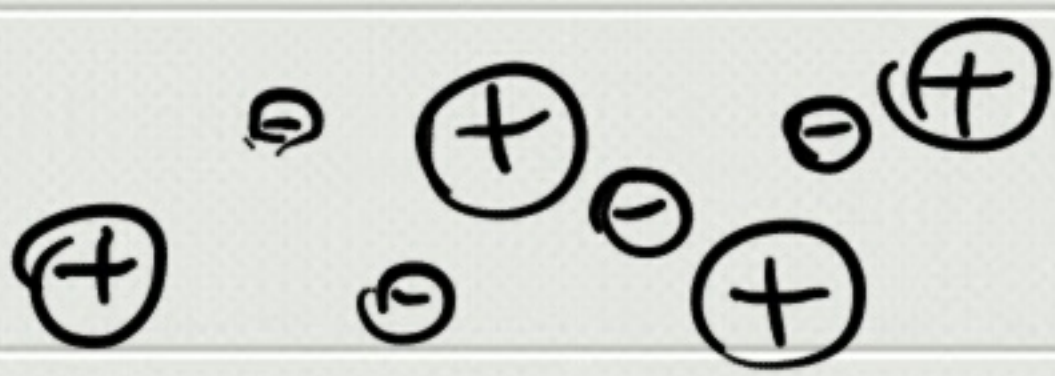
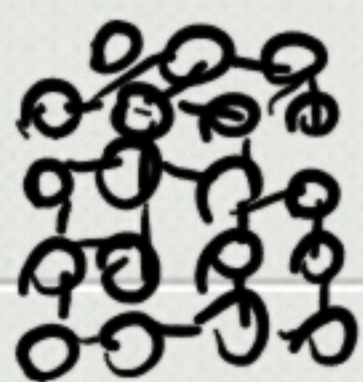


Plasma



Sólido



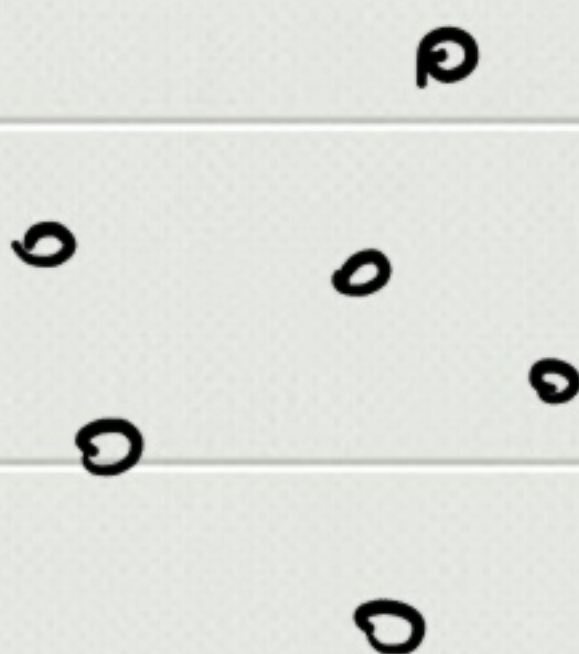
forma + volume

Líquido



volume


Gás



—

$$\bigcirc \neq 1 \text{ cm} \Rightarrow 27 \text{ in } 1 \text{ m}^3$$

Fluido : líquido / gás

  $\sim dV, dm$  (contínuo)

fluido ideal

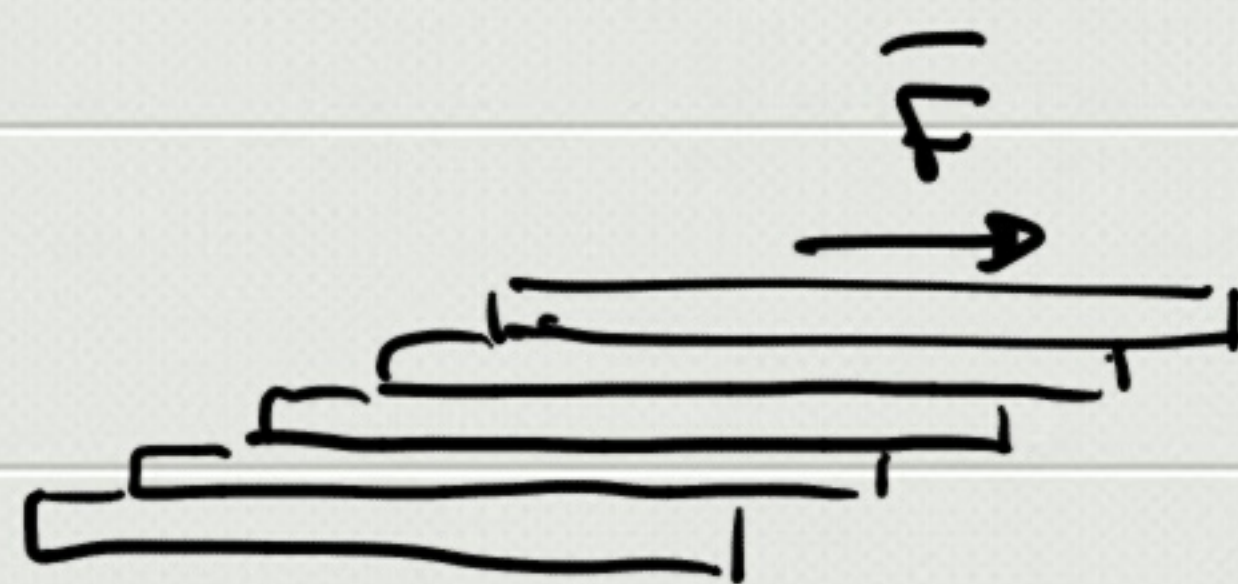
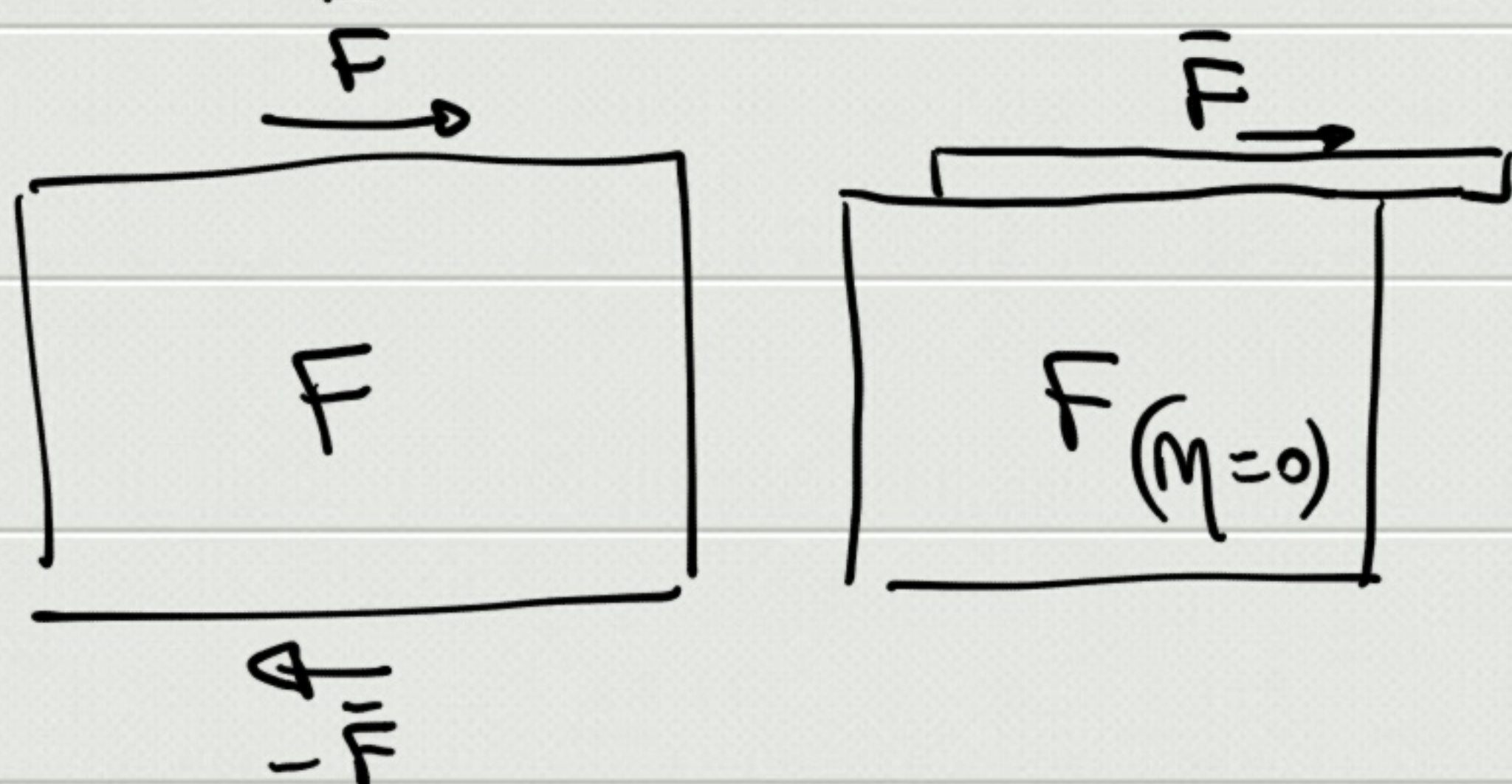
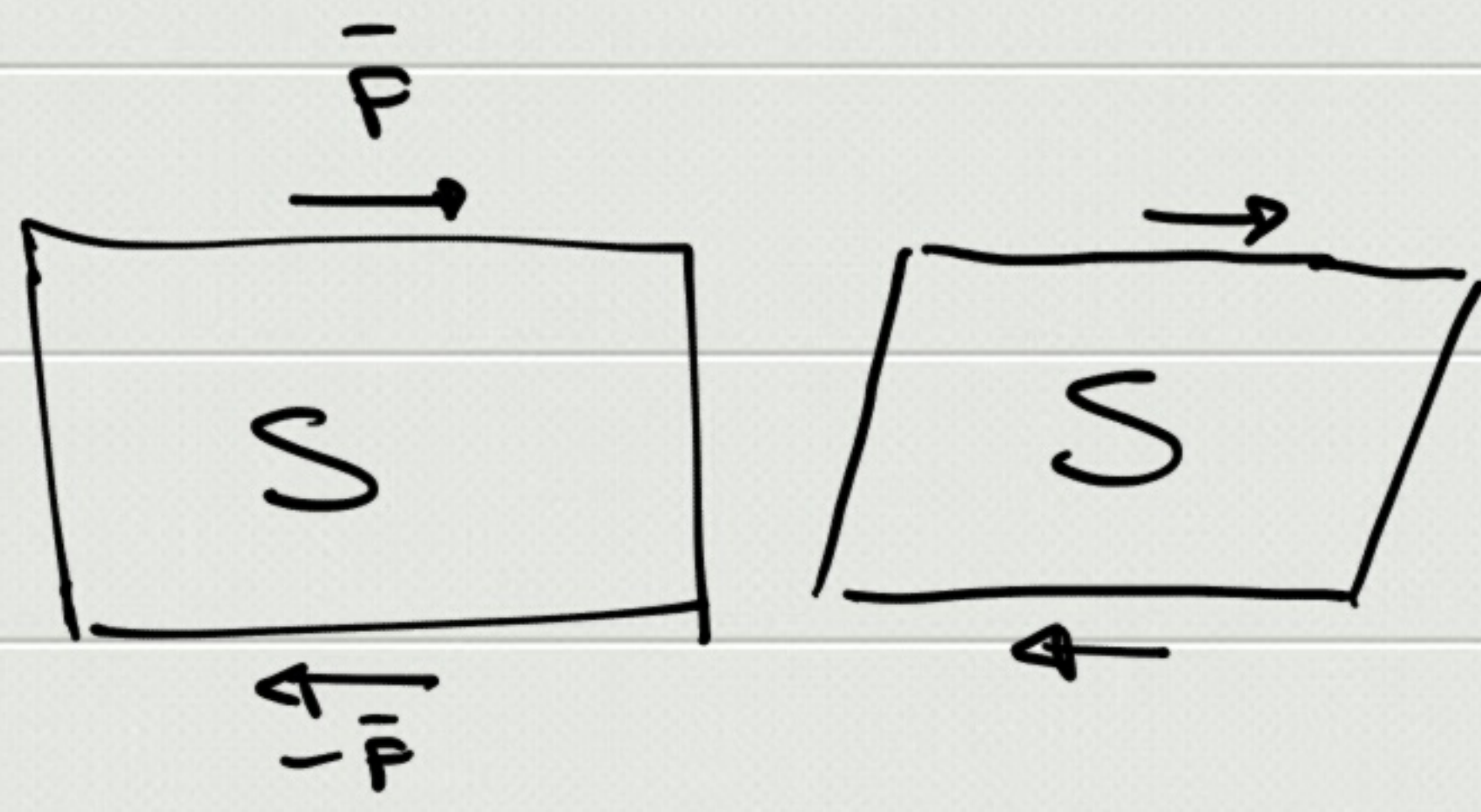
$$\boxed{p = \text{const}}$$

viscosidade nula

$$\boxed{\eta = 0}$$



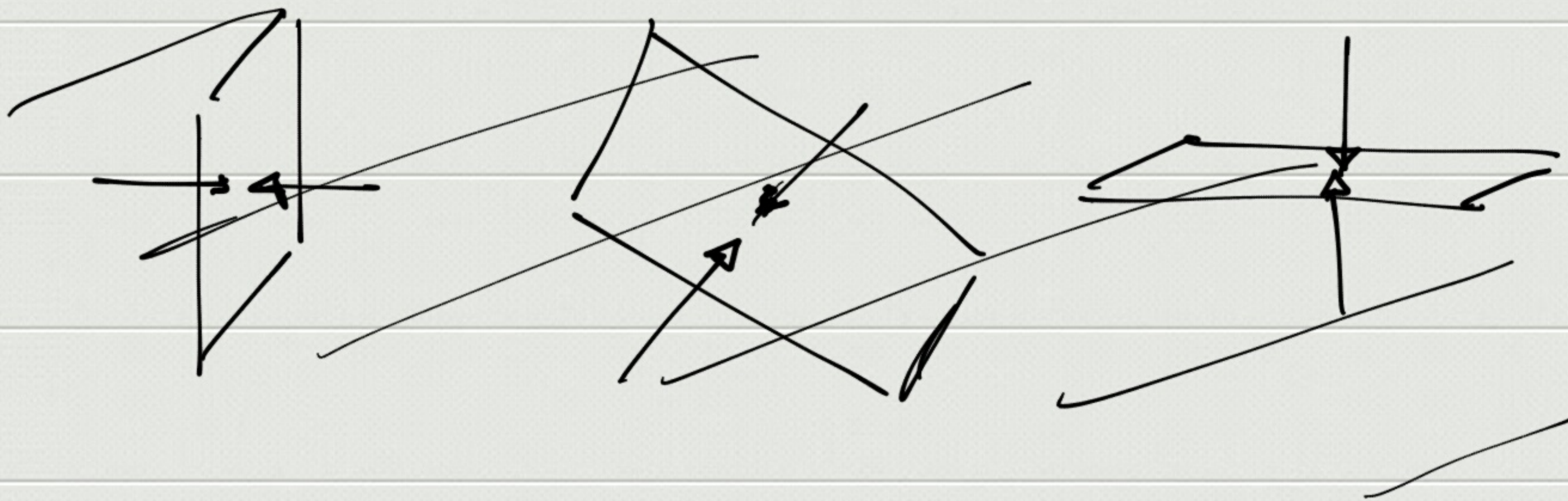
No sforzi di taglio



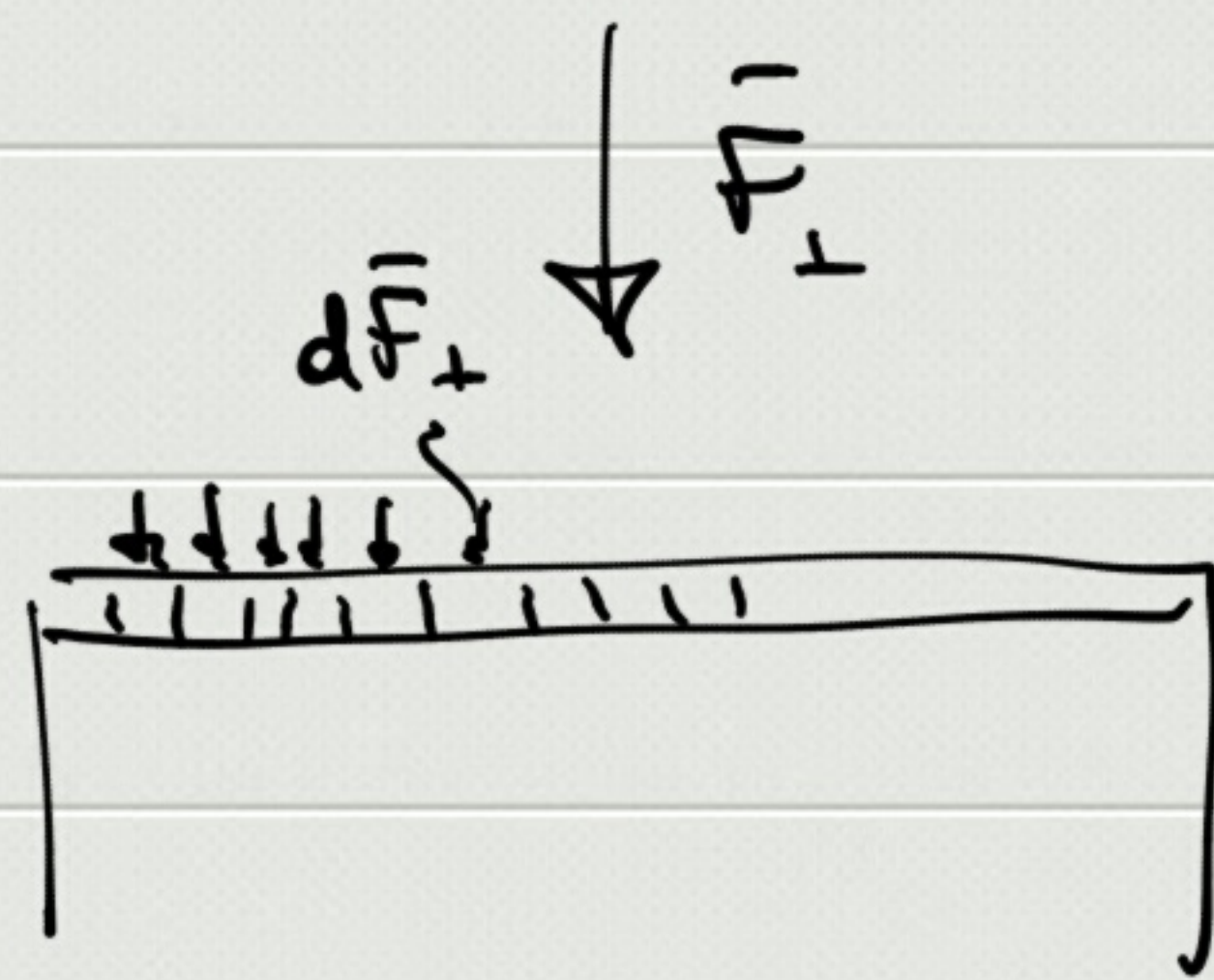
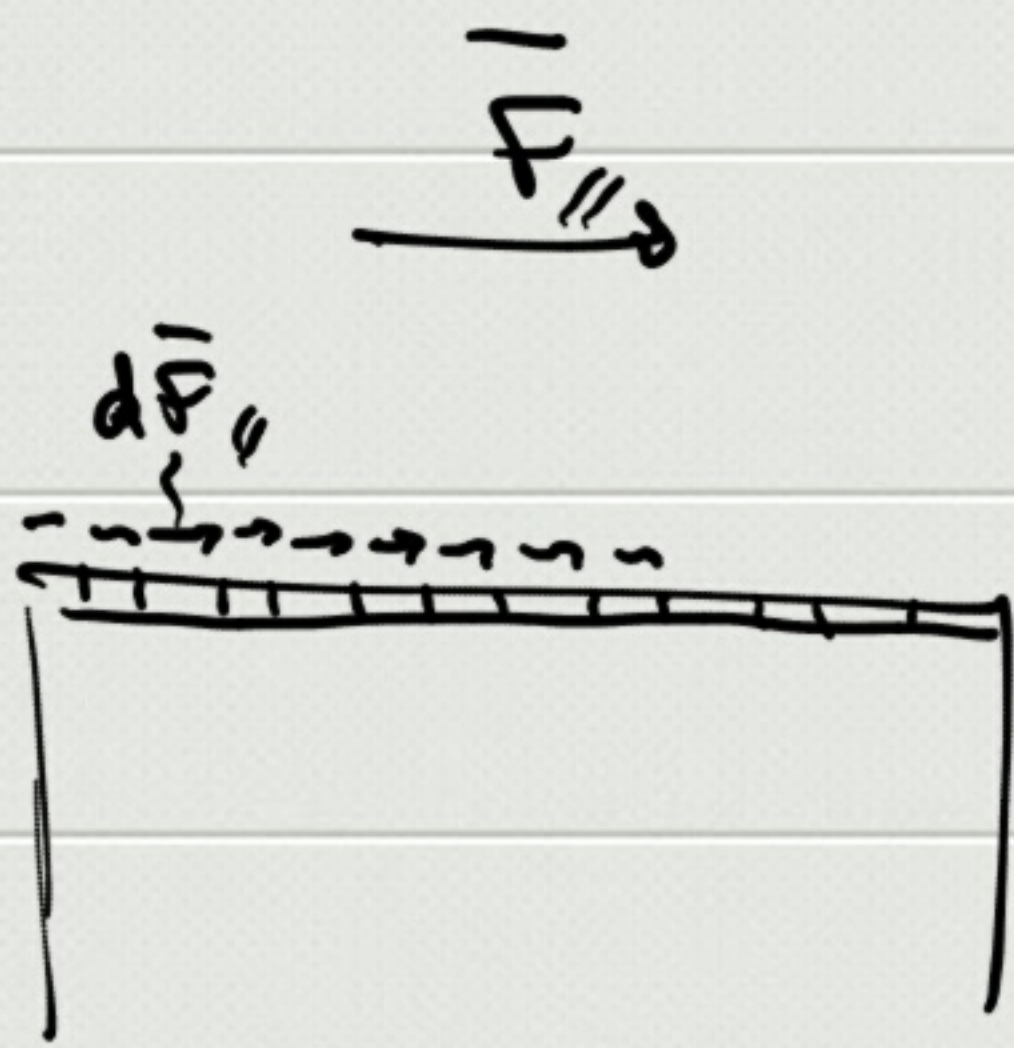
$\eta \neq 0$

Fluidi statici  $\Rightarrow$  No sforzi di taglio

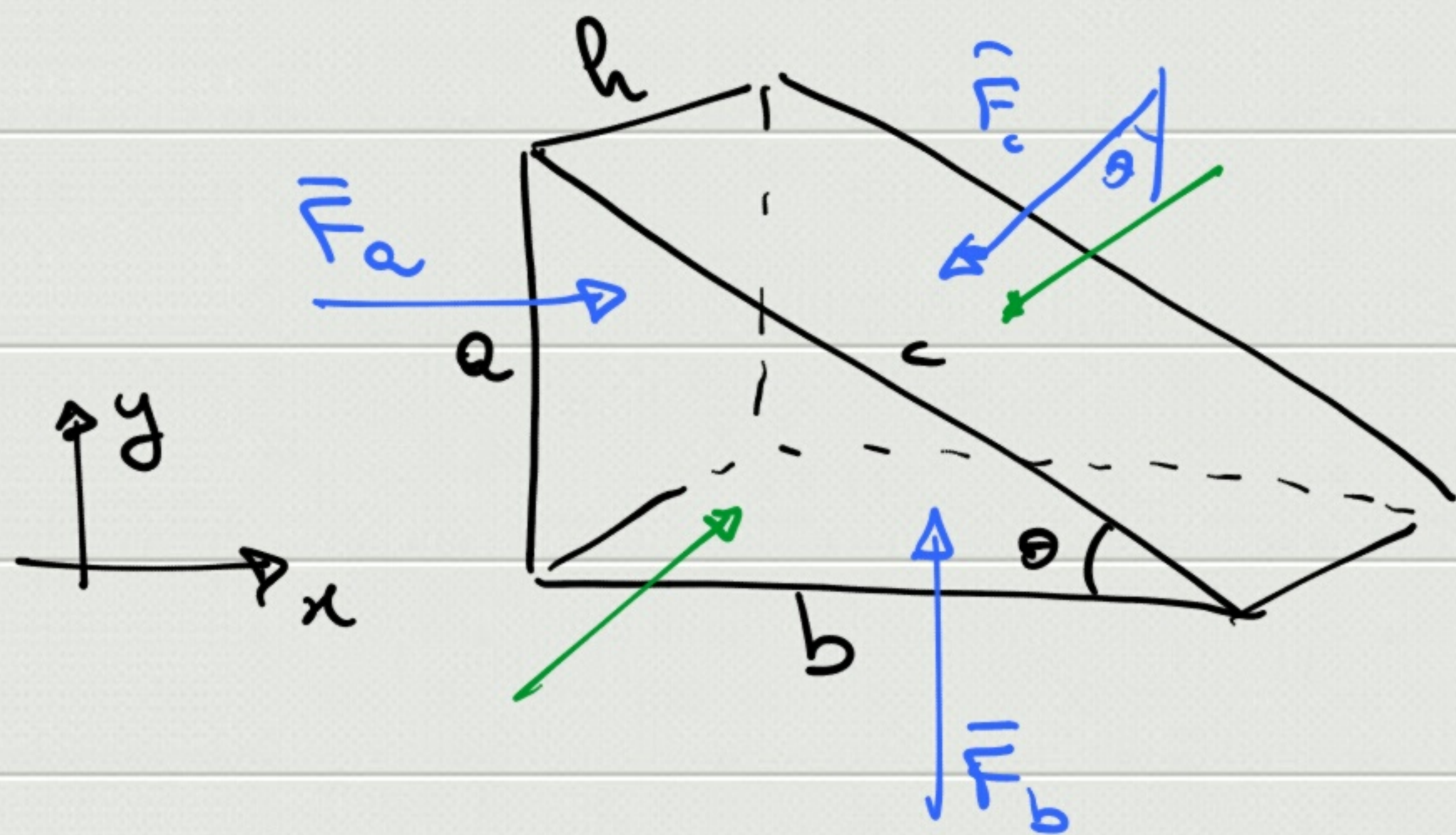
$\Rightarrow$  Solo forze perpendicolari alle superficie







pressione :  $p = \frac{\sum \vec{F}}{\sum \vec{A}}$  (scalare)



Statica

$$\vec{F}_a + \vec{F}_b + \vec{F}_c = 0$$

$$x: F_a - F_c \sin \theta = 0 \Rightarrow p_a \cancel{b} \cancel{h} = p_c \cancel{b} \cancel{h} \sin \theta$$

$$y: F_b - F_c \cos \theta = 0 \Rightarrow p_b \cancel{b} \cancel{h} = p_c \cancel{b} \cancel{h} \cos \theta$$

$$\Rightarrow p_a = p_c \quad p_b = p_c \Rightarrow \boxed{p_a = p_b = p_c}$$

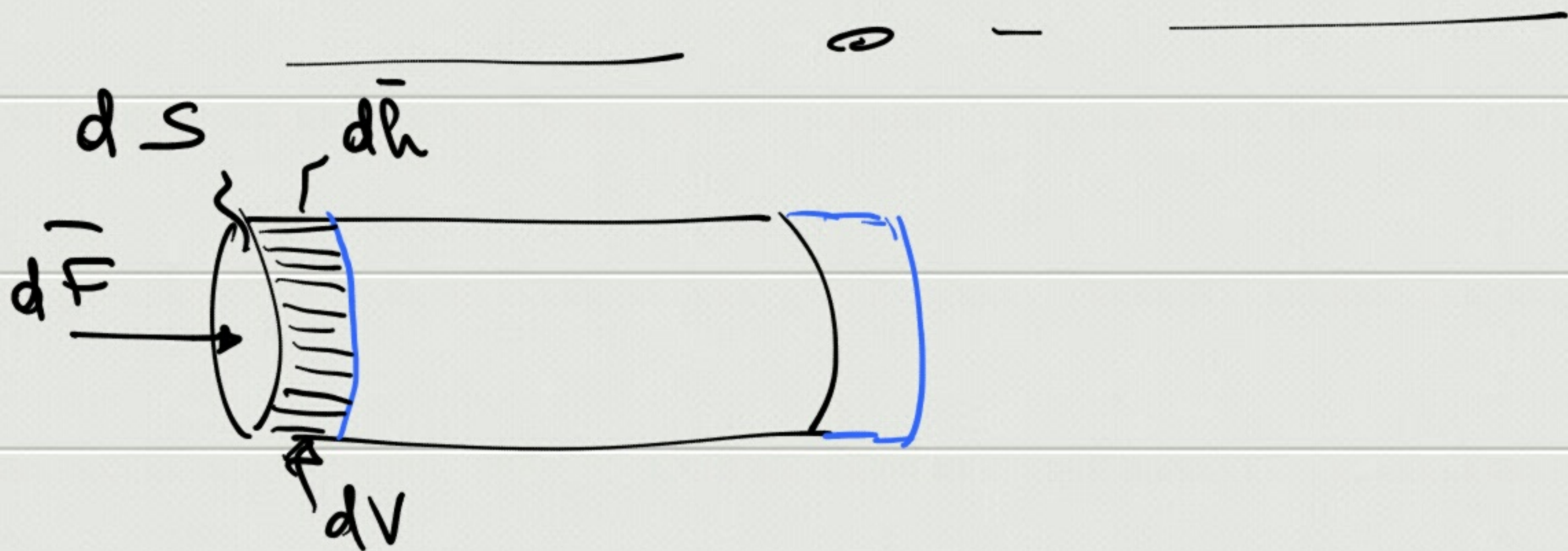


$$p = \frac{dF_{\perp}}{dS}$$

$$[p] = \left[ \frac{F_{\perp}}{S} \right] = \frac{N}{m^2} = Pa$$

(Pascal)

$$1 \text{ atm} = 1.01325 \cdot 10^5 \text{ Pa}$$



$$dW = d\vec{F} d\bar{h} = p dS d\bar{h} = p dV$$

$$W_{i \rightarrow f} = \int_i^f p dV$$