfish vesicle at t=0 relaxes and swells to a circle.

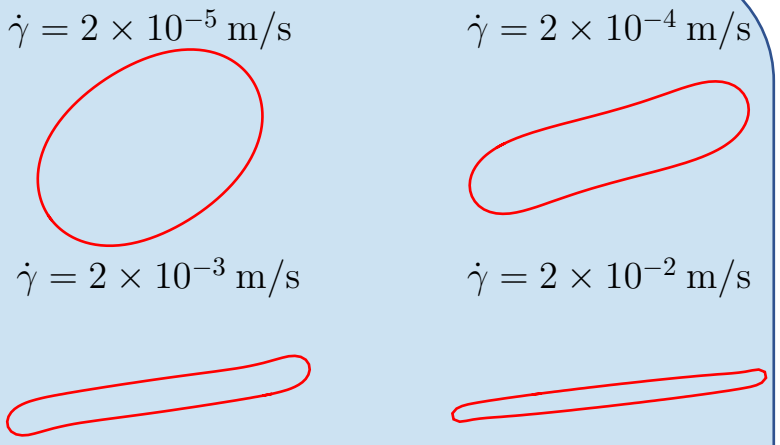
Quiescent Flow



(a) A semi-permeable vesicle (permeable only to water) immersed in a viscous fluid.

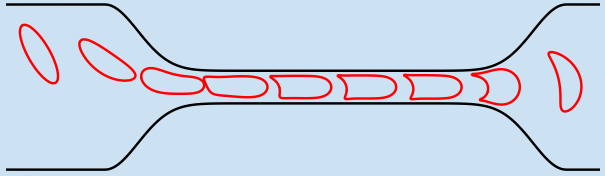


Confinement in a contracting channel

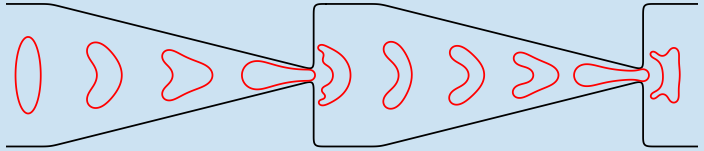


(c) A vesicle in a shear flow tank treads with a final reduced area and inclination angle that depend on the flow rate.

Confinement in a closely fit channel



(d) A vesicle in a stenosed geometry loses 6% of its fluid volume.



(e) A vesicle passing repeatedly through a slit geometry loses close to 50% of its fluid volume.