EVIDENCE-INFORMED DECISION-MAKING

MAKING DECISIONS

WHY WE STRUGGLE TO DECIDE (EVEN WHEN DATA EXISTS)

Some examples of reasons we struggle to make decisions include

- Competing priorities and political pressures
- Data overload without clear interpretation
- Fear of regret or blame encourages avoidance
- We can become overloaded with data an information
- Analysis Paralysis

ANALYSIS PARALYSIS

We may need to make a decision with **less than complete** information. What is the risk of **not deciding** vs. the risk of making a less-than-perfect decision?

Analysis paralysis is caused by overthinking a situation and worrying about the outcome at the expense of decision-making. It is **perfectionism**, taken to an extreme (not good).

“It doesn’t matter in which direction you choose to move when under a mortar attack, just so long as you move. Decisions are never final for the simple fact that change is never absolute. Rather, change is ongoing. To stay competitive and progress at the rate of change requires adaptive decisions that can be iterated and improved upon on the fly.” [Jeff Boss, Forbes]

THE ANATOMY OF A TOUGH DECISION (WITH DATA)

Decisions are often difficult, the more data and evidence we have, the easier it is to make that decision (within reason!). We need to consider, for example:

- Level of uncertainty in our evidence:
  The more data we have, generally the more certain we are (with lots of caveats) that our evidence is reliable

- Trade-offs:
  Our data needs to be balanced to analyze each side of the trade off, it is easy to collect biased evidence (lots on one side, little on the other)

- Time Pressure:
  Our data needs to be accessible so we can gather evidence in a timely manner. We need mechanisms to update in real time (if appropriate)

THREE LEVELS OF DECISION MAKING

Different levels of decision making may require different levels of evidence

1. Simple decisions:
   Routine procurement decision using standard metrics as a reference

2. Complicated decisions:
   Investment in large iinfrastructure funding using complex data models and simulations

3. Complex decisions:
   National policies development and implementation guided by extensive evidence gathering through consultation

THE EVIDENCE PAUSE: AVOIDING GUT REACTIONS

A useful strategy is to build a deliberate pause into our decision making if time allows. This can work against us but it's important to reflect before we commit if at all possible: Thing to think about include:

- Specifically what evidence supports this choice?
- How reliable is the evidence, is it credible and current?
- Are we interpreting the evidence objectively and without bias?

NOT ALL EVIDENCE IS EQUAL

We typically divide evidence into two groups, hard evidence that demonstrates a causal link and soft which is probabilistic.

- Hard evidence:
  Video of an event identifying individuals, aircraft black box, copies of financial transactions etc.

- Soft Evidence:
  Consultations, expert panels, qualitative reports, views shared by associations or industry groups etc.

REVERSIBLE VS. IRREVERSIBLE DECISIONS

The consequence of a decisions will also (potentially) play into the level of evidence required to support that decisions

- Reversible decisions you are able to test and adjust as required:
  Pilot community grant programs

- Irreversible decisions a deep analysis is required before committing:
  Major infrastructure project

FRICTION POINTS: WHY WE IGNORE EVIDENCE

History is replete with decisions that were made even when there was evidence to support the fact that the decision was incorrect, examples include:

- Legacy programs and 'we've always done it this way'
- Political resistance to uncomfortable data
- Siloed and incomplete data systems
- Preferring old tools through habit
- Contradicts an organizational strategic narrative

YOUR EVIDENCE-BASED DECISION TOOLKIT

Before you make a decision think about the following

- Pause and actively seek evidence
- Match data depth to decision type (small vs large decisions)
- Assess quality of evidence sources
- Question assumptions
- Make the decision when it is warranted, not when you are forced to do so

ETHICAL DECISION-MAKING

Ethical research groups have identified different approaches to ethical decision making. The simplest being the **Blanchard-Peale framework** which is summarized as:

1. Is it legal?
2. Is it fair?
3. How does it make me feel?

Other approaches: **Markkula Centre framework** (utilitarianism, rights approach, fairness, common good approach, virtue approach), **issue-contingent model** (recognize issue, make judgement, establish moral intent, engage in behaviour).

The key concept is that decision-making for the organization must first be analyzed – however decisions are made, guidance is provided to help decision makers if issues must be addressed.

OLD SLIDES

WHAT IS YOUR GOAL?

Do you want to:

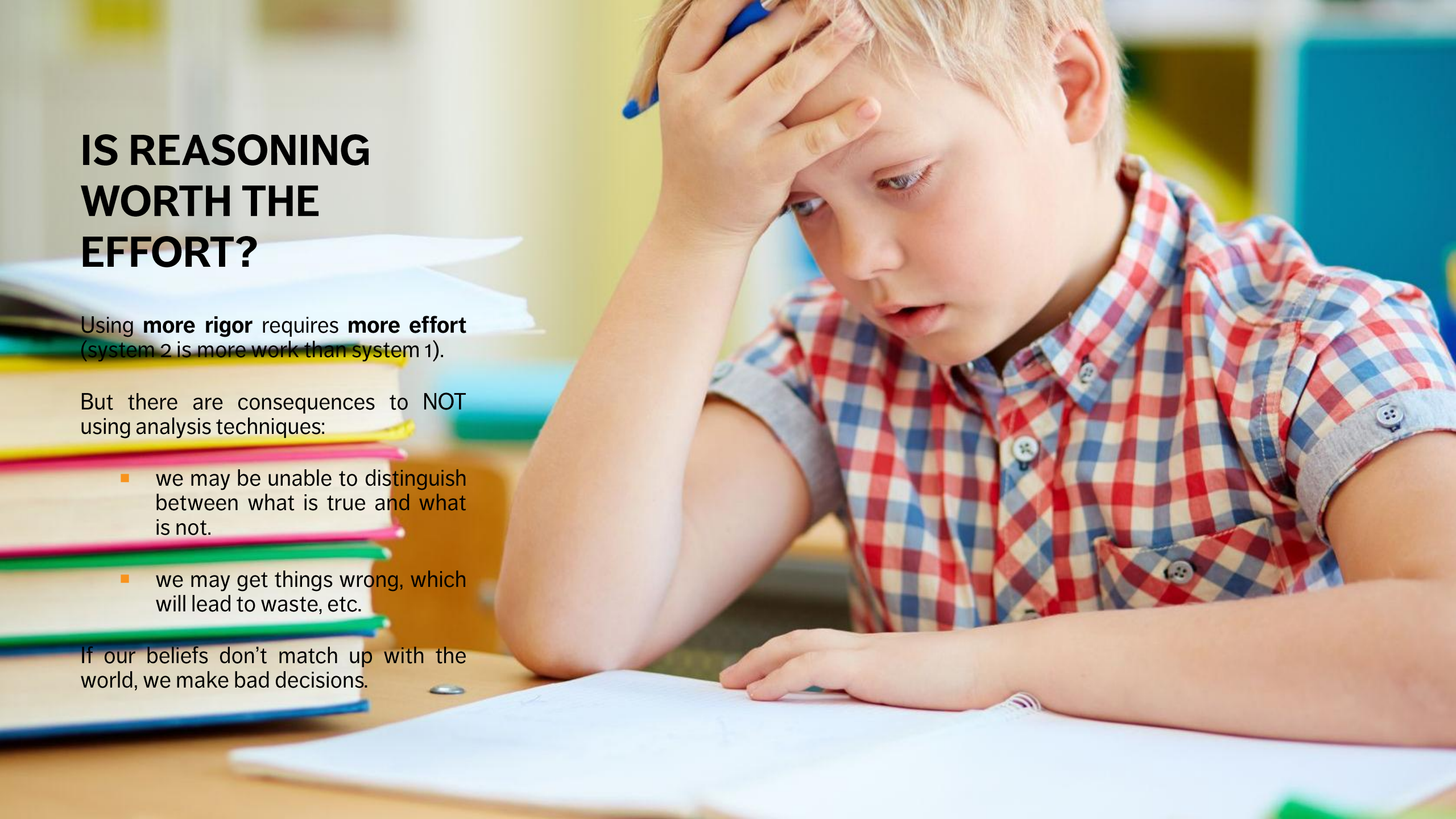
- carry out actions based on **what is in your data**?
- gain a deeper understanding of something **specific**? (specific individual(s)? specific group(s)?)
- come to **general** conclusions that extend beyond the specific?

Local vs. Global

Here vs. Everywhere

Past/Present vs. Future

Situational Awareness vs. Contingency Planning



IS REASONING WORTH THE EFFORT?

Using **more rigor** requires **more effort** (system 2 is more work than system 1).

But there are consequences to NOT using analysis techniques:

- we may be unable to distinguish between what is true and what is not.
- we may get things wrong, which will lead to waste, etc.

If our beliefs don't match up with the world, we make bad decisions.

CRITICAL THINKING

Critical thinking (supported by analysis, reasoning, inference) is important.

Using **rigor** and **methods:** also important.

This is not a course on logic, BUT...

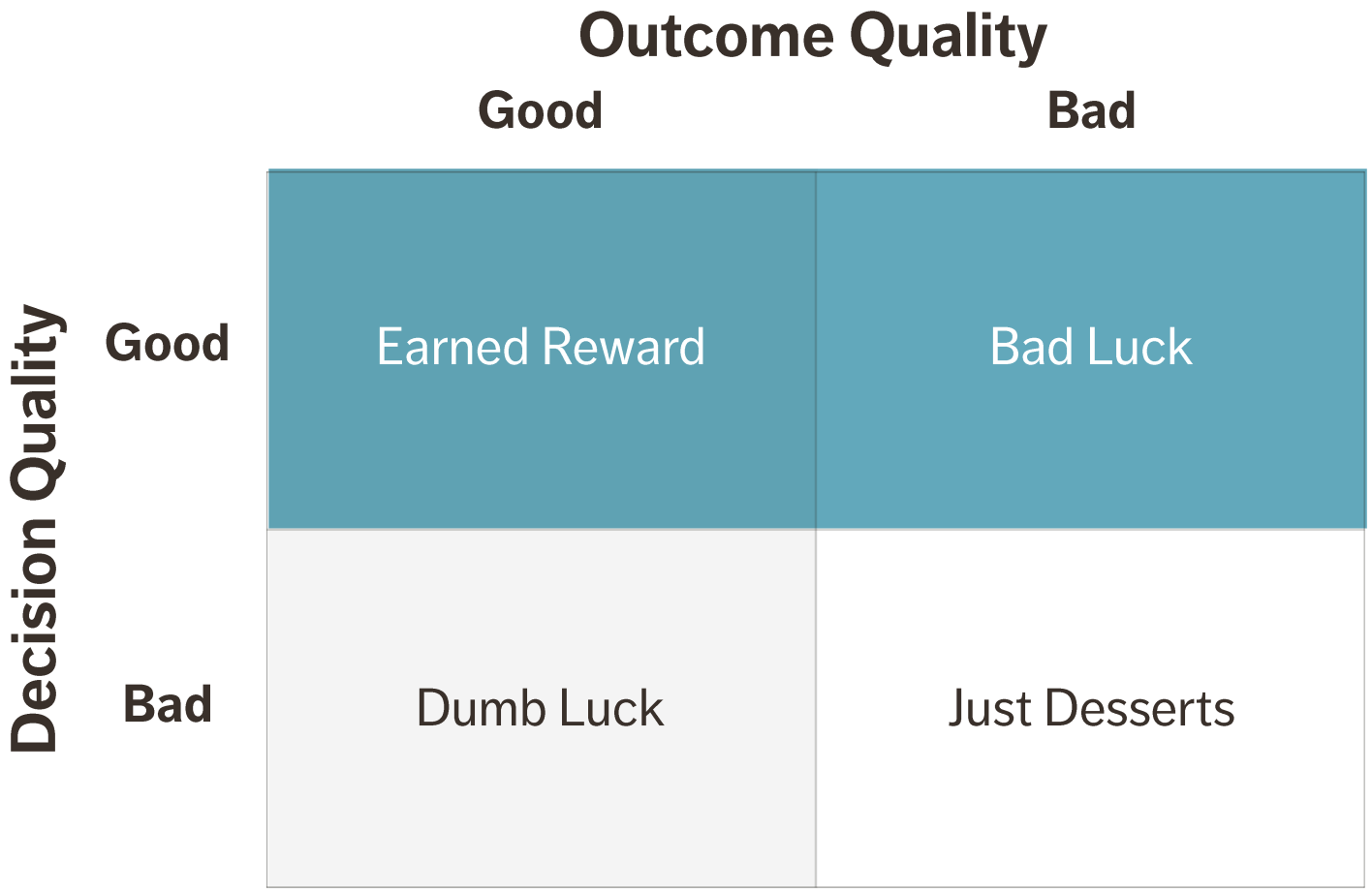
ultimately reasoning activities are all about getting at the (a?) **truth** – having enough true facts at your fingertips to keep you from making bad decisions.

LIFE TURNS ON TWO THINGS

Luck
(outside your control)

Decisions
(within your control)

RESULTING



Poker players warn of "**resulting**": assessing the quality of a decision based **solely on its outcome**.

Problem: "resulting" makes us lack compassion for ourselves and for others.

Bad outcomes do not necessarily equate to **poor decision-making**.

Exercise: find examples for each quadrant.

TYPICAL ANALYSIS ACTIVITIES

Analysis is an activity done *to* something.

We analyze the **situation** or the **problem:**

- Gathering facts and evidence
- Summarizing the facts
- Reviewing and evaluating facts
- Combining facts
- Generating new statements or hypotheses
- Breaking down concepts into simpler concepts

Common theme: facts!

- Building up more complex concepts from simpler concepts
- Defining concepts
- Using reasoning to derive new facts
- Determining if statements are true (facts) or false
- Determining how confident we are about a statement being true or false

SYSTEM OPTIONS (REVISITED)

System 1: automatic decisions (“gut-feeling”)

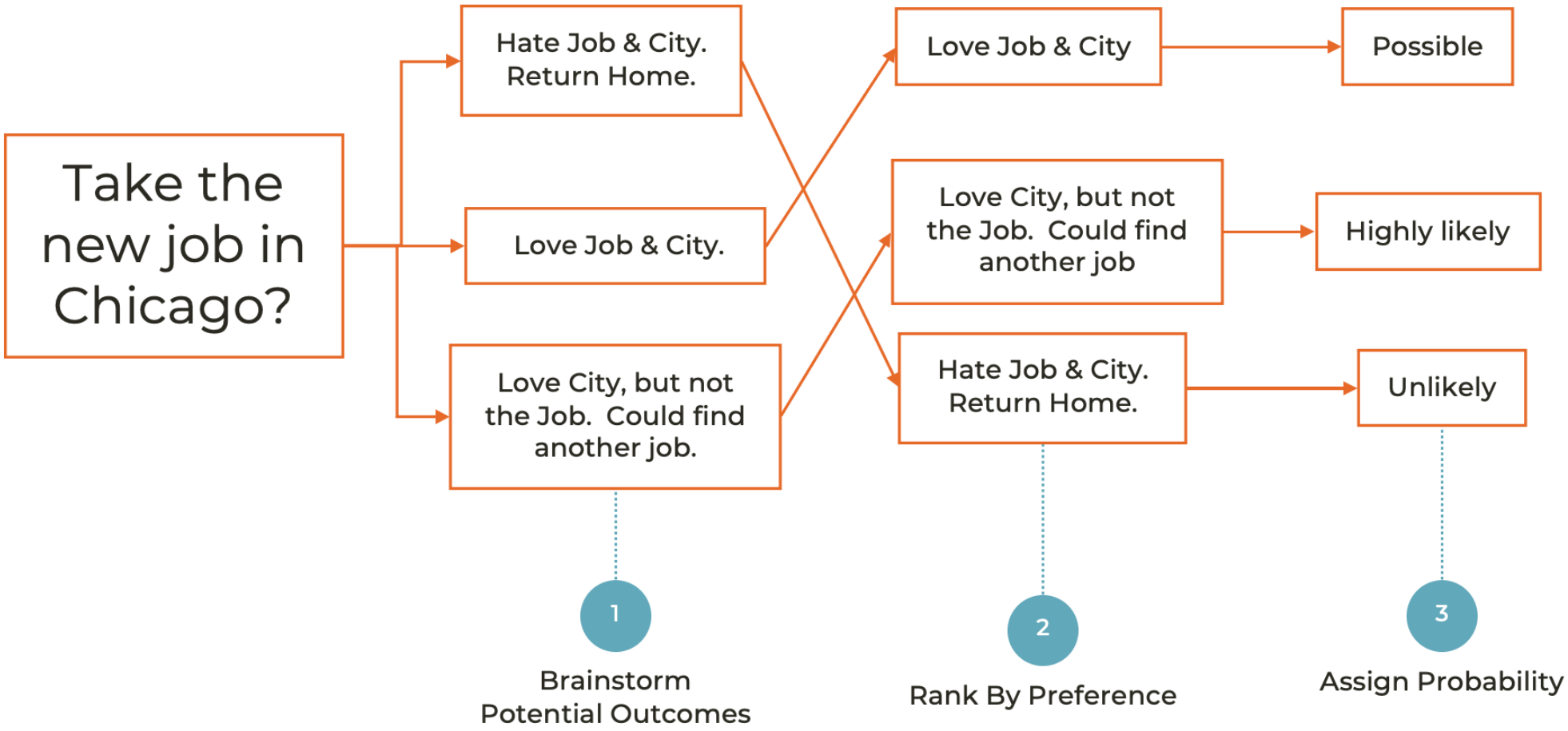
System 2: scientific method (“controlled environment”)

But also…

System 2: everything else (i.e., your job)

We need to use all reasoning types, with emphasis on what is **plausibly** true.

ANNIE DUKE'S GUIDE TO DECISIONS



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