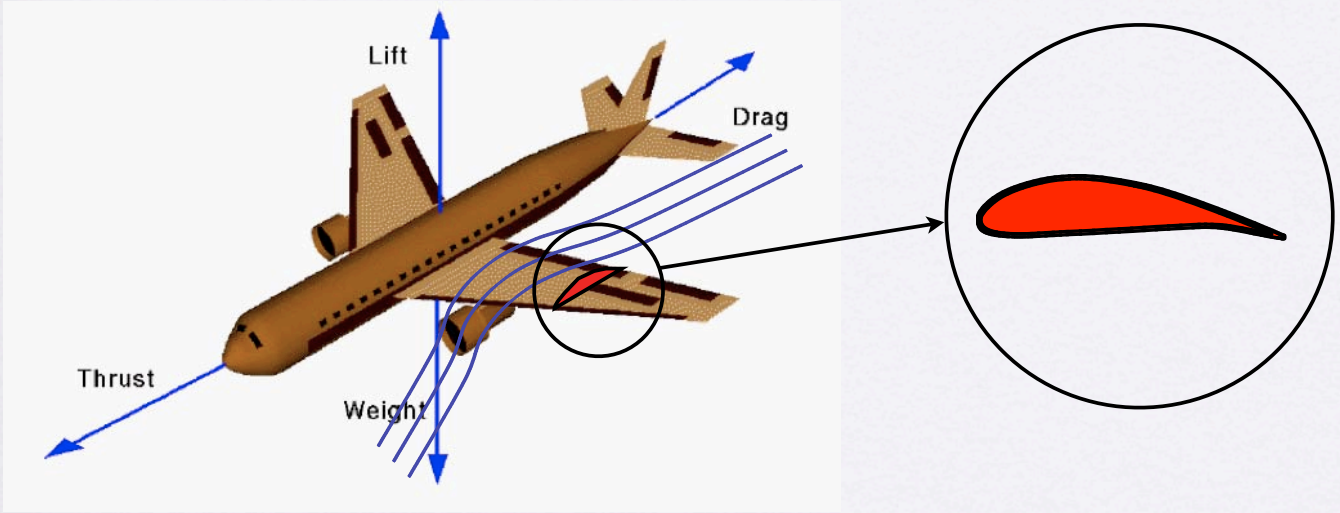
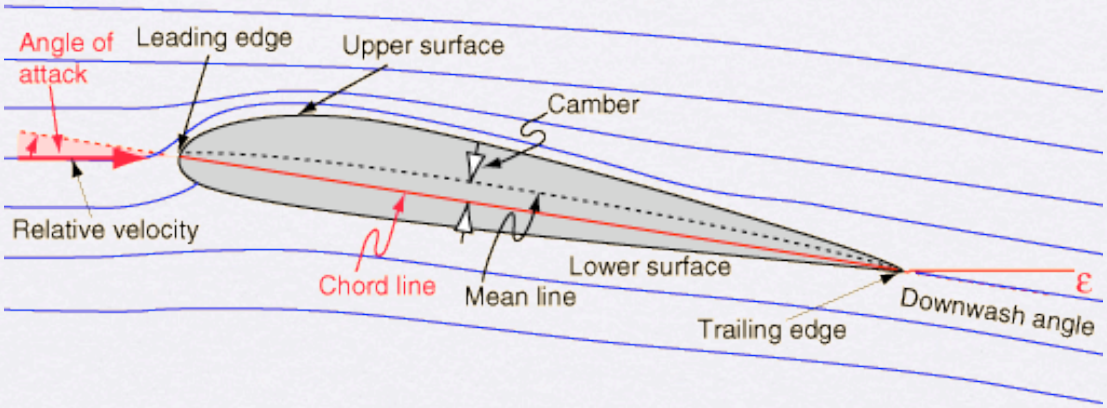
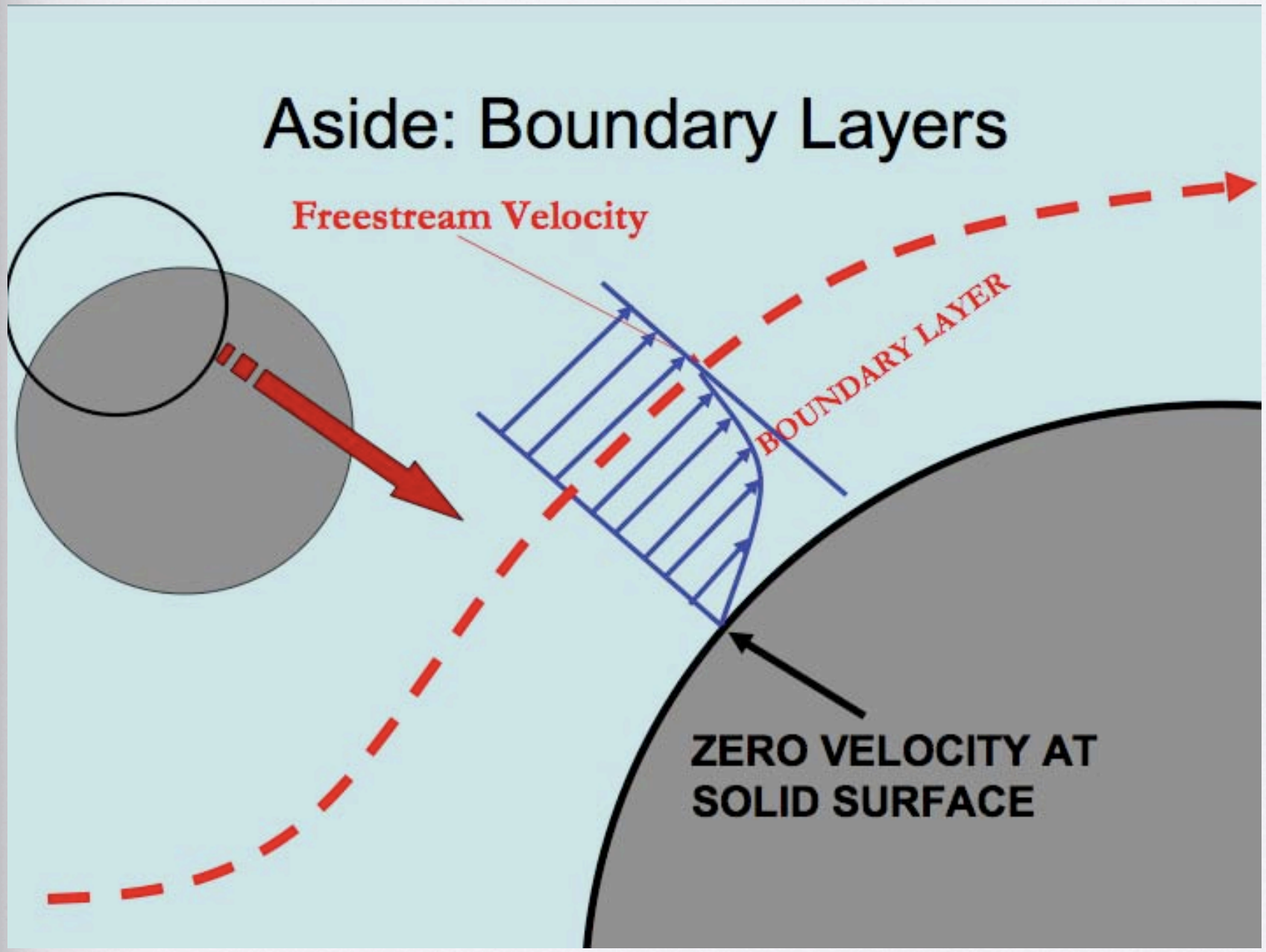
2D Airfoil


Lift
Drag
Thrust
Weight


Angle of attack
Leading edge
Upper surface
Camber
Relative velocity
Chord line
Mean line
Lower surface
Trailing edge
ε
Downwash angle

Aside: Boundary Layers



Reynolds Number

$$Re = \frac{\text{Inertia force}}{\text{Viscous force}} = \frac{\text{Fluid Velocity *Length}}{\text{Viscosity}}$$

- Predication of laminar vs. turbulent flow
- Defines dynamic similarity

Blood flow in brain: ~100
Blood flow in aorta: ~1000

Typical pitch in Major League Baseball: 200,000
Person swimming: 4000,000
Blue Whale: 300,000,000
A large ship: 5000,000,000

