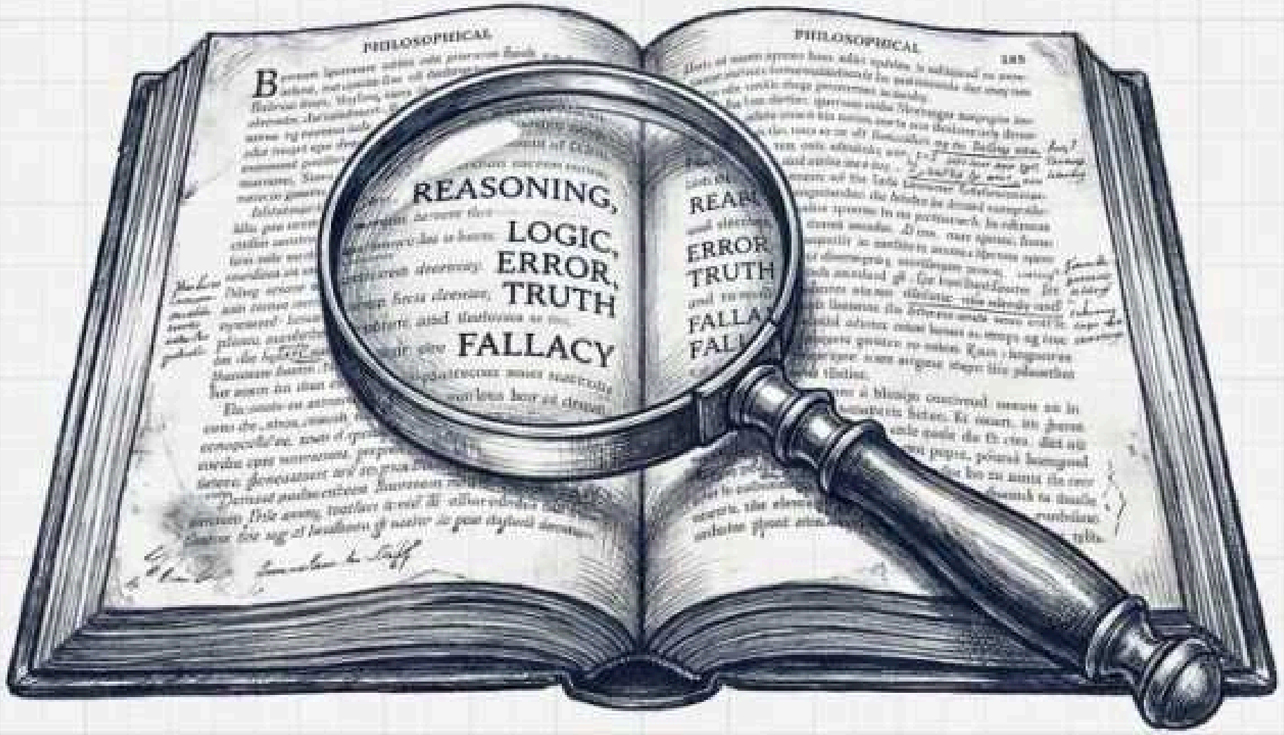
¶ 5.1

PHIL 102 B Lecture 5: Fallacies



The common mistakes in reasoning, formal and informal, and how to spot them.

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The Nature of a Fallacy

¶ 5.2

Genuine Argument



Supported by substance.



Fallacy: A mistake in reasoning.

Persuasive exterior

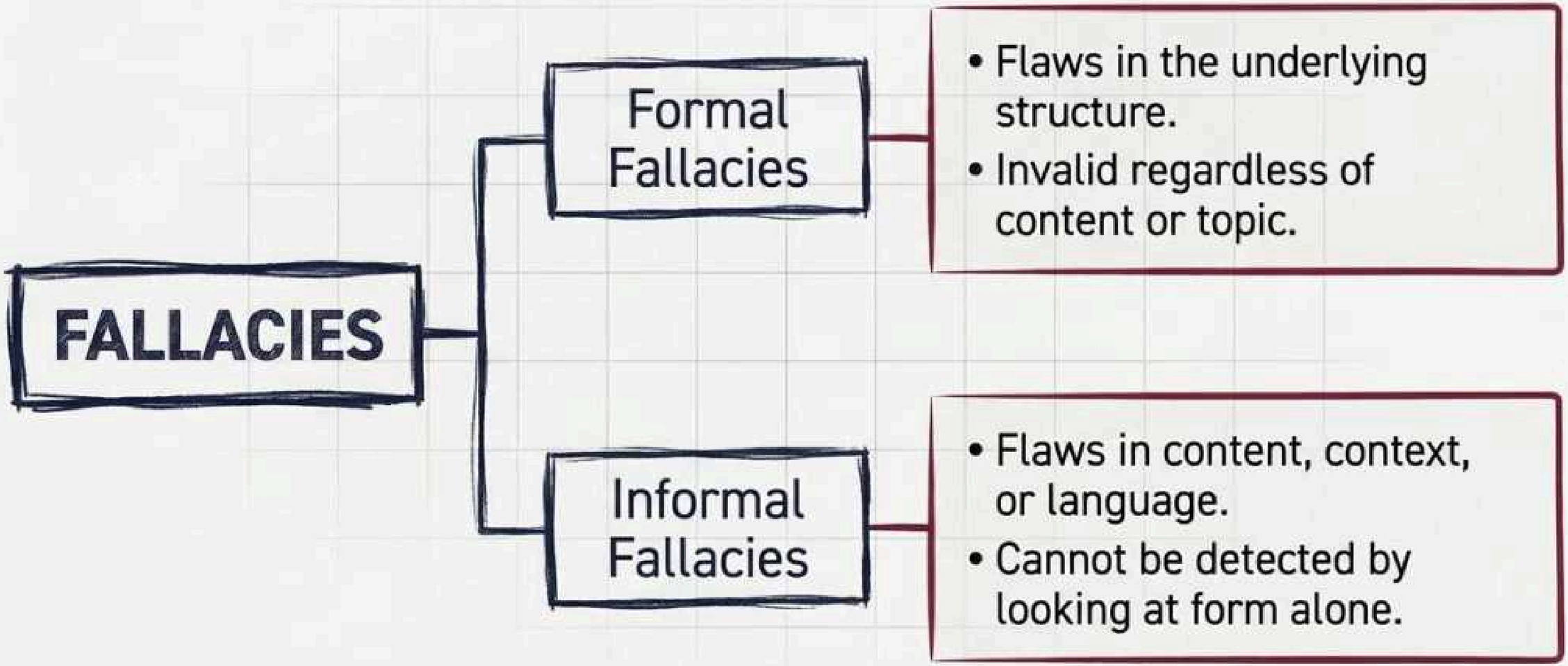
Zero logical substance.

A fallacious argument can persuade an audience, or even its own author, without containing a single good reason. Spotting them is like spotting counterfeit coins.

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The Logician’s Taxonomy

¶ 5.3



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Formal Fallacies: Structural Collapse

¶ 5.4

Affirming the Consequent

If $P \rightarrow Q$, and Q, therefore P.

Denying the Antecedent

If $P \rightarrow Q$, and $\neg P$, therefore $\neg Q$.

Undistributed Middle

A flaw in the syllogism where the middle term fails to connect the extremes.

Two Negative Premises

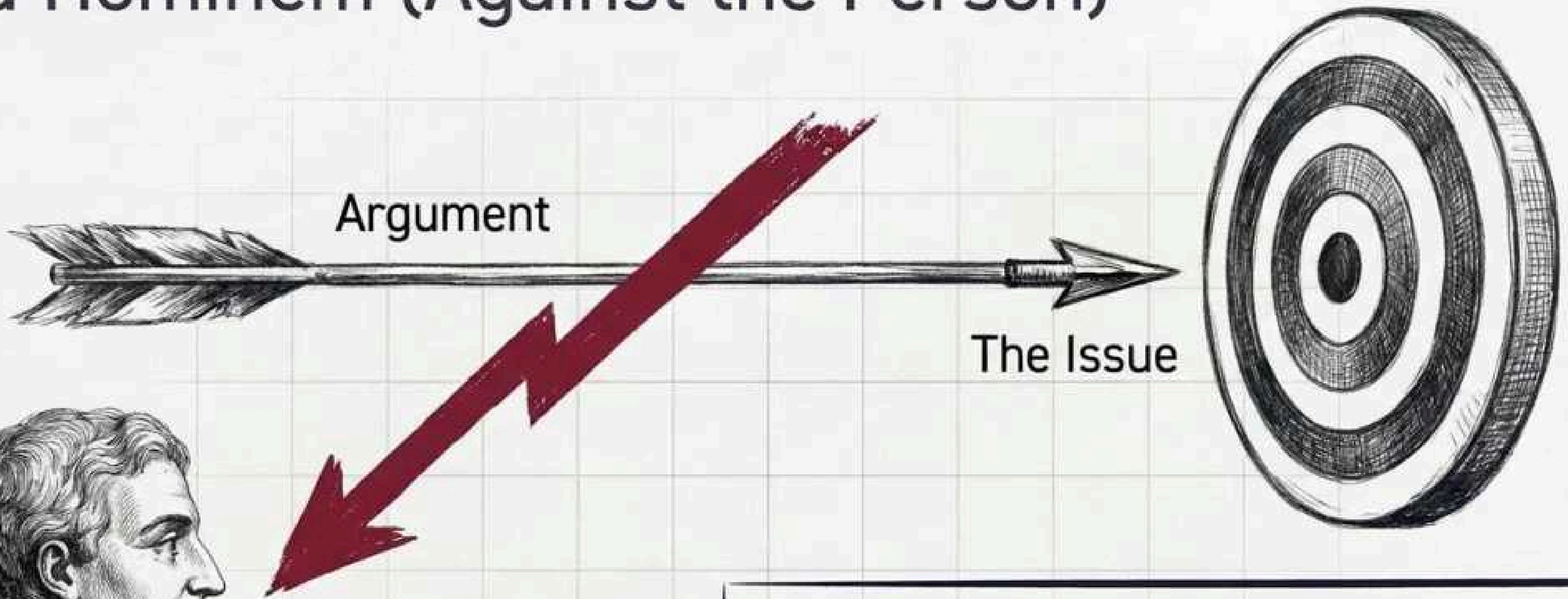
A rule violation where no positive connection can be established.

The Ultimate Test: All of these can be exposed with a single counterexample.

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Ad Hominem (Against the Person)

¶ 5.5





The Speaker

"You are just saying that because you are paid to."

Core Principle: Instead of answering the argument, the speaker attacks the person.

Rule: Even if a speaker is biased, the argument must be judged on its own merits.

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The Straw Man

¶ 5.6

The Actual Position

"We should spend a little more on schools."



The Distorted Position

"You want to bankrupt the country!"



Key Takeaway: Misrepresenting an opponent's position to make it weaker or sillier, then defeating the distortion.

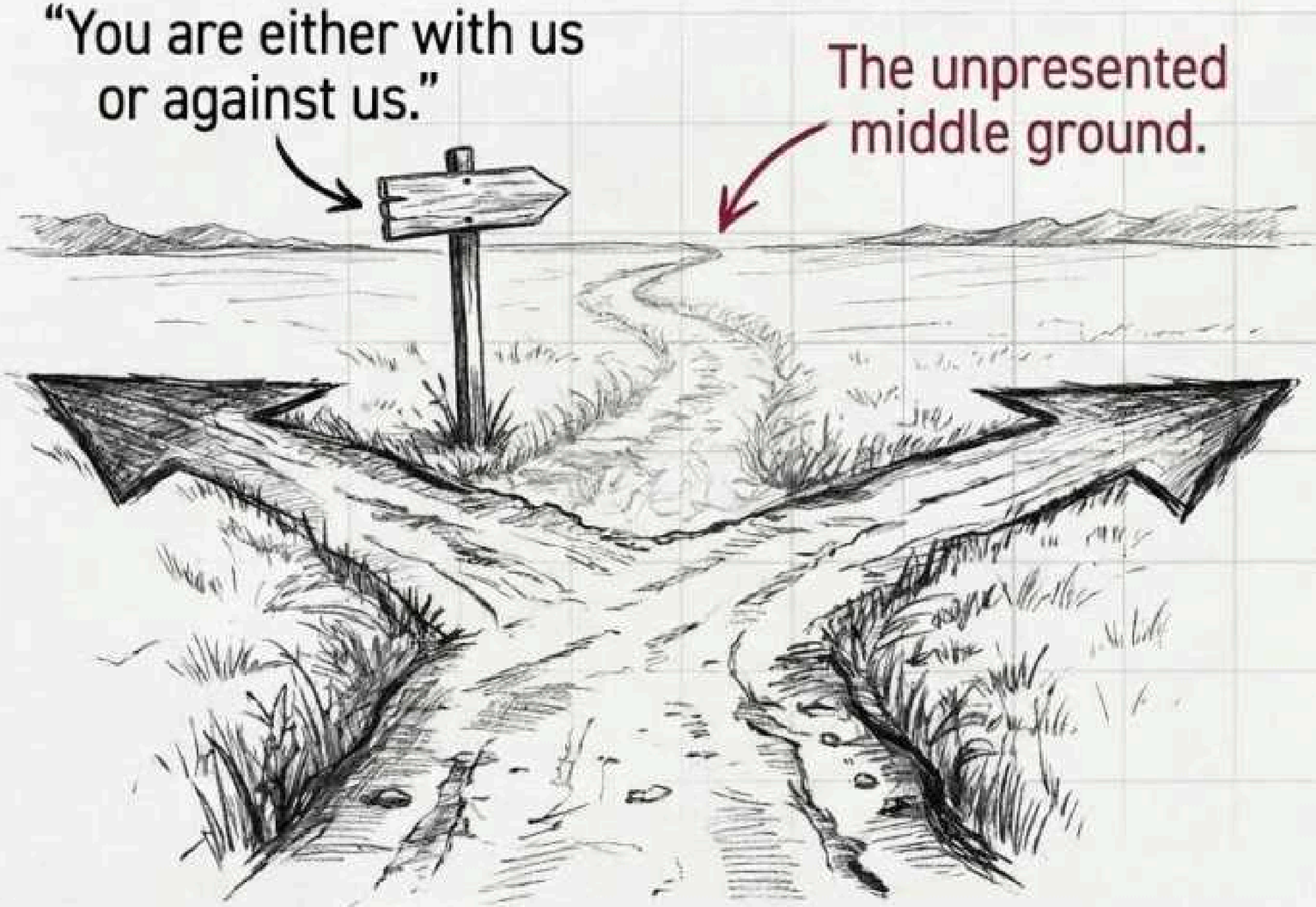
The Cure

State the other side's view in a form its holders would actually accept.

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False Dilemma (The Either/Or Fallacy)

¶ 5.7



Diagnostic Questions:

Presents only two options when more exist.

Ask:

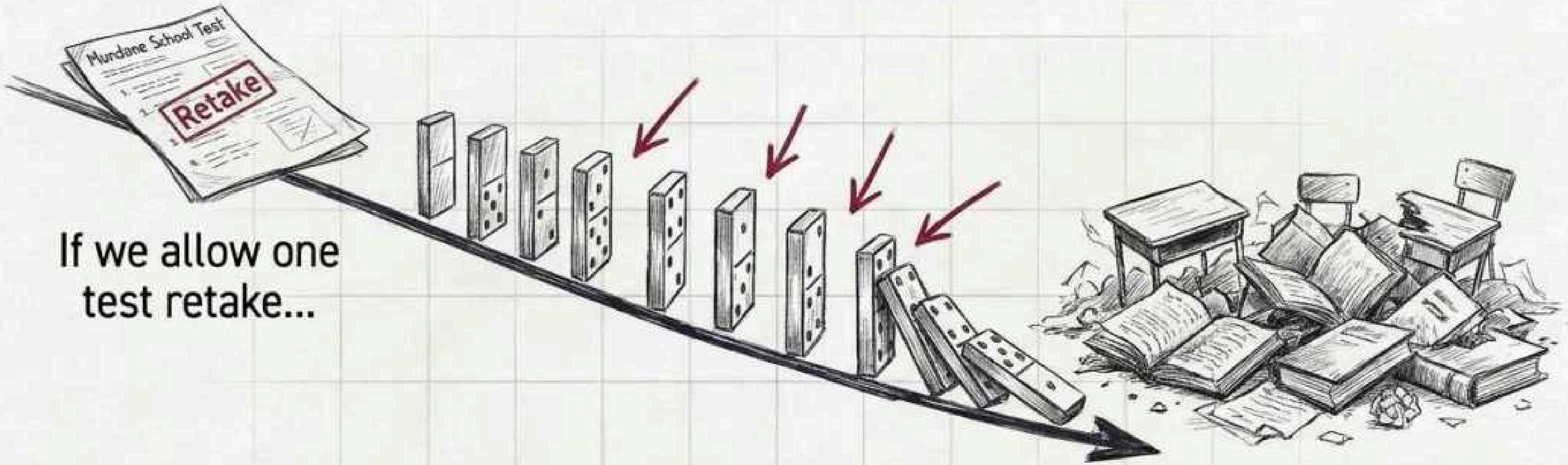
Is the list complete?

Who benefits from keeping it short?

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The Slippery Slope

¶ 5.8



Core Principle: Asserting a chain of terrible consequences from one small step.

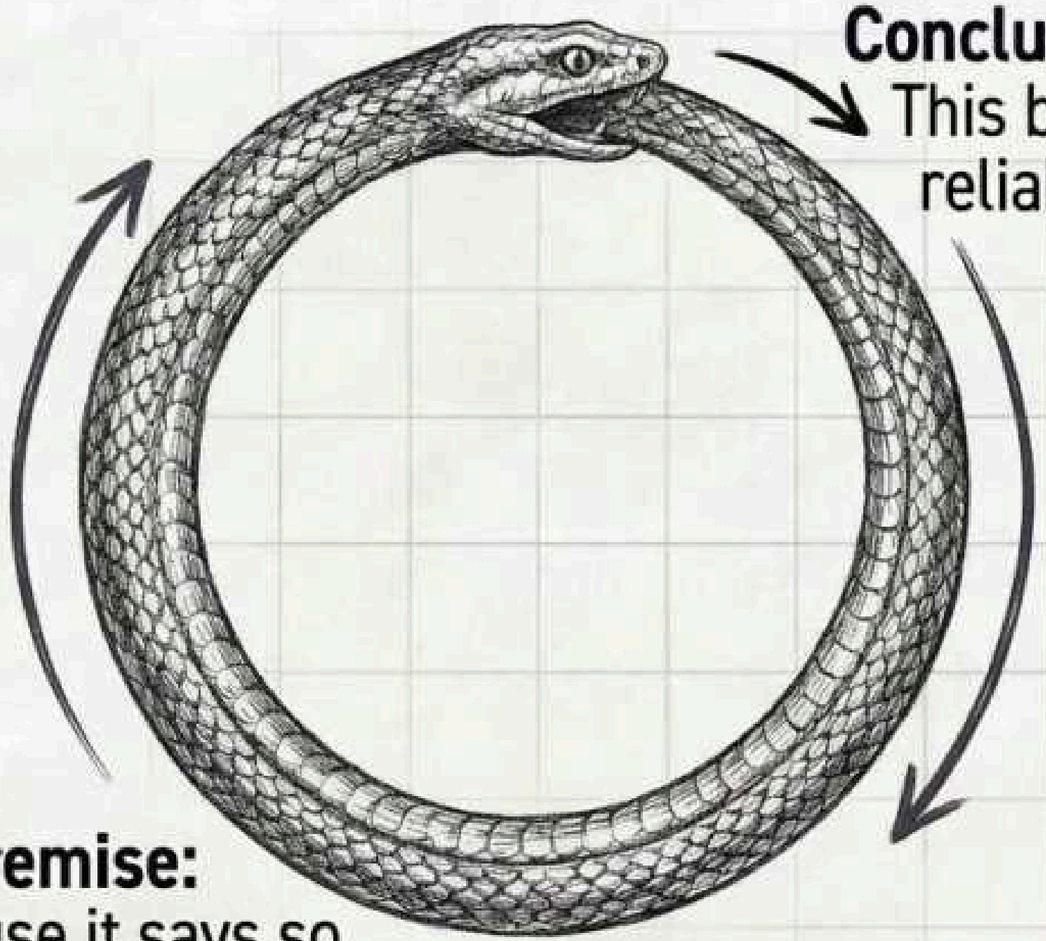
The Flaw:

Slopes can be slippery, but it becomes a fallacy when the steps are asserted, not supported.

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Circular Reasoning (Begging the Question)

¶ 5.9



Conclusion:
This book is reliable...

Premise:
...because it says so in the introduction.

Analytical Breakdown:

The conclusion is quietly assumed in the premises.

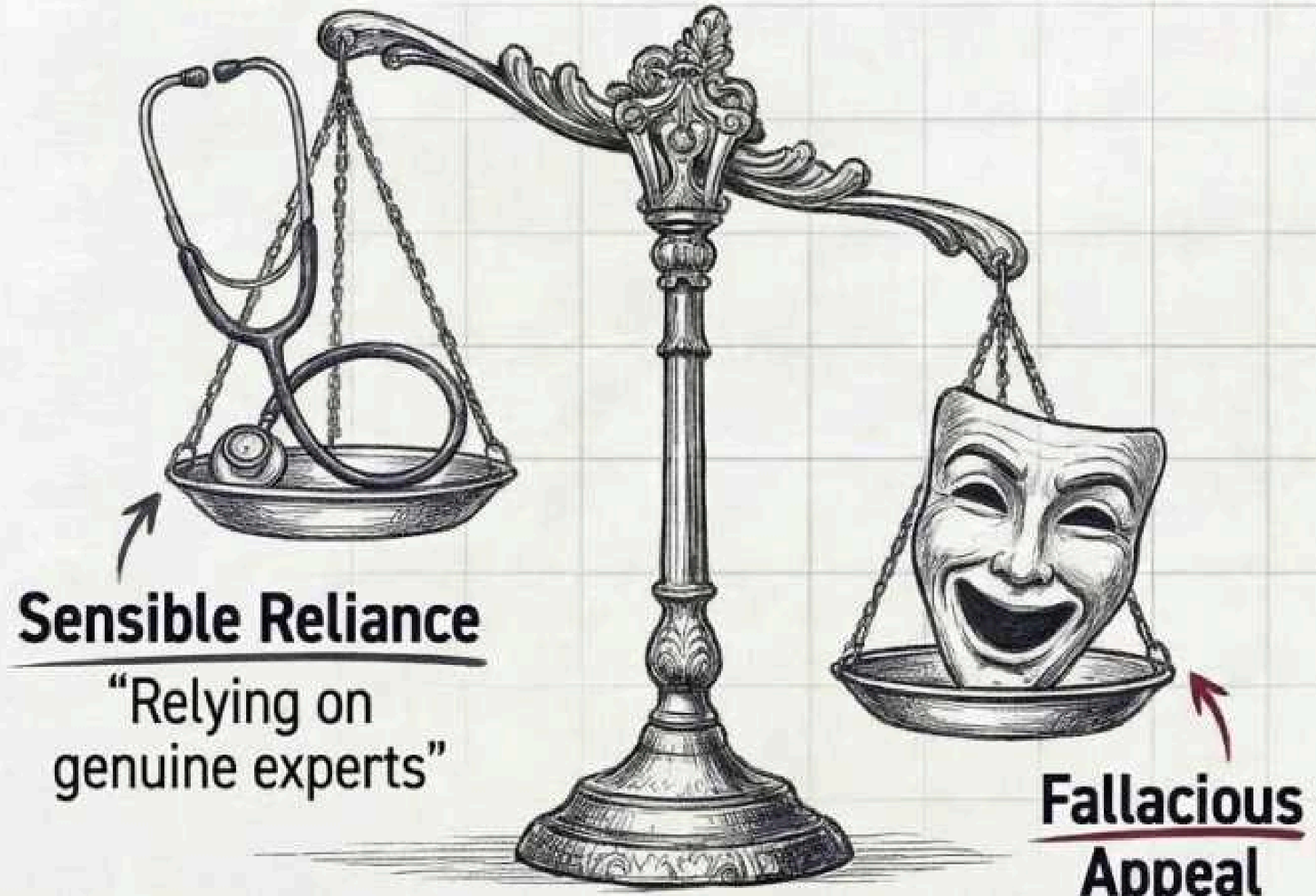
Verdict:

Technically valid (conclusion follows premise), but utterly unpersuasive to anyone who does not already agree.

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Appeals to Authority

¶ 5.10



Sensible Reliance

"Relying on genuine experts"

Fallacious Appeal

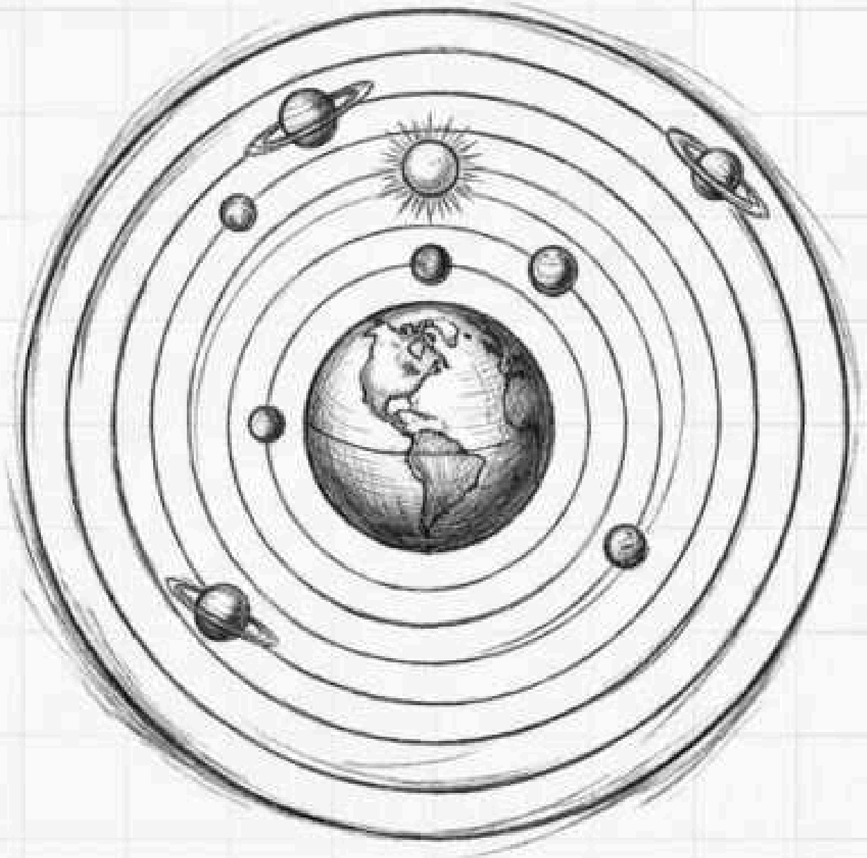
The Fallacy Occurs When:

1. The authority is not an expert in the relevant field (e.g., a famous actor guiding nutrition).
2. Actual experts disagree on the matter.
3. The authority is cited as final proof instead of as evidence.

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Appeal to Popularity

¶ 5.11



“For centuries, nearly everyone believed the sun circled the earth.”

The Claim:
Millions of people cannot be wrong.

The Reality:
They can, and often have been.

Key Takeaway:
Popularity is at best weak evidence, and it is certainly no proof of truth or goodness.

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Post Hoc Fallacy (Post hoc ergo propter hoc)

¶ 5.12



Definition:
After this, therefore because of this. Mistaking sequence for cause.

Analysis:
Events that follow one another may be completely unrelated, or share a hidden third cause. A genuine causal link requires much more than showing one thing came first.

Hasty Generalization & Equivocation

¶ 5.13



Generalization: Drawing a broad conclusion from a small or unrepresentative sample.



Feather = Light (Weight)

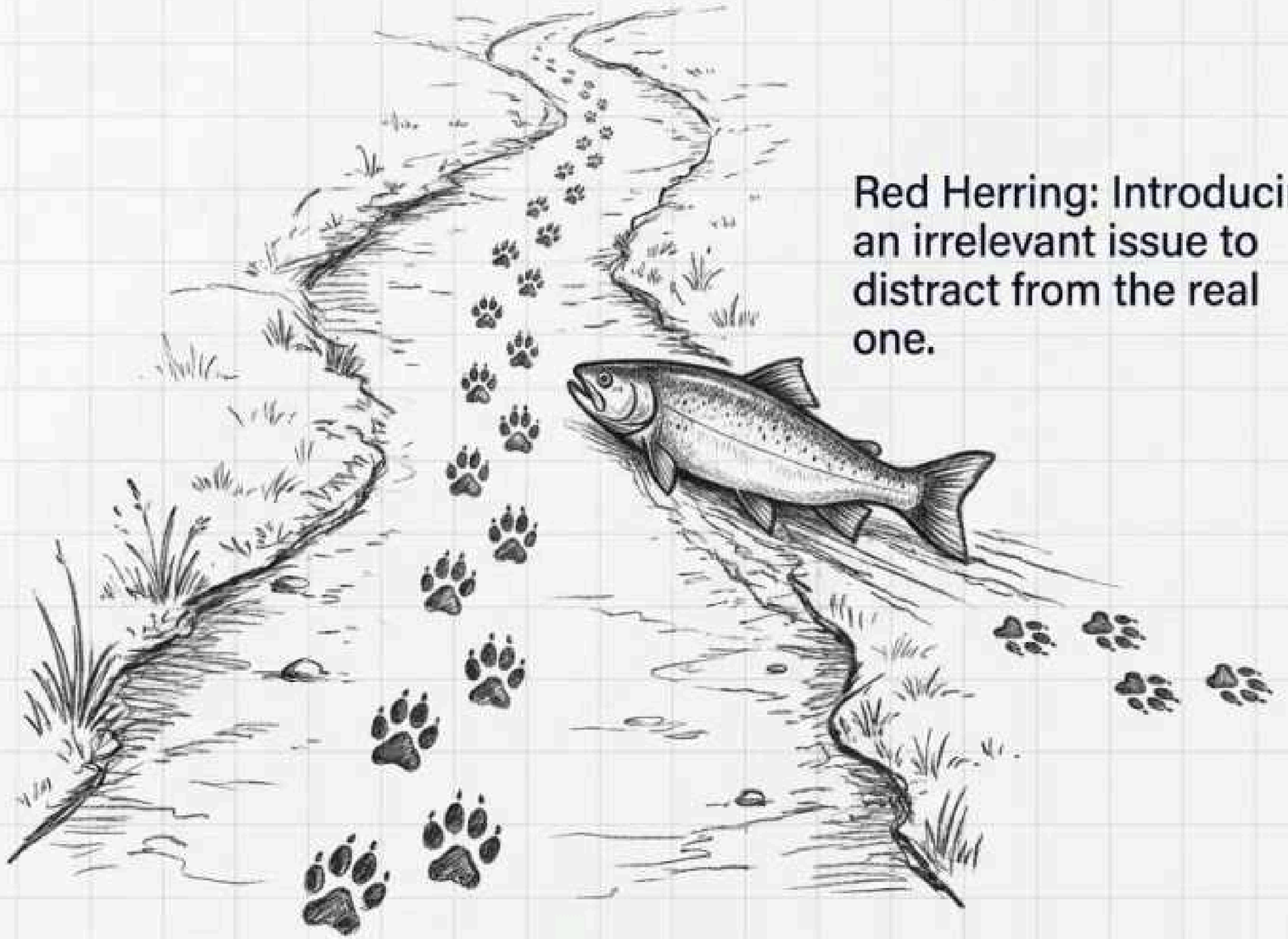
Light ≠ Dark (Illumination)

Equivocation: Playing on a word with more than one meaning. The word shifts its definition halfway through, causing the argument to fall apart.

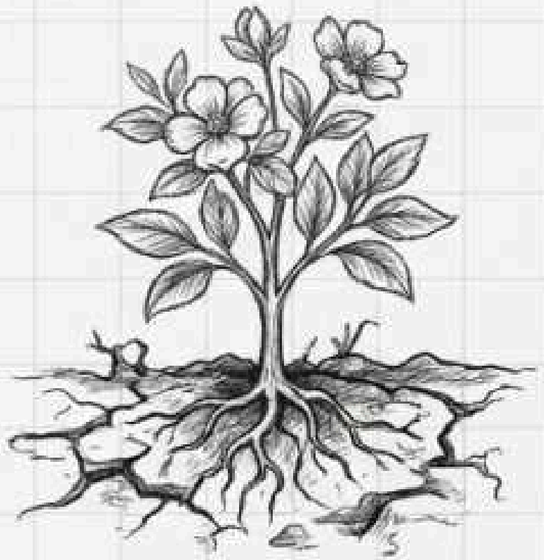
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Distraction & Origin

¶ 5.14



Red Herring: Introducing an irrelevant issue to distract from the real one.

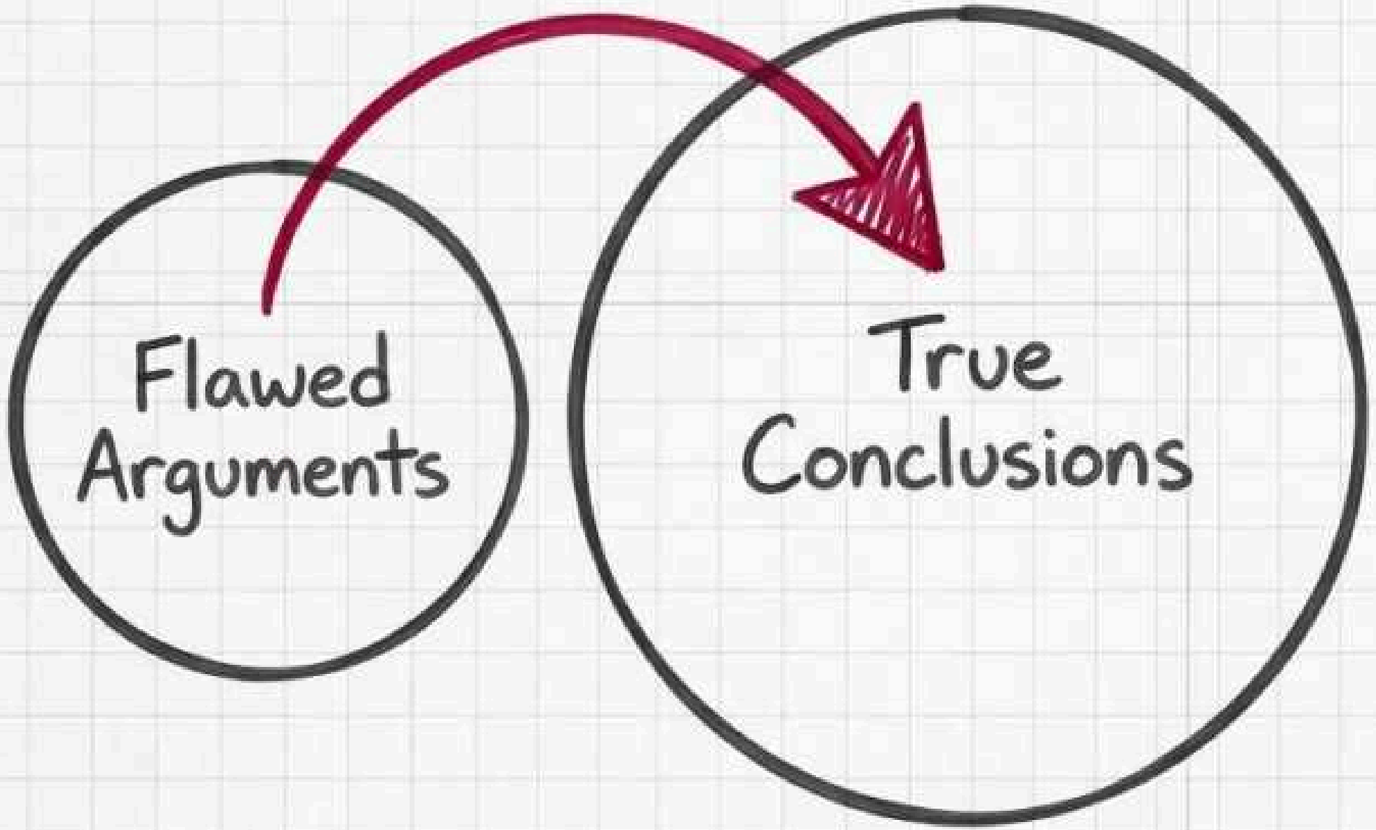


Genetic Fallacy: Dismissing an idea solely because of where it came from.

Key Insight: A good idea is not made bad by a bad origin, nor a bad idea good by a noble one.

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A Caution: The Fallacy Fallacy



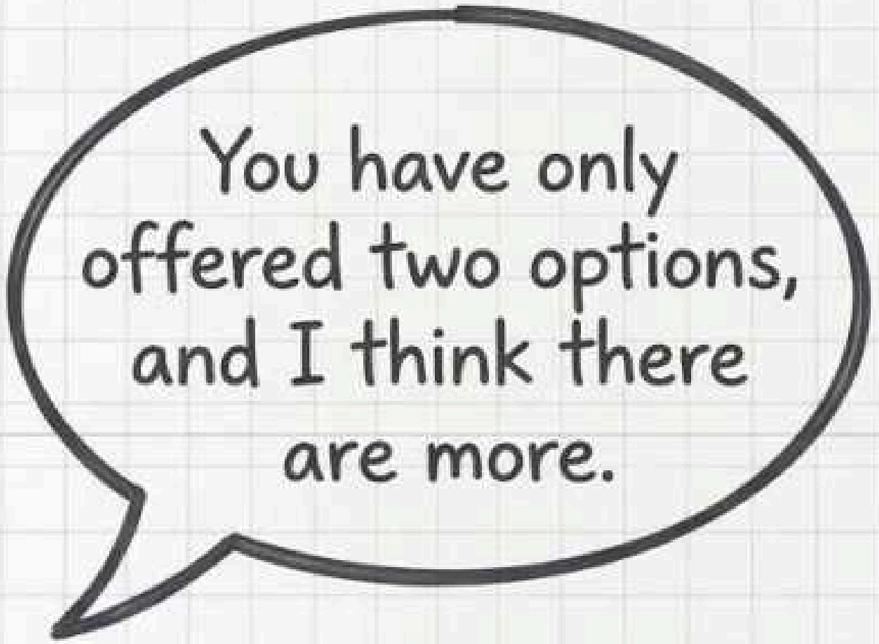
Core Principle:
Showing that an argument contains a fallacy does not show that its conclusion is false. The conclusion may be true for other reasons.
The Purpose of Logic:
Logic is a tool for evaluating reasons. It only works if applied fairly to arguments we like as well as those we dislike.

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Fallacy Names are Not Weapons



The Trap: Naming a fallacy just to shut down a conversation is counterproductive.



The Better Habit: Say what the problem is in plain words.

Golden Rule: Naming a fallacy is useful only when it helps both sides see the reasoning more clearly.

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Application: The Takeaway Question

¶ 5.17

The Assignment: Look through a recent argument online or in the news and run it through this process:

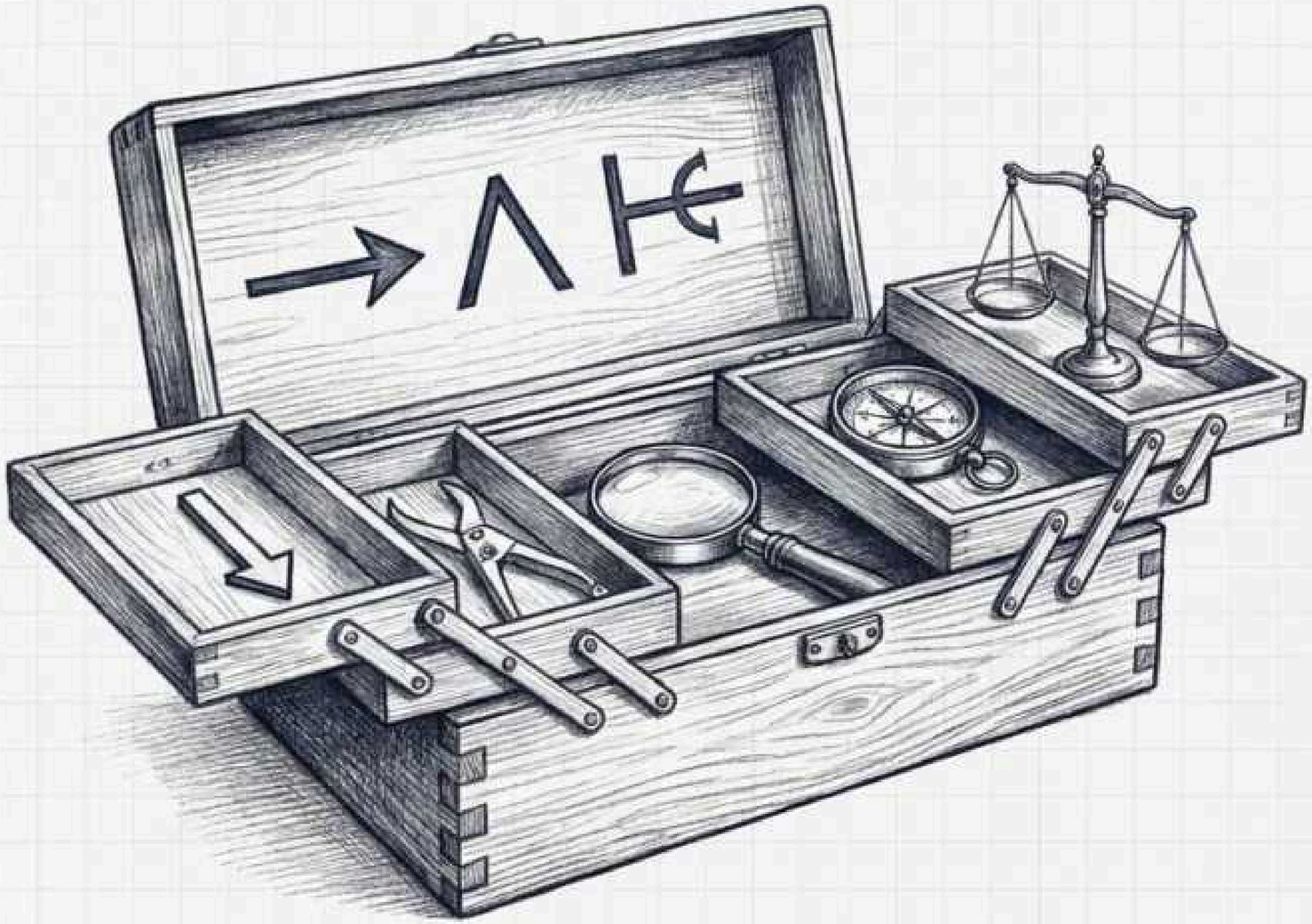


- ☐ **Find:** Locate one informal fallacy. Which one is it?
- ☐ **Identify:** Pinpoint exactly where the reasoning breaks down.
- ☐ **Restate:** Rebuild the argument in its strongest, most reasonable form. Is anything of value left once the fallacy is removed?

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Looking Ahead to the Final Lecture

¶ 5.18



Next Steps: Moving beyond logic that is strictly certain, into reasoning that is probable.

The Goal: Gathering everything learned into a cohesive, everyday toolkit for critical thinking.

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