

Tips for Starting a Research Journey

—— Afternoon Talk for THU Tong Class



| Outline

- Some Tips for Starting a Research Journey
- Research Topic Intro
 - Generative Modeling
 - Robotic Grasping/Manipulation
- Q&A

Thank You

TONG TALK

Liangru Xiang

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Outline

- Some advice
- Topic: causality

Some useless advice

Most important: clarify your motivation

Clarify your motivation

- Long-term vision.
- Broader perspective.
- Reading more.

Select your topic

- Follow your motivation.
- Read more.
- Think more.

Time allocation

- Follow your motivation.
- (All the knowledge is useful, homework may not.)

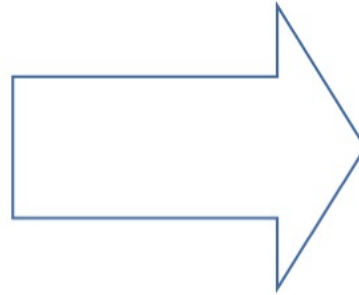
Communication

- Follow your motivation.
- Be active!

Causality: a brief view







The hospital is the place with the most death.

If constant conjunction induces causality, we conclude that:
Going to the hospital will cause the death!

	Recovery	No recovery	Total
Drug	50	50	100
No drug	40	60	100
Total	90	110	200

Females	Recovery	No recovery	Total
Drug	8	22	30
No drug	21	49	70
Total	29	71	100

Males	Recovery	No recovery	Total
Drug	42	28	70
No drug	19	11	30
Total	61	39	100

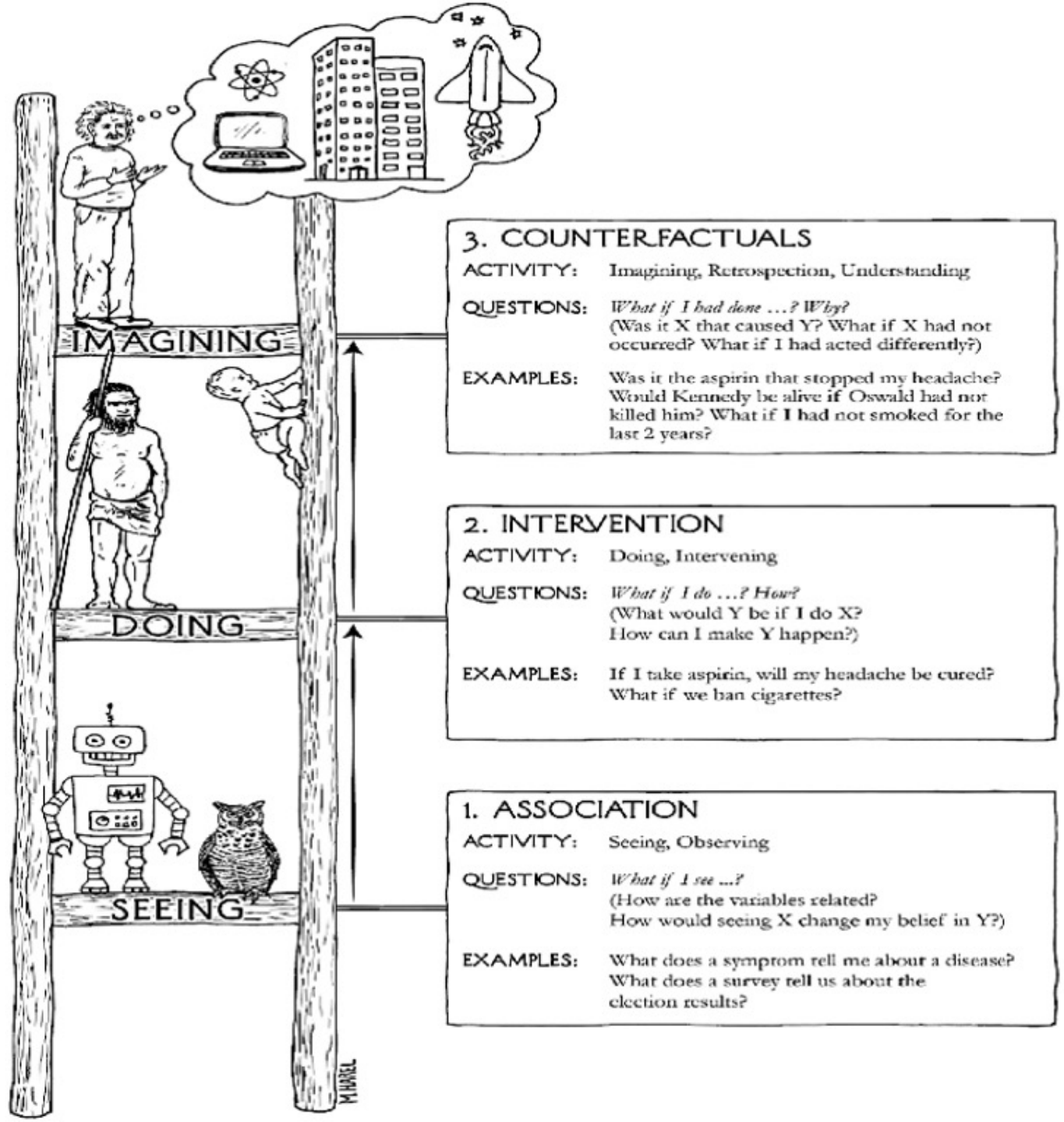
Is the drug effective or not?

The Ladder of Causality

“Actual” Causality

“Causality-in-mean”

Statistics



Causality

- Philosophy: define causality, theories of causation
- Psychology: causal perception, causal judgment, causal learning, etc
- Statistics: Rubin causal model, causal Bayes net
- Machine learning and AI