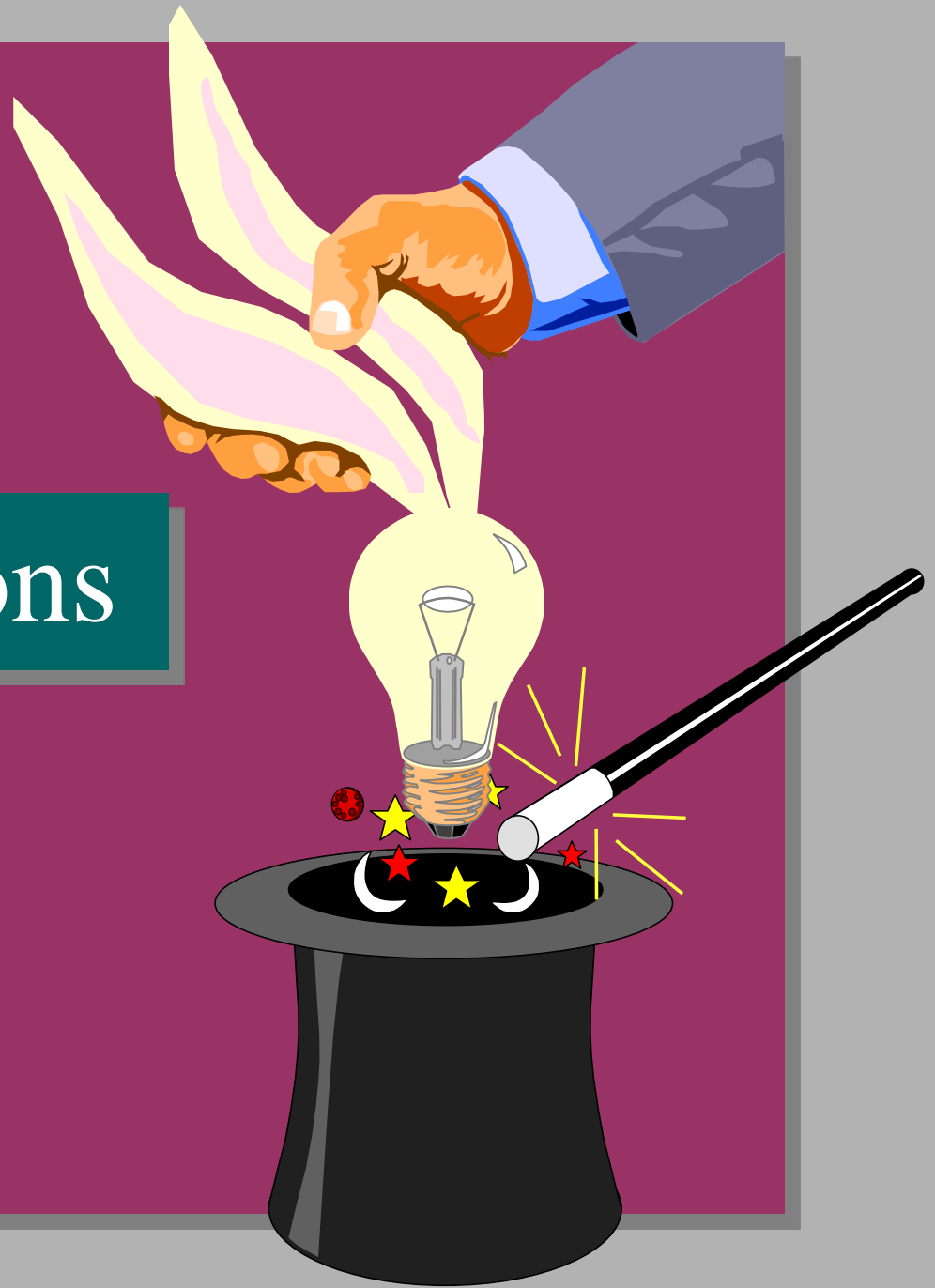
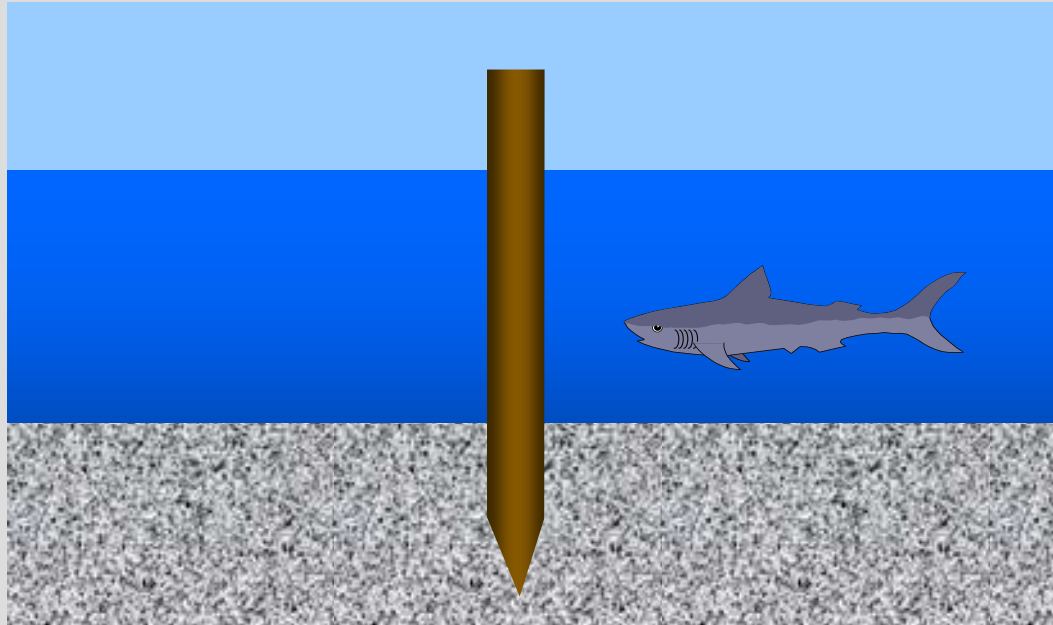


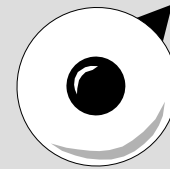
Contradictions



Pile Driving

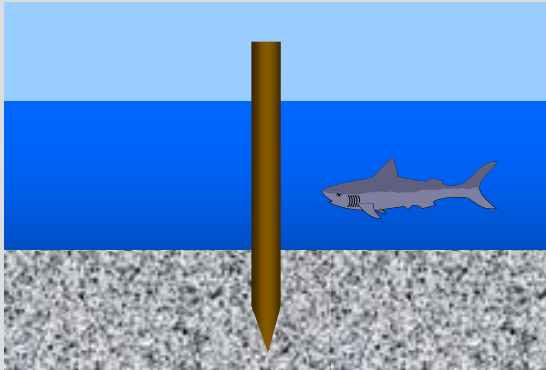


$Y = \text{Driving Speed}$
What are the Knobs?

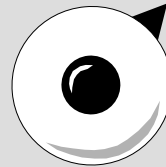


$\text{Driving Speed} = f(\text{Ground Hardness, Pile Diameter, Tip Angle } \dots)$

Pile Driving

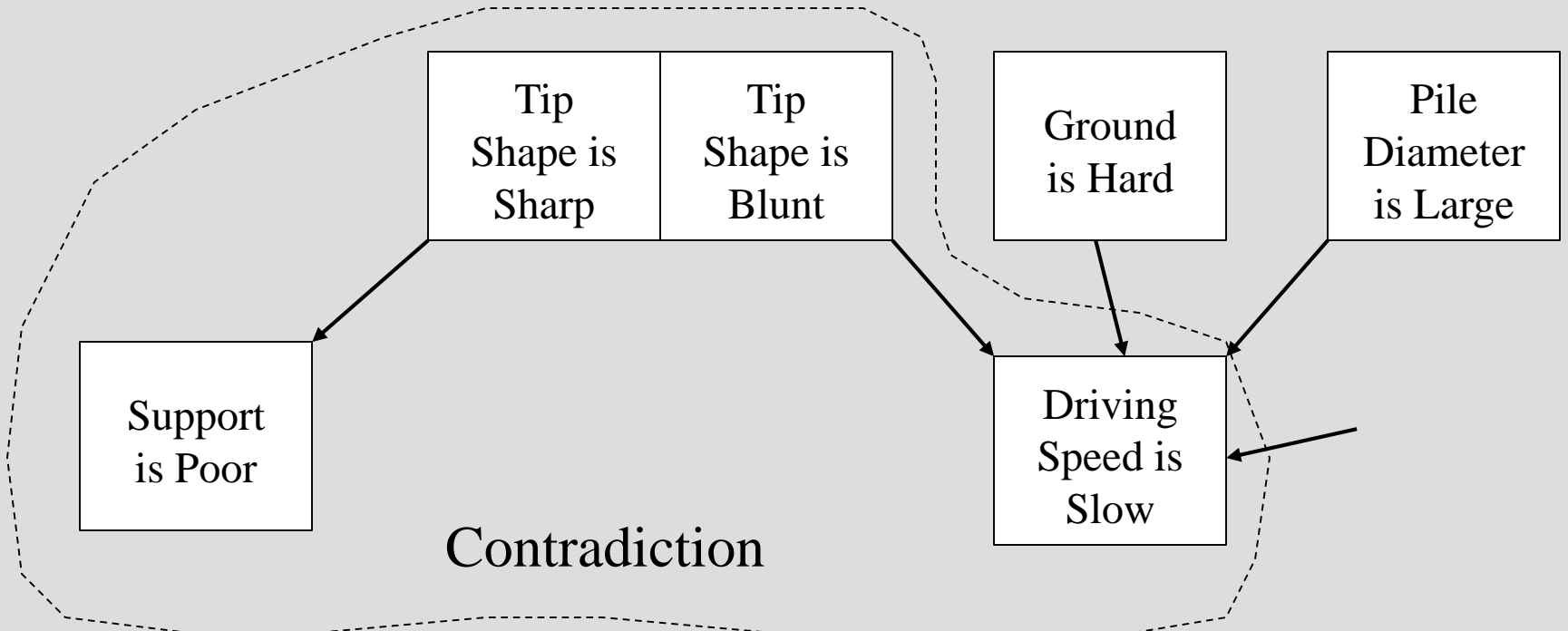


Thin Thick

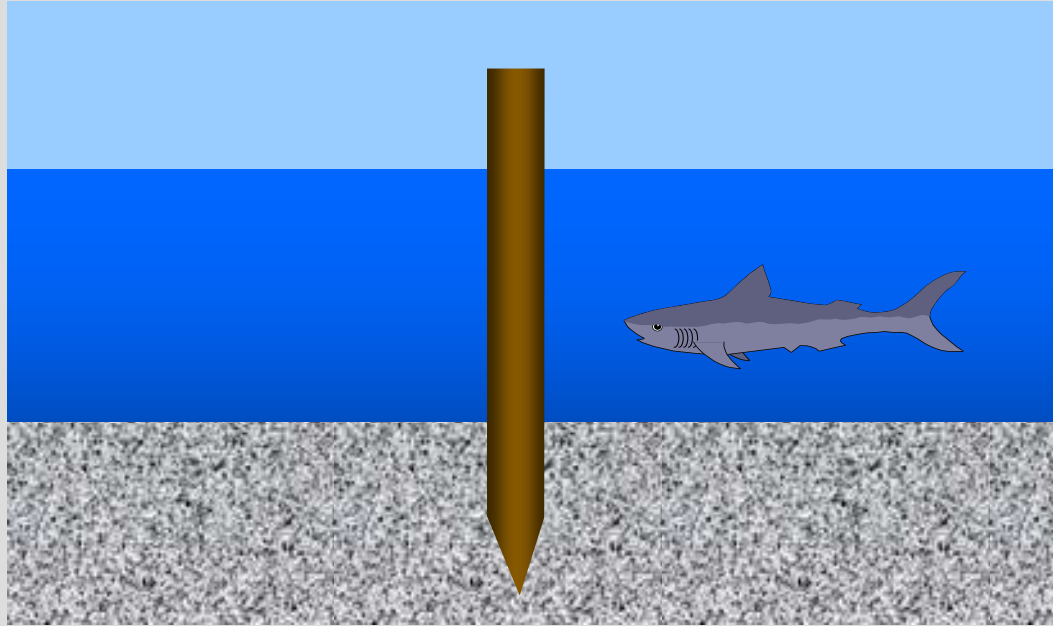


Pile Diameter

Use a knob and a setting

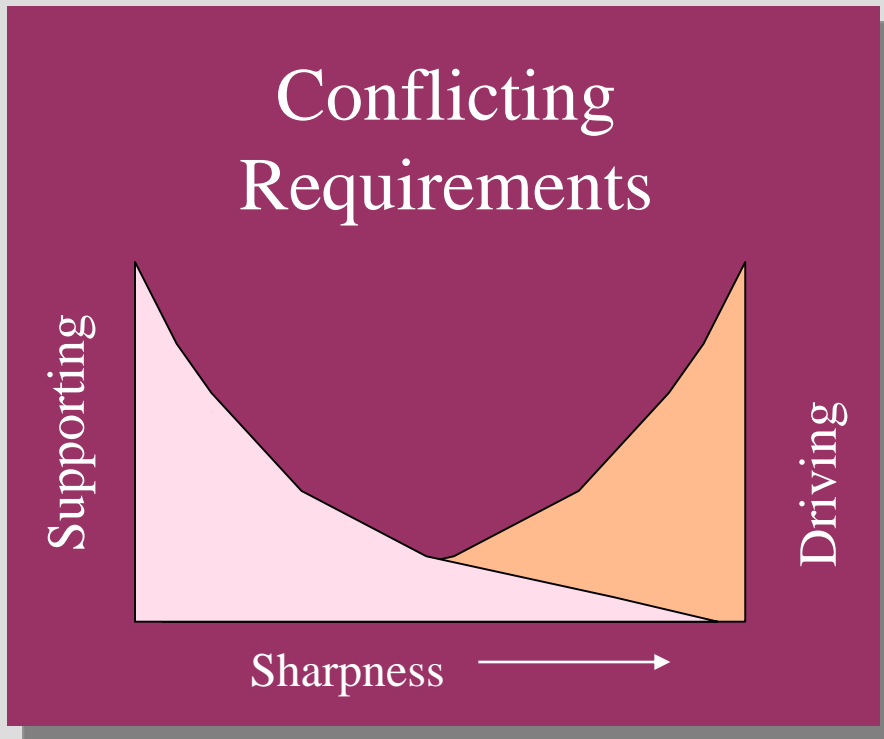


Pile Driving



In order to drive fast, the pile must be **sharp**. In order to support heavy loads, the pile must be **blunt**

Compromise Solutions

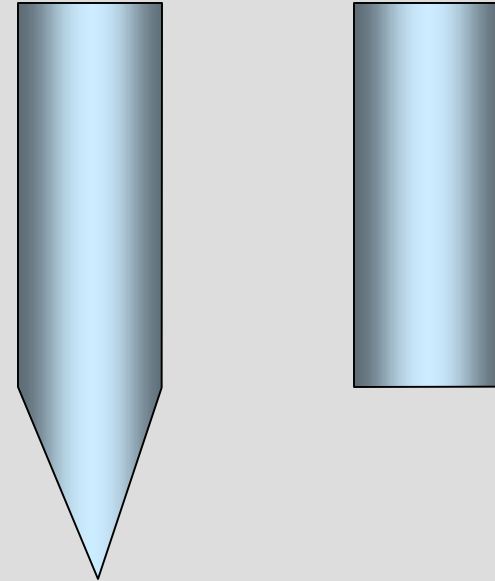
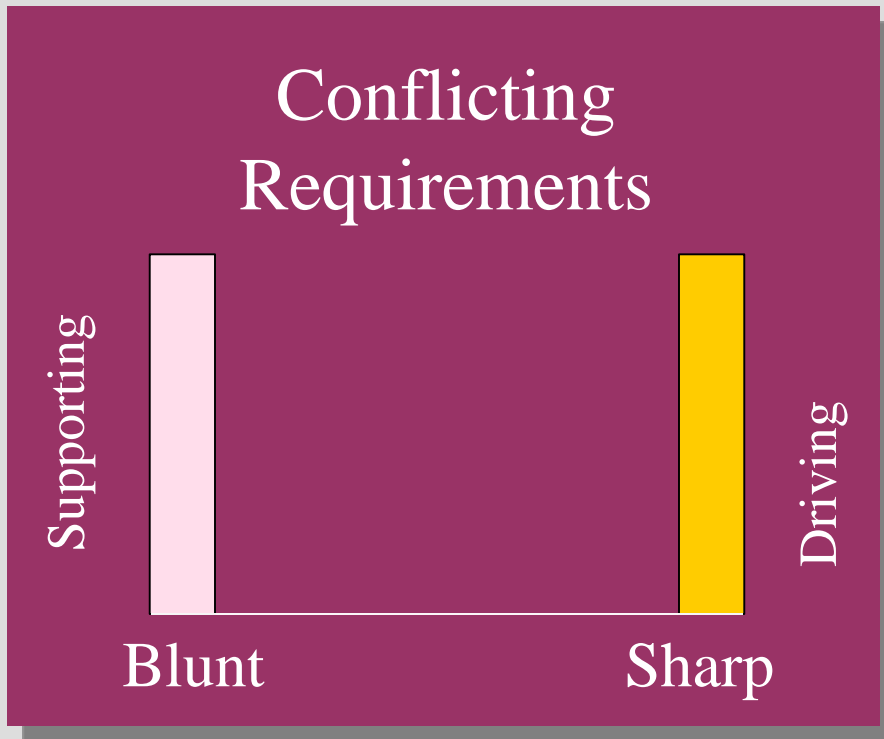


Time Consuming

Guarantees Risk

Delays the Solution

Idealized Solutions



It must be sharp
and blunt