
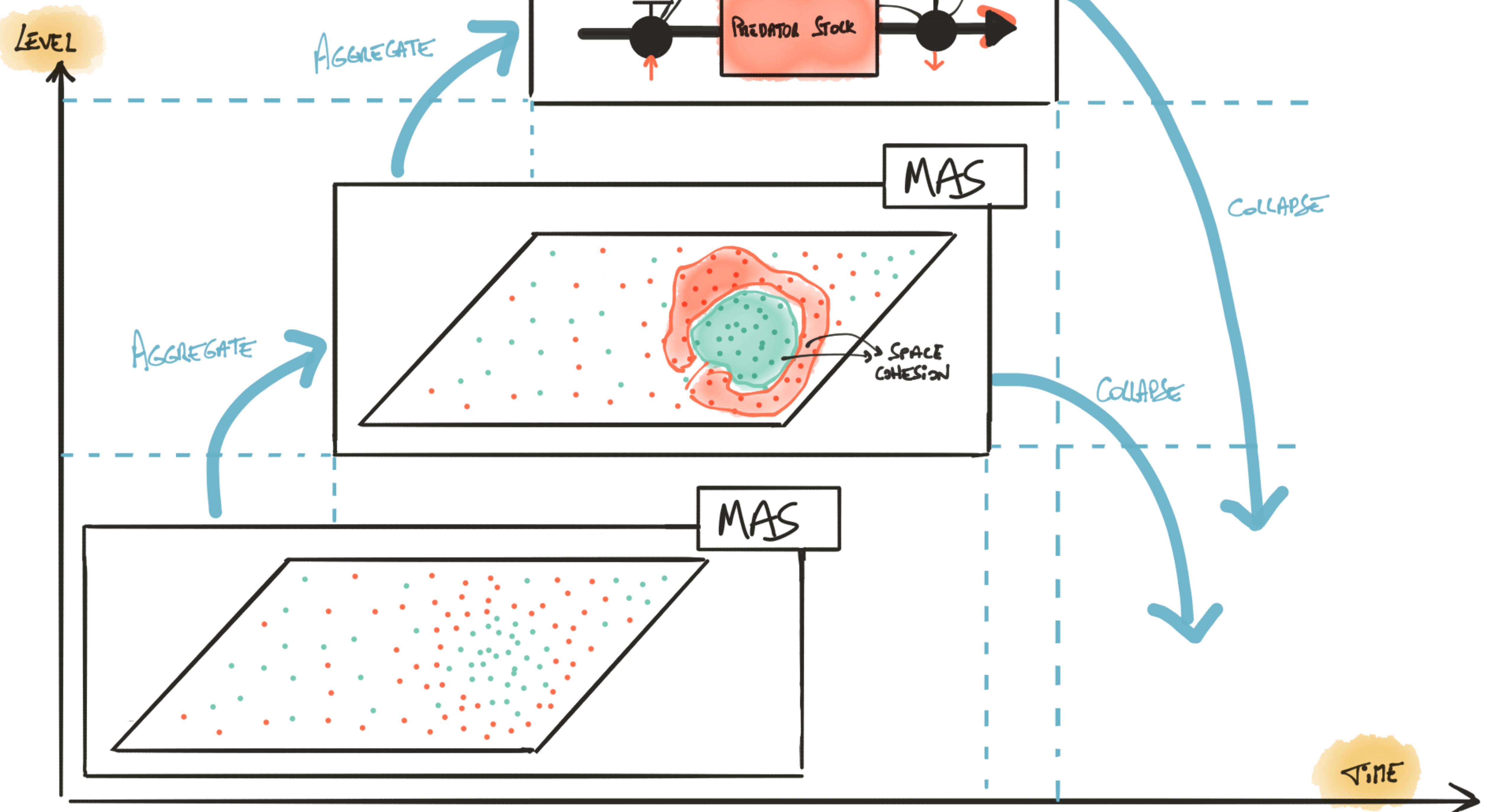


WHAT
is **Adaptive Abstraction?**

$$\frac{dx}{dt} = \alpha x - \beta xy$$

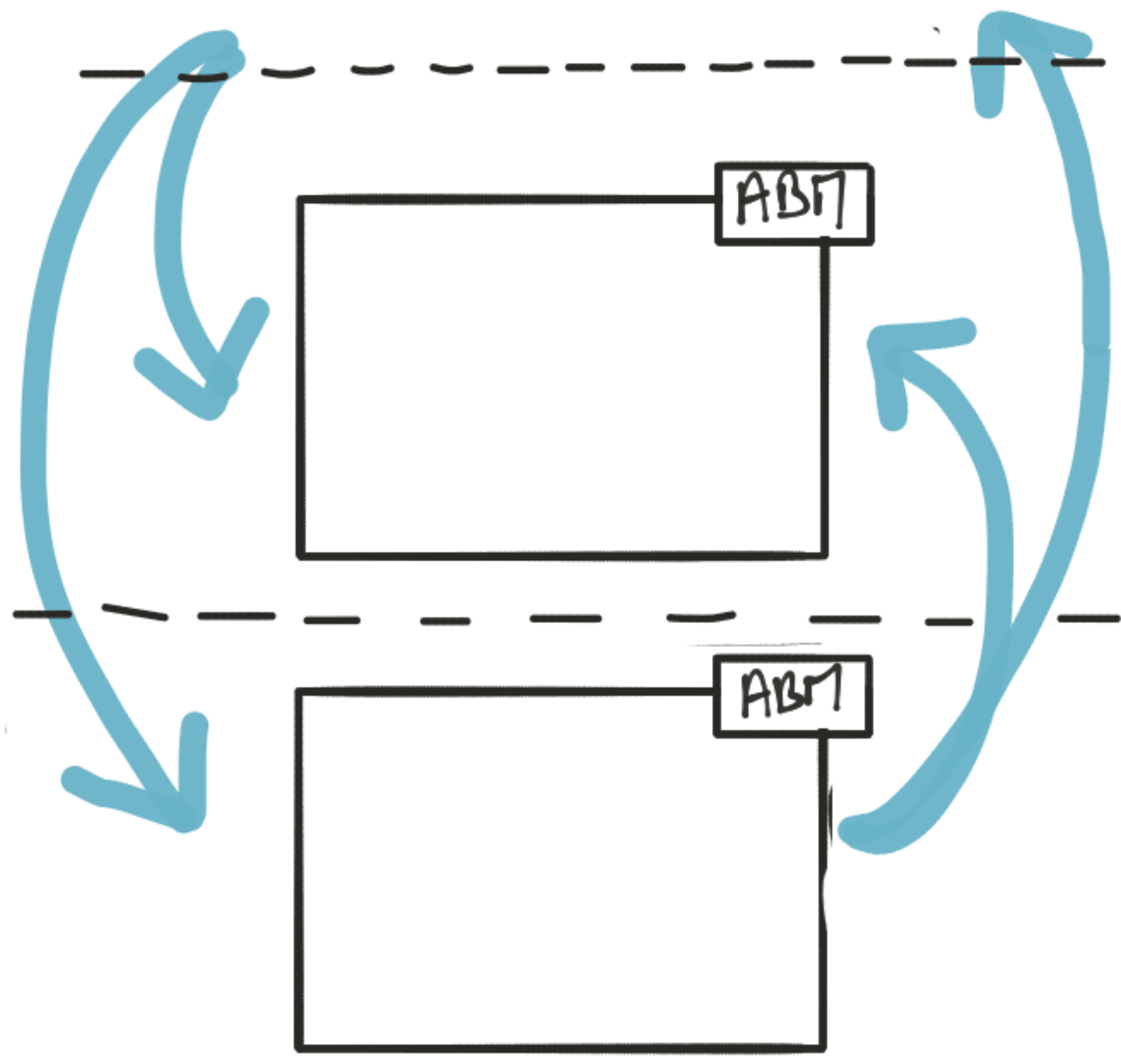
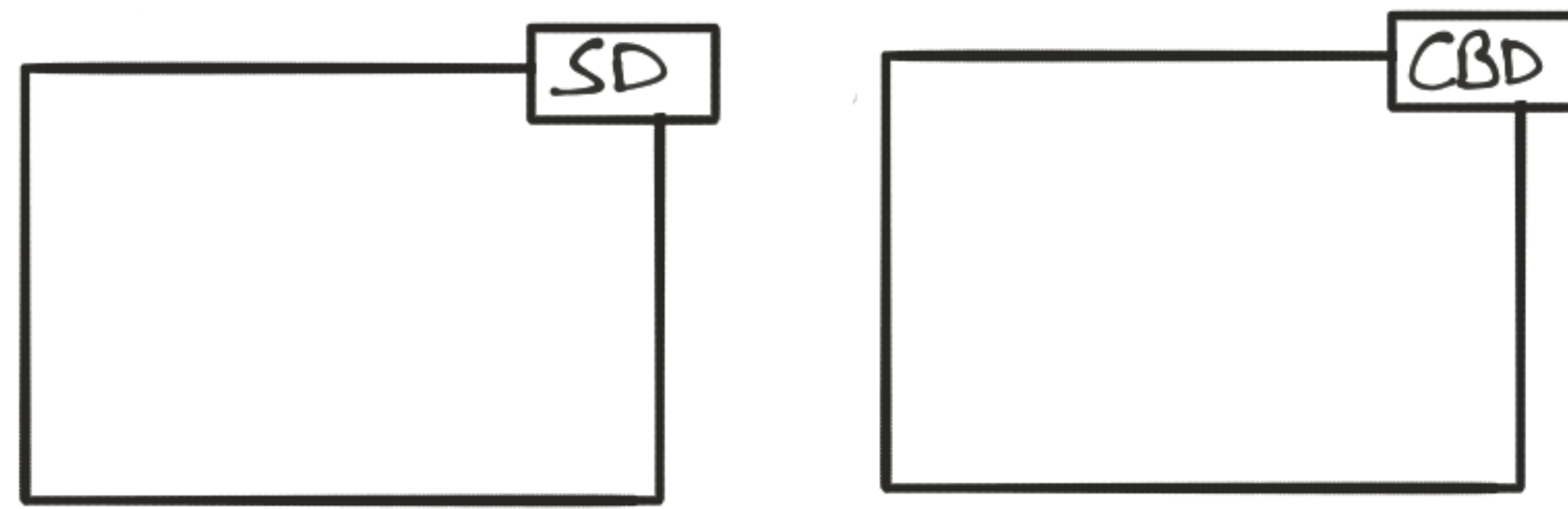
$$\frac{dy}{dt} = \delta xy - \gamma y$$




WHAT is ADAPTIVE ABSTRACTION?

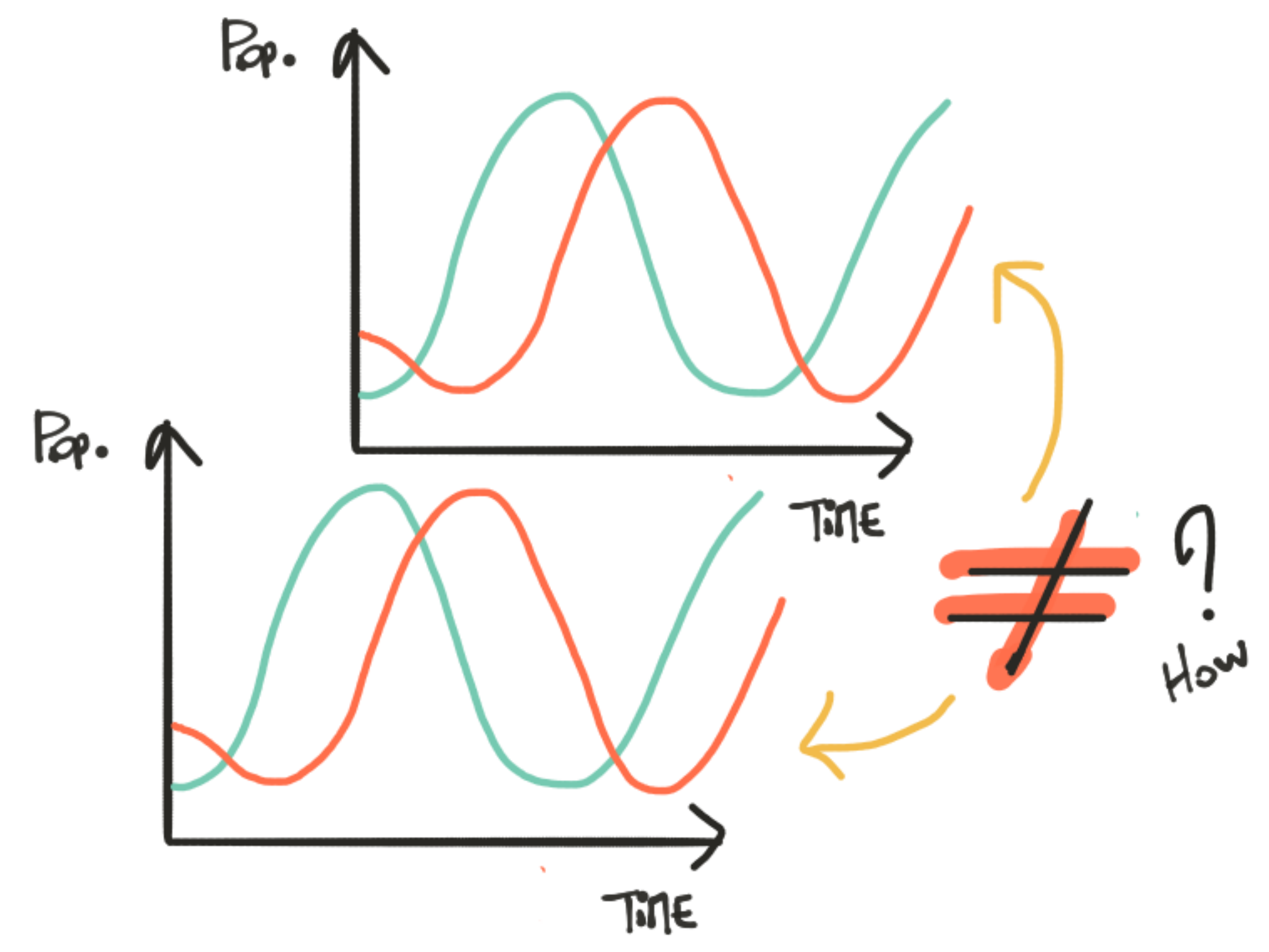
$$\frac{dx}{dt} = \alpha x - \beta xy$$

$$\frac{dy}{dt} = dxy - \gamma y$$



- ENABLER CONDITION
- DISABLER "
- EXACT / APPROXIMATION
- RE-CONSTRUCTION
- VISIBILITY

RESULTS/OUTPUTS

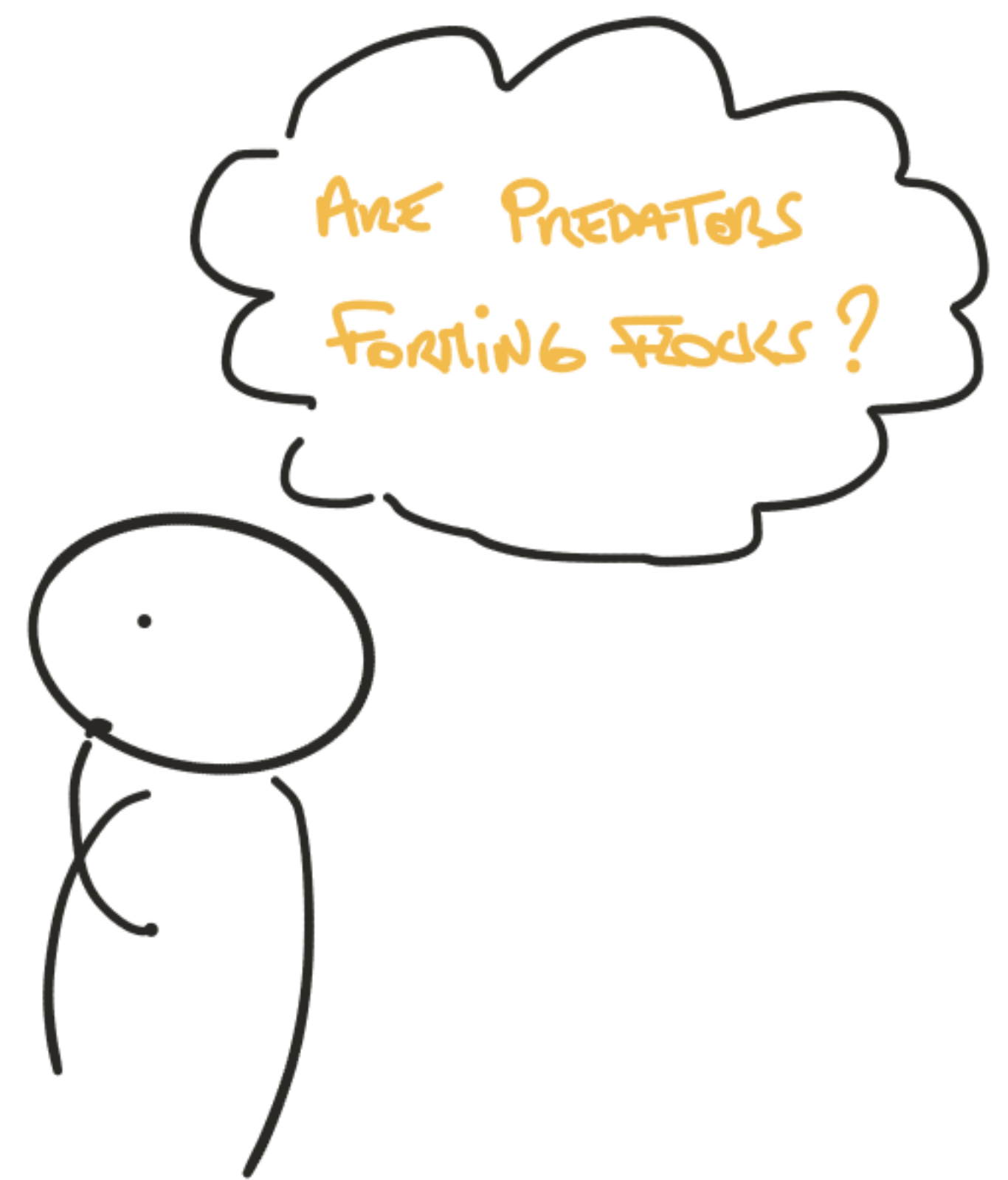


WHY?



$$\frac{dx}{dt} = \alpha x - \beta xy$$

$$\frac{dy}{dt} = \delta xy - \gamma y$$

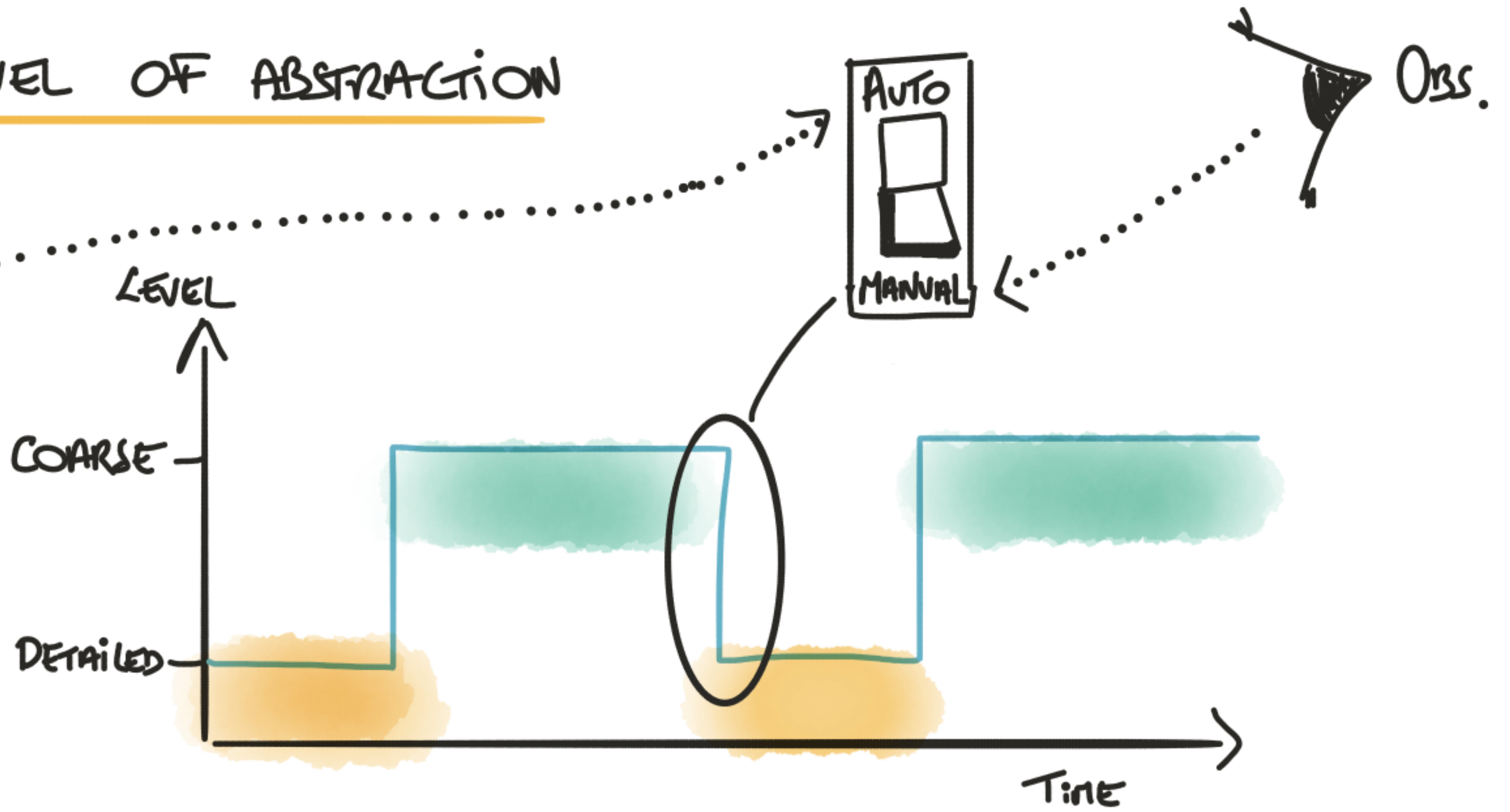


~~≠~~ NEEDS

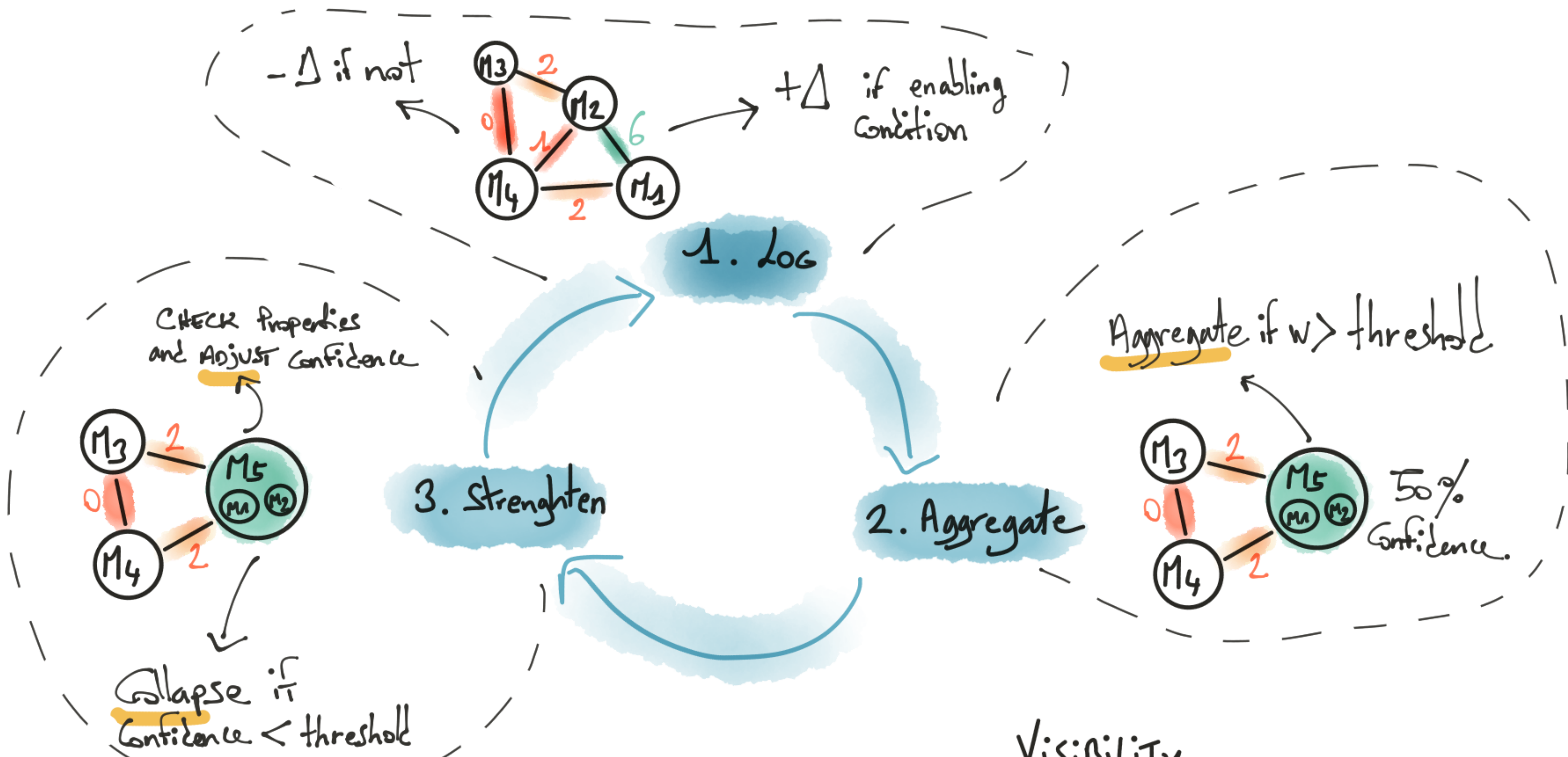
- TIME SCALE
- SPATIAL EXTENT
- RESOLUTION
- OUTPUTS

→ USE MOST APPROPRIATE LEVEL OF ABSTRACTION

↗ RUNTIME PERFORMANCE
 ↘ MEMORY NEEDS

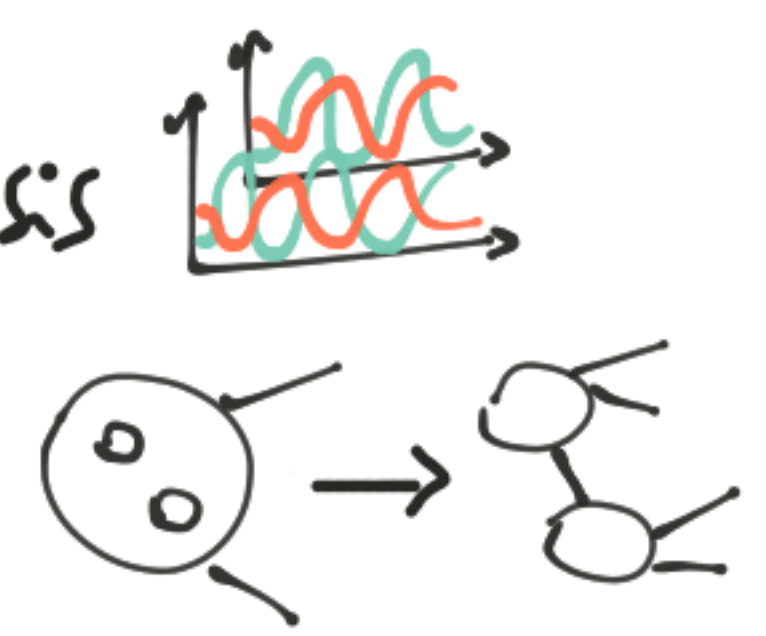


HOW?



FORMAL FRAMEWORK FOR

- ERROR ANALYSIS
- INITIALIZATION



Enabler \rightarrow I/O
 Check \rightarrow Confront



- Properties explicitly defined
- Enabler \rightarrow State + I/O
- Check \rightarrow Explicit