

Proving Cause-and-Effect for Decisions

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Dr. Hoven spent several decades investigating business mergers for the Antitrust Division of the Justice Department – everything from chicken farms to jet fighter radar. Investigators have three weeks to go from clueless to deciding whether to recommend a full-blown investigation.

Fast-Feedback Decisionmaking

Problem-solving in

- ***particular local contexts***

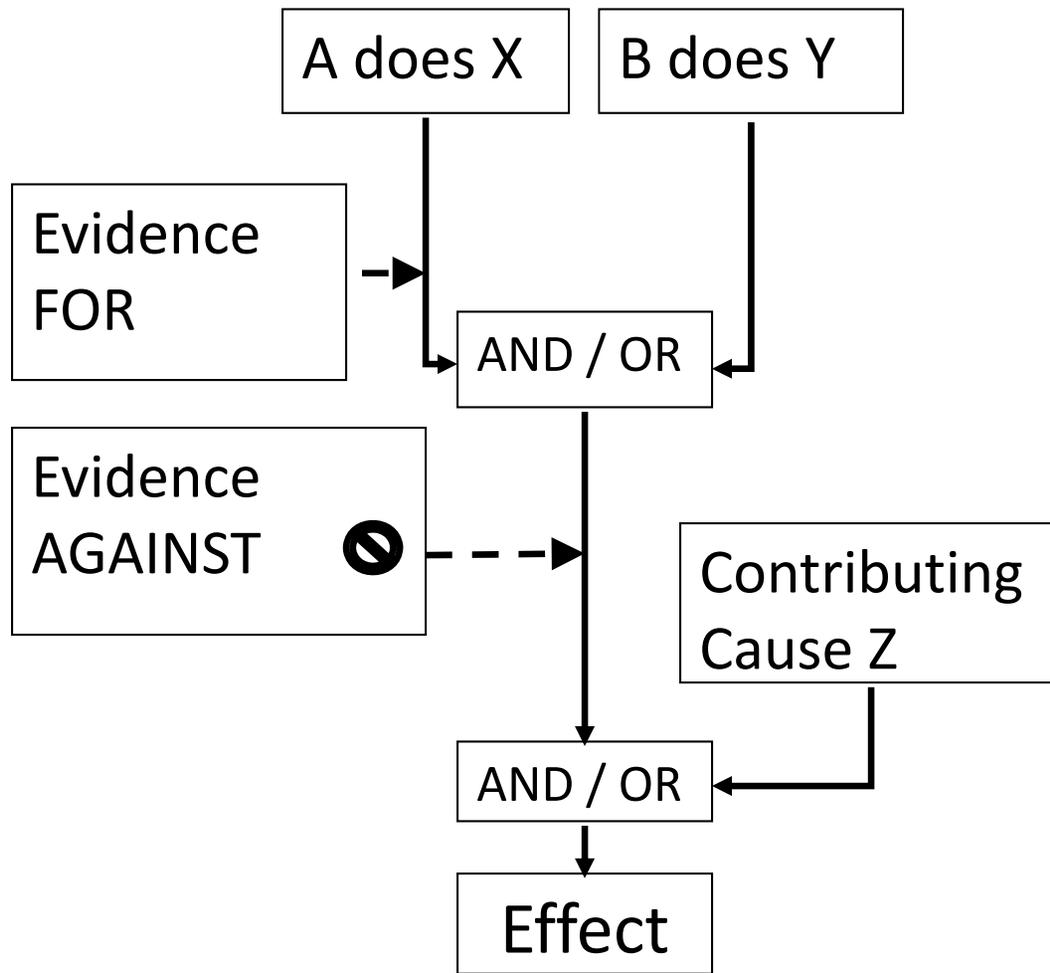
through

- ***fast-feedback collection-and-analysis of data***, and
- ***proving cause-and-effect in a sample size of one***, for prediction, monitoring, and assessment

Sample Size of One

Everyday problems in the real world are not random draws from a validated model. They are unique, ill-defined messes that reflect the astonishing nuances in ordinary human behavior. For these one-of-a-kind situations, evidence-based decisionmaking requires proof of cause-and-effect in a sample size of one. That is not as hard as it sounds. It's like planning a party.

Proving cause-and-effect in one-of-a-kind situations



- Articulate a chain of cause(s) and effect(s).
- Search at critical links for confirming and disconfirming evidence
- Revise or replace the hypothesis.
- Keep doing that, again and again.

A does X (uncertain decision)

Cause

Effect

Cause

B does Y → OR ← C does Z

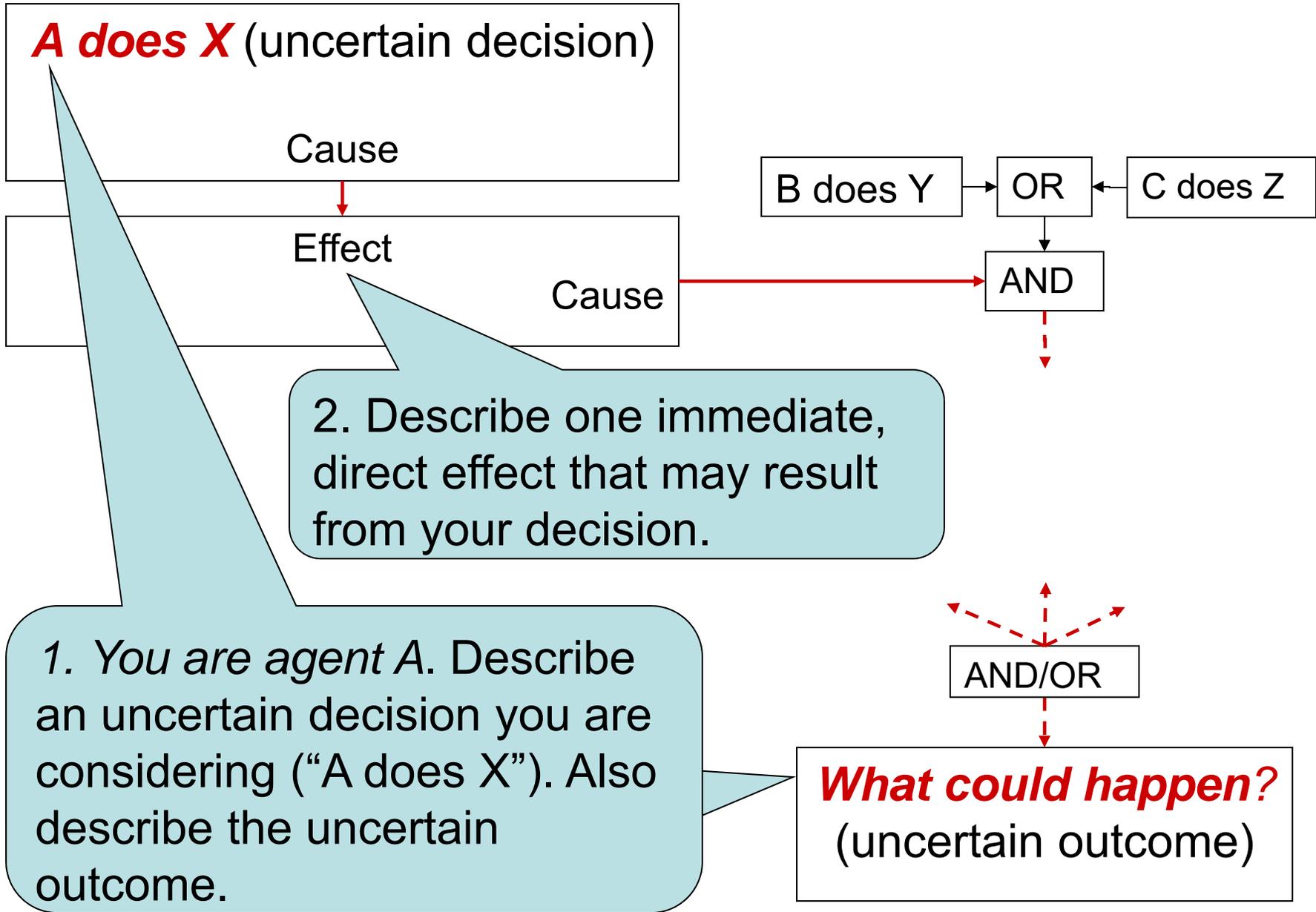
AND

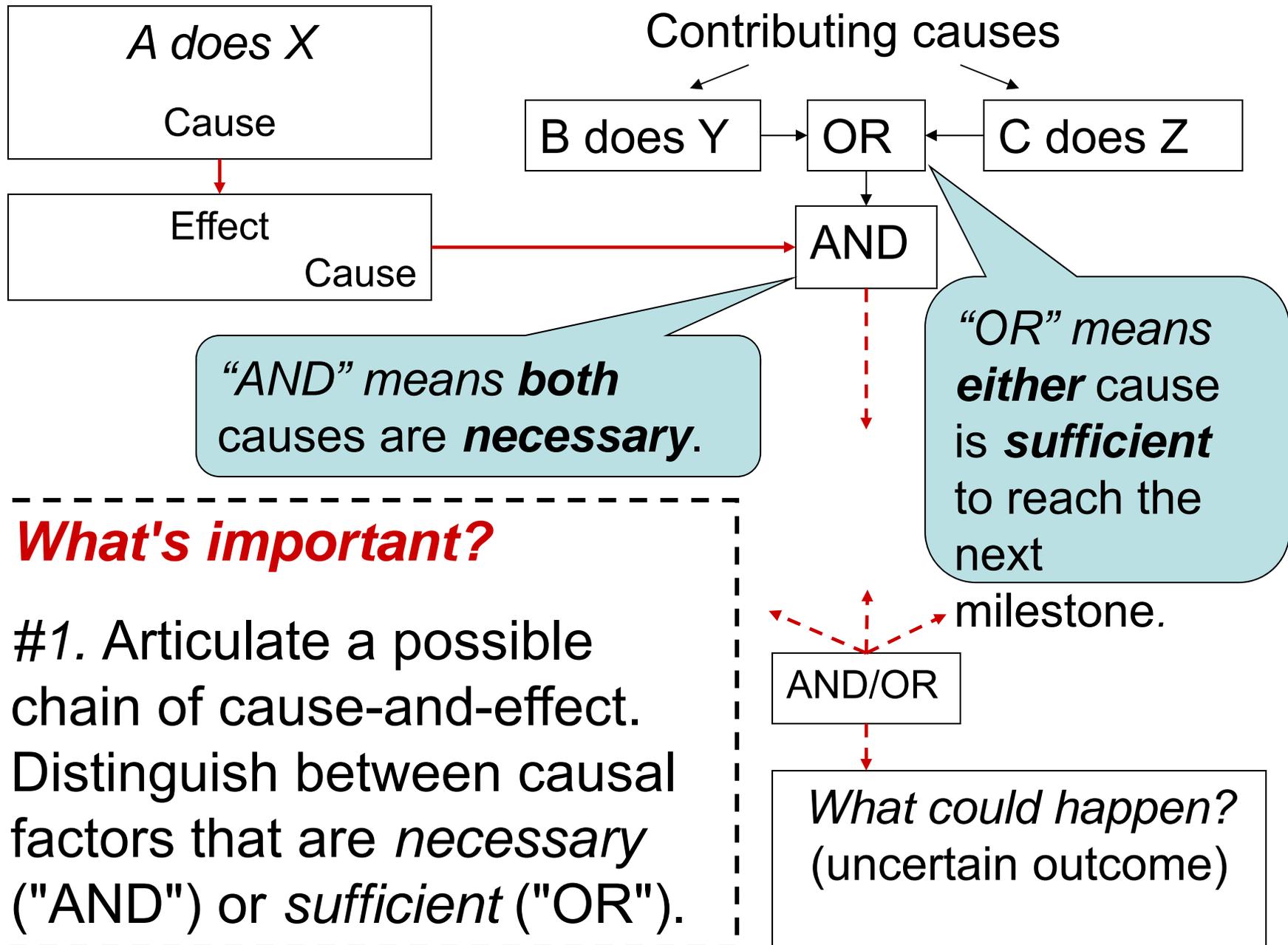
2. Describe one immediate, direct effect that may result from your decision.

1. You are agent A. Describe an uncertain decision you are considering (“A does X”). Also describe the uncertain outcome.

AND/OR

What could happen?
(uncertain outcome)





What's important?

#1. Articulate a possible chain of cause-and-effect. Distinguish between causal factors that are *necessary* ("AND") or *sufficient* ("OR").

What evidence would help you judge whether an Effect is likely, unlikely, or somewhere in between?

A does X

Cause

What's important?

#2. Search for evidence FOR or AGAINST each cause-and-effect link in the chain.
As you learn, revise or replace them.

Evidence FOR

● predicted effect
(before A does X)

● actual effect
(after A does X)

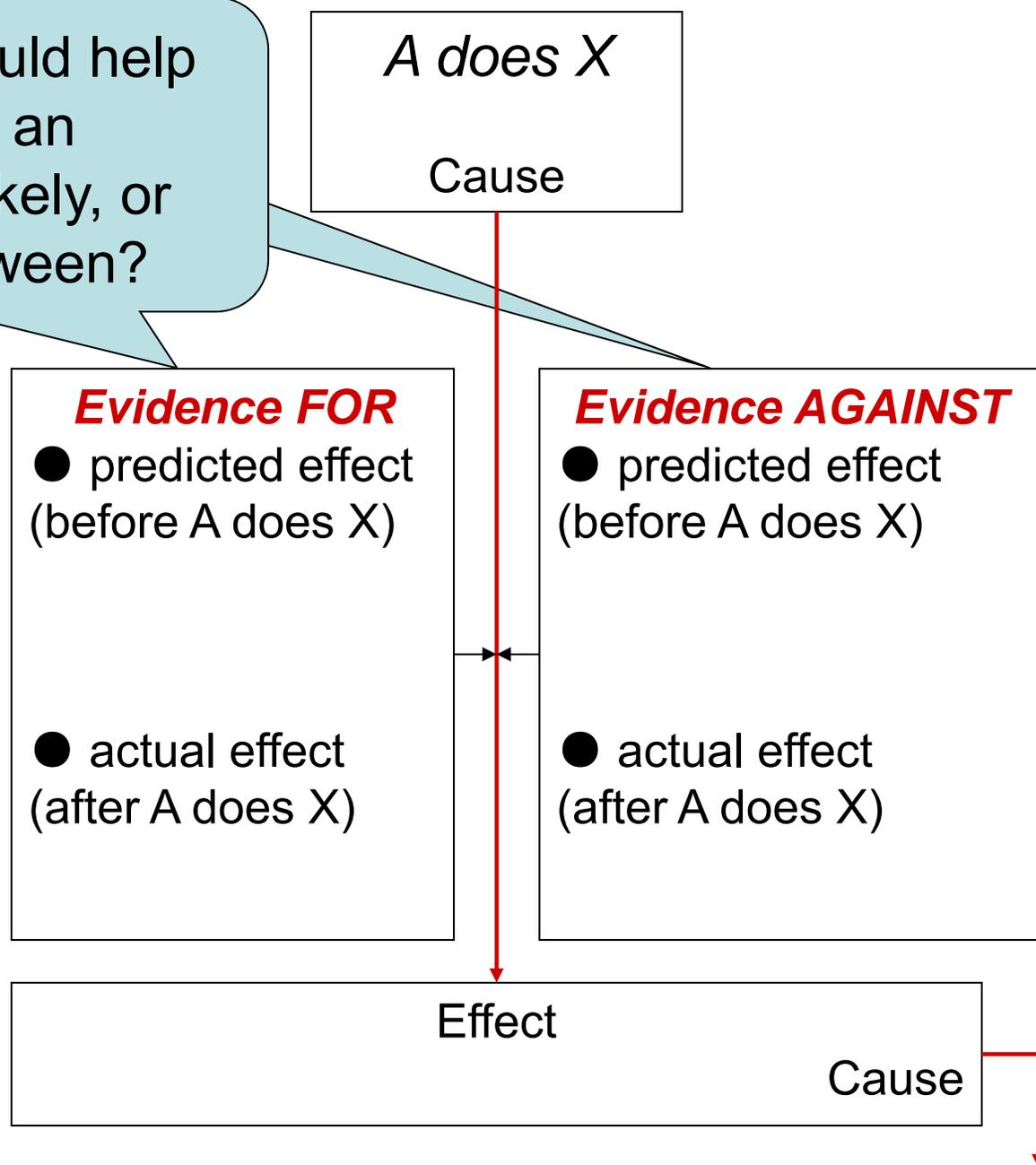
Evidence AGAINST

● predicted effect
(before A does X)

● actual effect
(after A does X)

Effect

Cause



What's important?

#3. *Focus on the cause-and-effect links that are most important and least well understood.*

Good advice, but why is it *important*?

Your search for evidence constantly brings up causes and effects that you hadn't expected. There is no time to investigate and understand them – unless you stop investigating something else. *Focus.*

What's important?

- #1. Articulate a chain of cause-and-effect.
Distinguish between causal factors that are *necessary* ("AND") or *sufficient* ("OR").
- #2. Search for evidence FOR or AGAINST each cause-and-effect link in the chain. As you learn, revise or replace them.
- #3. Focus on the cause-and-effect links that are most important and least well understood.

What is a way to try this out

in your

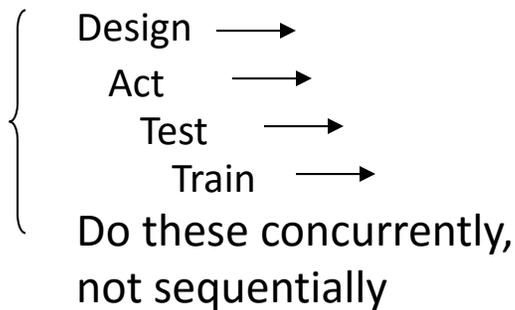
- research
- coursework
- everyday decisionmaking

Fast-Feedback Operations for Ill-Defined Problems: Basic Framework

Learning

1a. Fast feedback

- Conversational interviewing
- Simple, fast experiments



1b. Fast focus

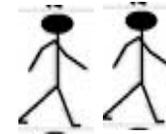
Then go deep, and expand out



People

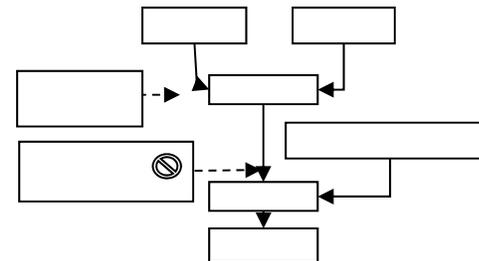
2. Build trusted relationships

- Shared interests
- Shared personal interests and values



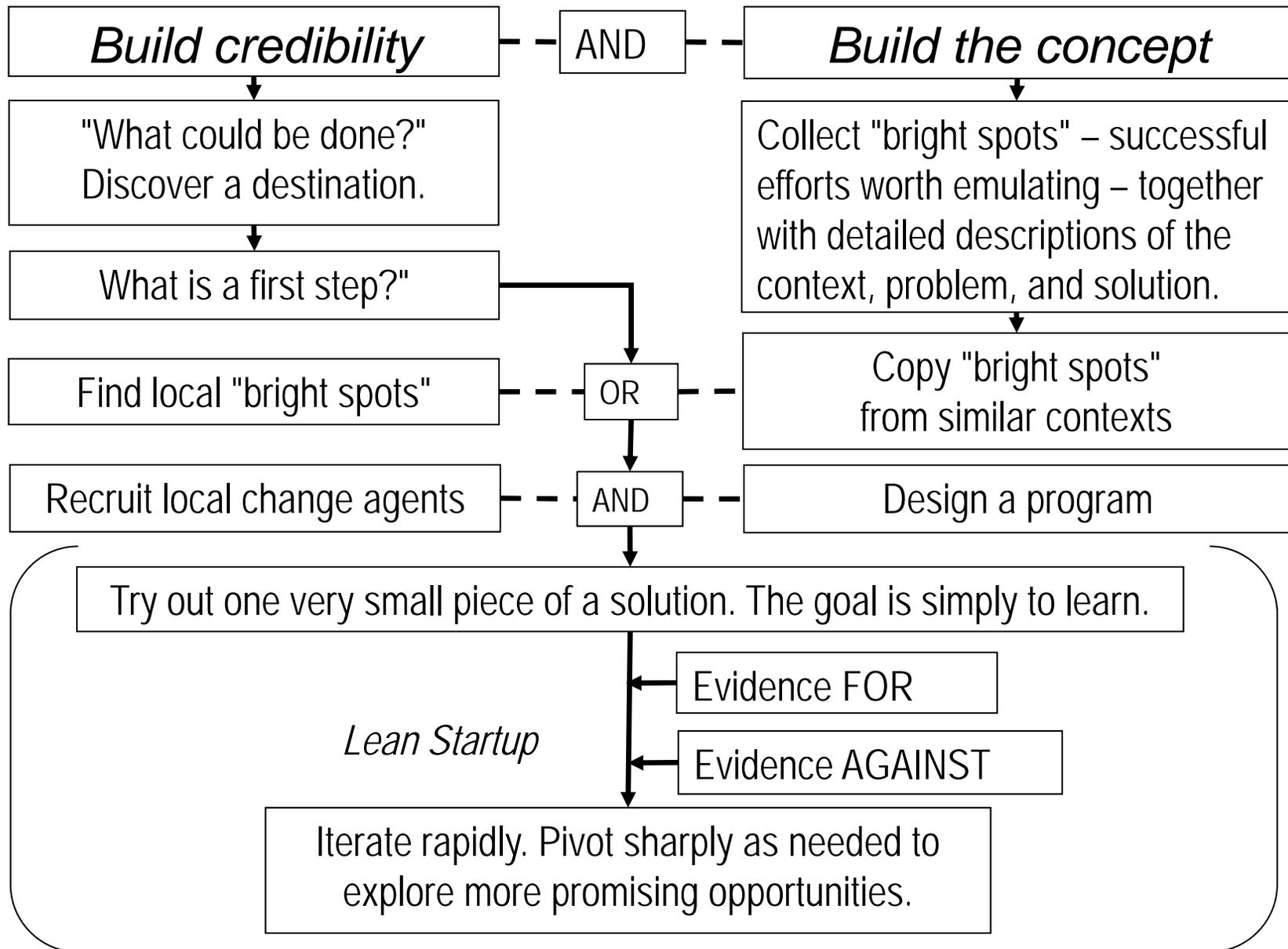
First partner

3. Proving cause-and-effect in one-of-a-kind situations



Solution

A Theory of Change

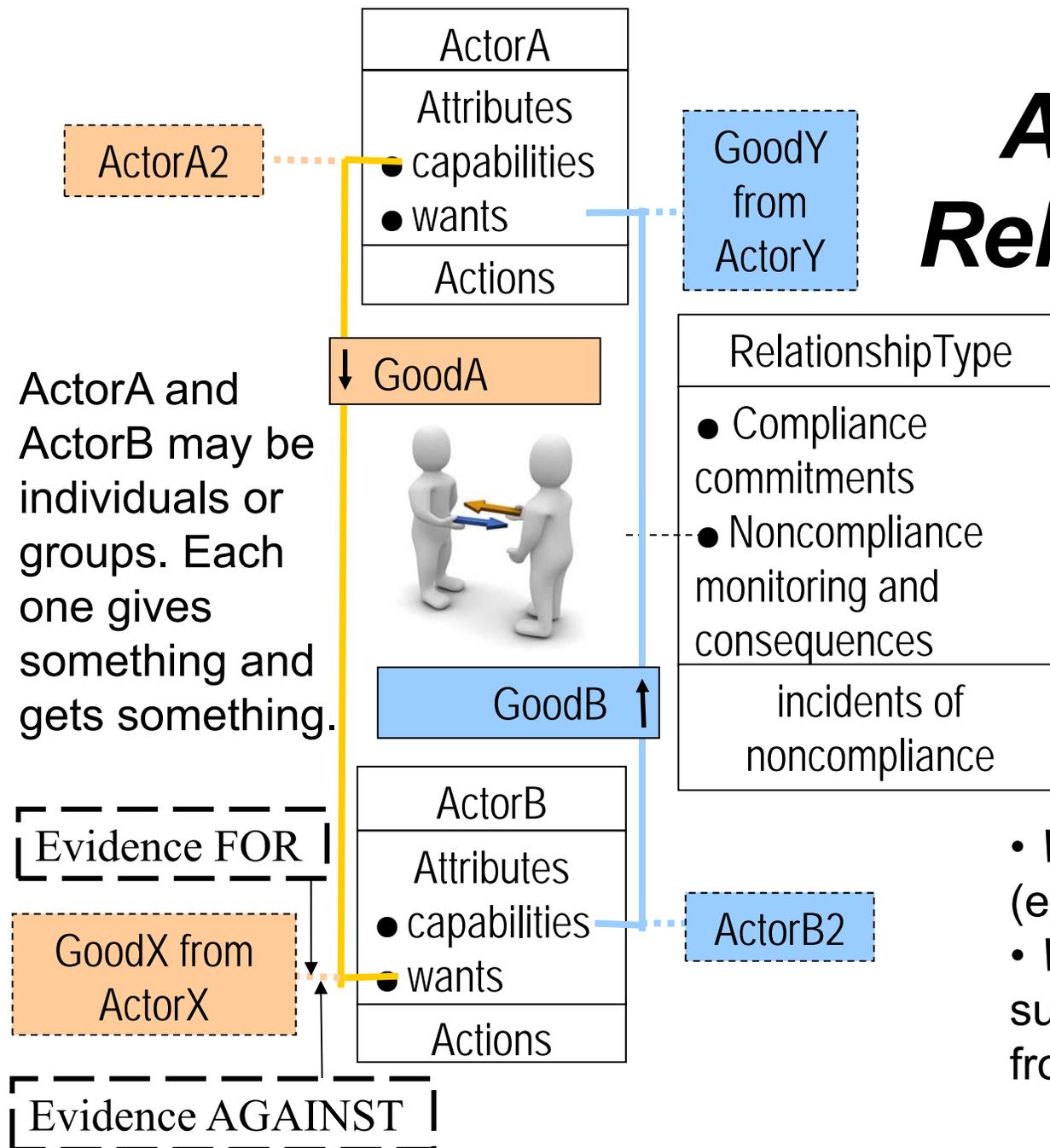


Analyzing Relationships

The Figure serves as a checklist for these key questions:

- *What* does each entity get out of it?
- *Why* do they care? (wants)
- *How* do they do it? (key capabilities)

- *Who else* could supply? (e.g., ActorA2 for GoodA)
- *What else* is a good substitute? (e.g., "GoodX from ActorX" for GoodA)



ActorA and ActorB may be individuals or groups. Each one gives something and gets something.

To learn more

- Blomberg (2012) "The Lean Startup Approach—and its applicability outside Silicon Valley"
http://studenttheses.cbs.dk/xmlui/bitstream/handle/10417/3434/aleksander_blomberg.pdf?sequence=1
- Collier (2011) "Understanding Process Tracing"
<http://www.ukcds.org.uk/sites/default/files/uploads/Understanding-Process-Tracing.pdf>
- Davis (2011) "Primer for Building Factor Trees to Represent Social-Science Knowledge"
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.416.2076&rep=rep1&type=pdf>
- Hoven & Lawton (2015) "Locally Nuanced Actionable Intelligence" <https://app.box.com/s/sl6a56fsgr3ywhvzkopt>
- Lean Startup website <http://theleanstartup.com/>

- McVay & Snelgrove (2007) "Program Design for Value Chain Initiatives" <http://www.meda.org/docman/meda-publications/general/value-chain/63-program-design-for-value-chain-initiatives-information-to-action-a-toolkit-series-for-market-development-practitioners/file>
- Miehlsbradt & Jones (2007) "Market Research for Value Chain Initiatives" <http://www.meda.org/docman/meda-publications/general-technical/value-chain/59-market-research-for-value-chain-initiatives-information-to-action-a-toolkit-series-for-market-development-practitioners/file>
- Rubin & Rubin (2011) *Qualitative interviewing*
- Stern et al. (2012) "Broadening the range of designs and methods for impact evaluations" https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67427/design-method-impact-eval.pdf
- Vermaak (2012) "Facilitating local ownership through paradoxical interventions" <http://hansvermaak.com/wp-content/uploads/hans-vermaak-facilitating-local-ownership-paradoxical-intervention.pdf>