The Truth-Tracking Analysis of Knowledge

EPISTEMOLOGY, UNIT 2

Causal Analysis (Recap)

- **Causal Analysis:** S knows *p* iff the fact *p* is causally connected in an appropriate way with S's believing *p*.

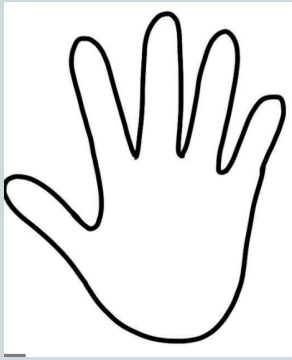
Pros of the Causal Analysis

- Handles a wide array of Gettier cases.

- E.g., in **Sheep in the Field**, the person's belief is not caused by the fact that there is a sheep in the field (rather, it is caused by the rock).

Pros of the Causal Analysis

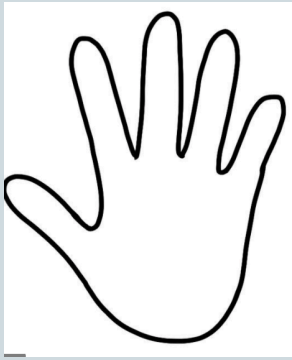
- Offers a simple response to skepticism.



Consider: According to the Causal Analysis, does Faruq know he has hands?

Pros of the Causal Analysis

- Offers a simple response to skepticism.

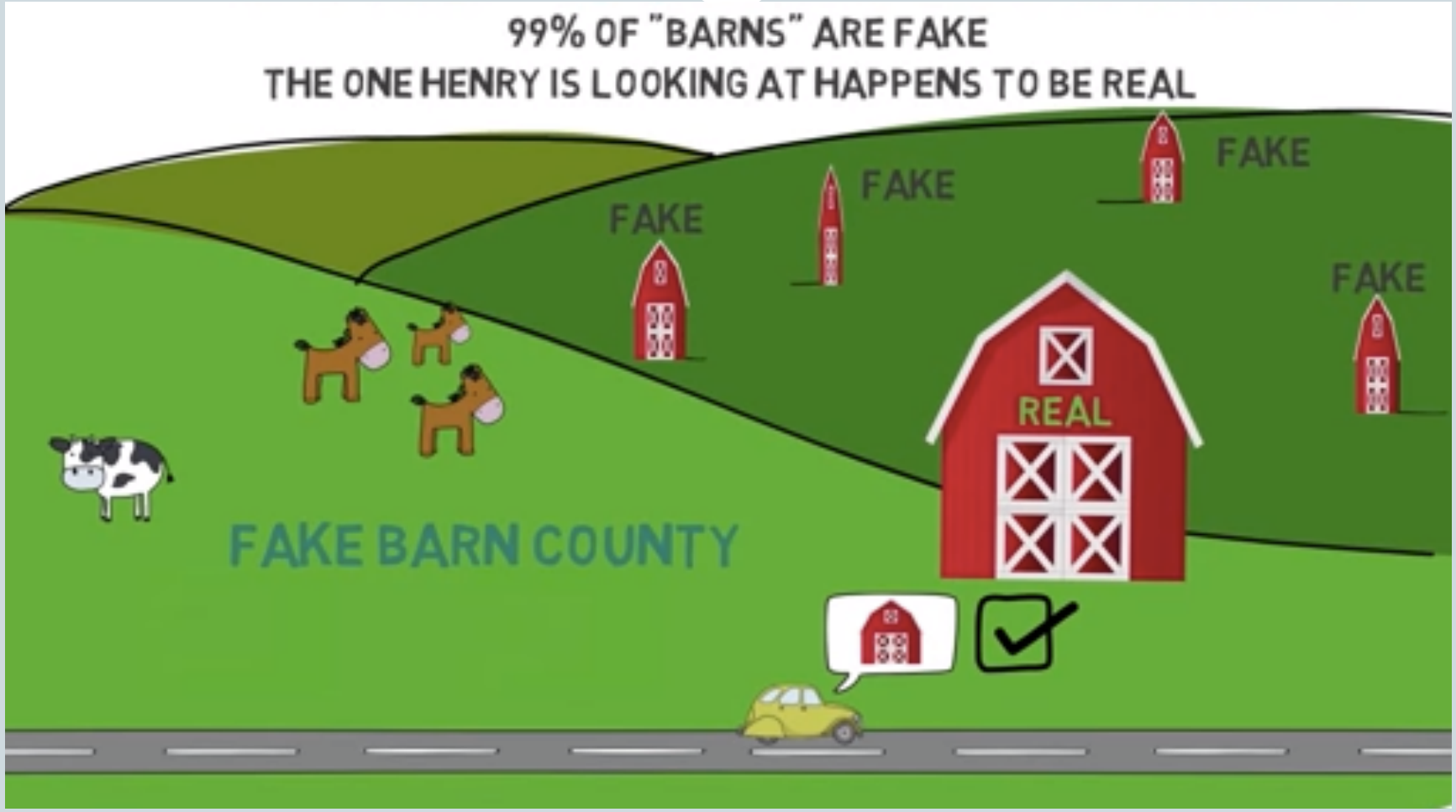


- According to the Causal Analysis, this depends on whether Faruq's belief is caused by the fact that he has hands. If so, then he does know he has hands.

Potential Challenge to the Causal Analysis

- **Fake Barn County**. Henry is driving through the countryside. Unbeknownst to him, he is in an area filled with fake barns (that is, the front of the edifice is designed to look like a barn, but it's just on stilts). He happens to glance out his window. He sees a barn-like structure, and comes to believe: "There is a barn over there." As luck would have it, he happened to glance at the only real barn in the entire county; all of the other barn-like structures are fake.

Potential Challenges to the Causal Analysis



Potential Challenges to the Causal Analysis

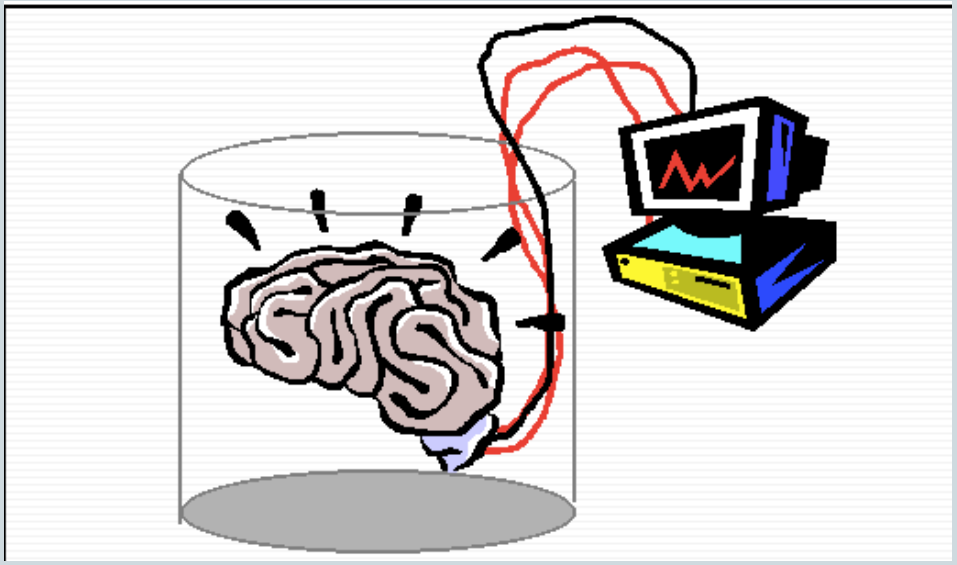
- The Causal Analysis predicts that Henry knows there is a (real) barn over there; after all, his belief is caused by the fact that there is a (real) barn over there.

- But some have thought this verdict is counterintuitive: some have thought that Henry's belief that there is a barn over there is only luckily true, and hence does not amount to knowledge.

Further Challenges to the Causal Analysis

Further Challenges to the Causal Analysis

- Nozick describes the scenario of a brain in a vat that is caused (by the computer programmers) to believe that it *is* a brain in a vat hooked up to a computer program.



Further Challenges to the Causal Analysis

Nozick contends that the BIV does not know that is a BIV hooked up to a computer program, even though the fact that it is a BIV hooked up to a computer program causes this belief.

Questions to think about: Is this a fair objection to the Causal Analysis? Are there any ways of defending the Causal Analysis from this objection?

Further Challenges to the Causal Analysis

- How to make sense of mathematical and ethical knowledge?

- Not clear that mathematical facts ever *cause* us to believe anything (do numbers have causal powers?)

• The Truth-Tracking Analysis of Knowledge

Truth-Tracking Analysis

- **Basic idea:** a belief amounts to knowledge if and only if it reliably "tracks" the truth.

Truth-Tracking Analysis

- **Tracking Analysis (First Pass):**
- S knows *p* iff
- 1) *p* is true (truth condition)
- 2) S believes *p* (belief condition)
- 3) If *p* were false, S would not have believed *p* (Sensitivity condition)
- 4) If *p* were true, S would have believed *p* (Adherence condition)

Conditionals

- Both the sensitivity and adherence conditions take the form of conditionals – i.e., “If …, then…” statements.

- So to understand these conditions, it is helpful to consider a bit more closely how to understand such conditionals.

Conditionals

- The standard analysis of conditionals in philosophy of language and linguistics is in terms of *possible worlds*.

- Some background…

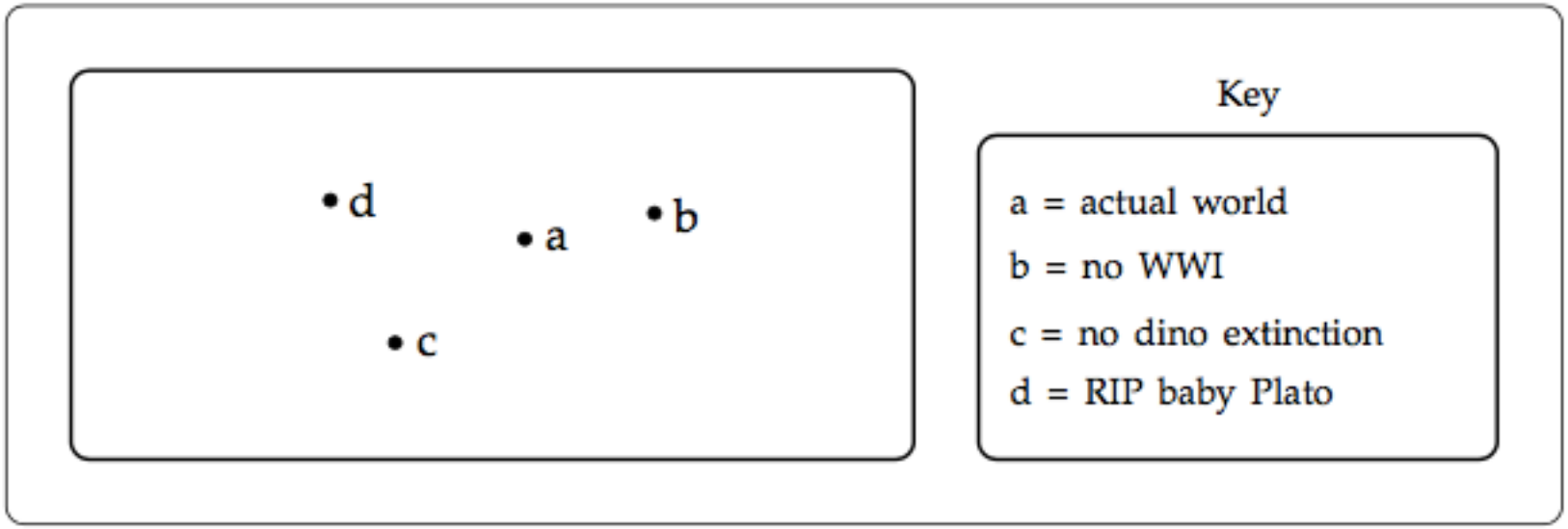
Possible Worlds

- A possible world is a possible alternative reality – it is a way that things *could have* been.

- *Note:* a "world" here is a complete universe, not just a planet.

Possible Worlds

For example, there's a possible world in which Plato died in infancy; there's a possible world in which WWI never happened; there's a possible world in which dinosaurs never went extinct, etc.



Possible Worlds

We can also compare possible worlds for similarity.

For example, a possible world in which the NUS campus has one more blade of grass on its lawn (and everything else is the same) is more similar to our actual world than a world in which dinosaurs never went extinct.

Possible Worlds

We can also compare possible worlds for similarity.

For example, a possible world in which the NUS campus has one more blade of grass on its lawn (and everything else is the same) is more similar to our actual world than a world in which dinosaurs never went extinct.

Possible Worlds Analysis of Conditionals

- (1) If Loy had gone to the party, Qu would have gone to the party as well.

Possible Worlds Analysis: (1) is true if and only if in all of the most similar worlds where Loy went to the party, Qu also went to the party.

Possible Worlds Analysis of Conditionals

- More generally:

- A conditional, "If *p*, then *q*" is true iff all of the most similar worlds where *p* is true are also worlds where *q* is true.

Possible Worlds Analysis of Conditionals

- (2) If Bob had not gotten a job at NUS, he would have been sad.

Possible Worlds Analysis: (2) is true if and only if in all of the most similar possible worlds where Bob did not get a job at NUS, he is sad.

Possible Worlds Analysis of Conditionals

- **Comprehension check:** How would the possible worlds analysis analyze:

- (3) If Archduke Ferdinand had not been assassinated, WWI would never have happened.

Possible Worlds Analysis of Conditionals

- **Comprehension check:** How would the possible worlds analysis analyze:

- (3) If Archduke Ferdinand had not been assassinated, WWI would never have happened.

- **Answer:** (3) is true iff in all of the most similar worlds where the Archduke Ferdinand was not assassinated, WWI never happened.

Truth-Tracking Analysis

- **Tracking Analysis (First Pass):**
- S knows *p* iff
- 1) *p* is true (truth condition)
- 2) S believes *p* (belief condition)
- **3) If *p* were false, S would not have believed *p* (Sensitivity condition)**
- 4) If *p* were true, S would have believed *p* (Adherence condition)

Unpacking the Sensitivity Condition

- **Lucky Guess**. David flips a coin; without looking at how it lands, David forms the belief that it landed tails. As a matter of fact, the coin did land tails.

Unpacking the Sensitivity Condition

- **Lucky Guess**. David flips a coin; without looking at how it lands, David forms the belief that it landed tails. As a matter of fact, the coin did land tails.

- Sensitivity condition: **If *p* were false, David would not have believed *p*** (where *p* = the coin landed tails)

Unpacking the Sensitivity Condition

- To put it a bit more straightforwardly:
- (4) If the coin had not landed tails, David would not have believed it landed tails.
- Is (4) true or false in this scenario?

Unpacking the Sensitivity Condition

- To put it a bit more straightforwardly:

- (4) If the coin had not landed tails, David would not have believed it landed tails. FALSE

Unpacking the Sensitivity Condition

- (4) If the coin had not landed tails, David would not have believed it landed tails.
- Possible worlds analysis: (4) is true iff in all of the most similar worlds where the coin did not land tails, David would not have believed it landed tails.

Unpacking the Sensitivity Condition

- What does the sensitivity condition predict about the sheep in the field case?

- **If *p* were false, then you would not believe *p*.**

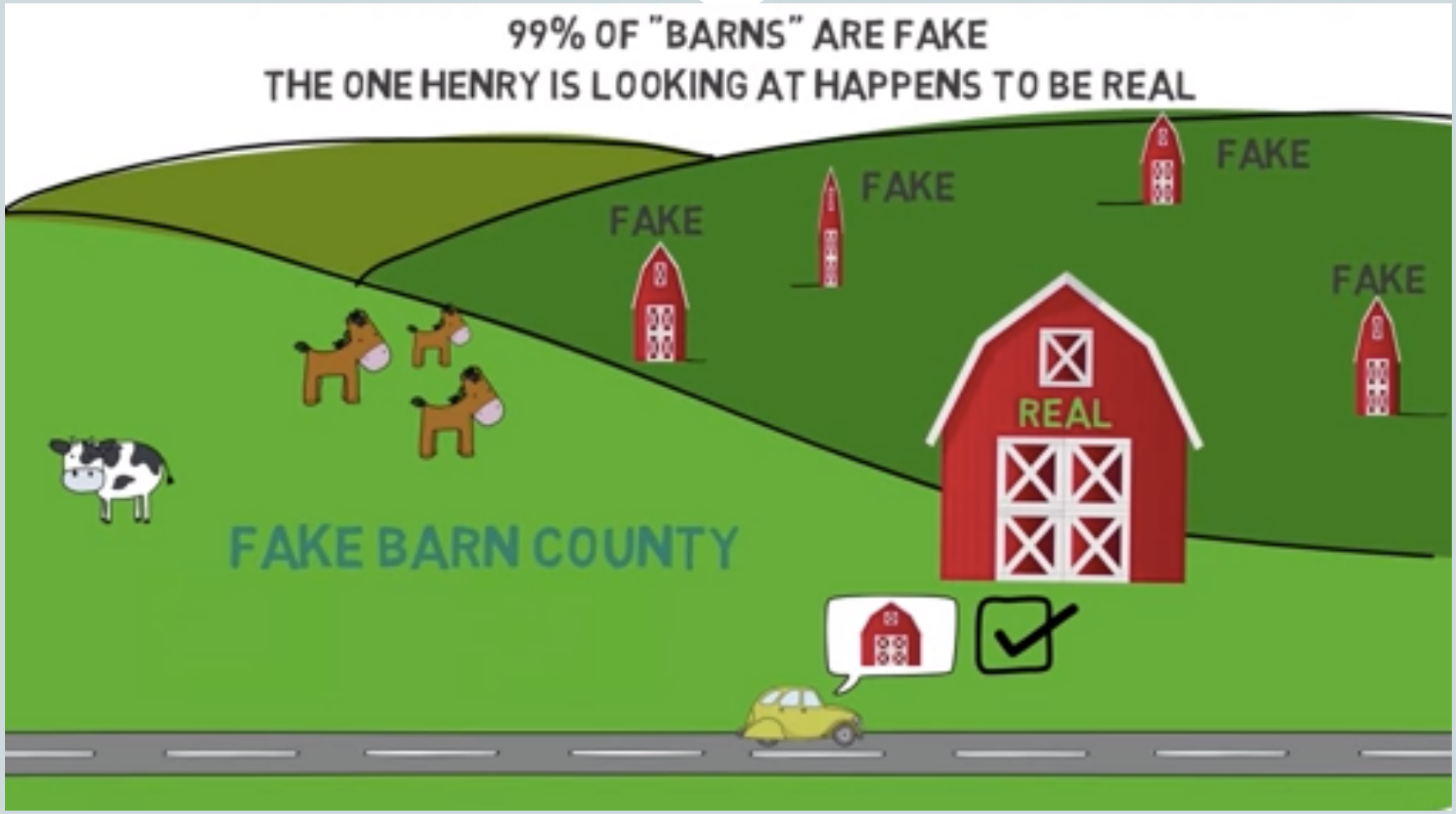
  (where *p* = there is a sheep in the field)

Unpacking the Sensitivity Condition

- What does the sensitivity condition predict about the sheep in the field case?

(5) If there were no sheep in the field, you would not have believed it. FALSE

Fake Barns Again



Fake Barns Again

- Does Henry know that there is a barn over there?
- To evaluate this using the Truth-Tracking Analysis, we need to consider the following conditional:
- **If there had not been a barn over there, Henry would not have believed there was a barn over there.**

Fake Barns Again

- Does Henry know that there is a barn over there?
- To evaluate this using the Truth-Tracking Analysis, we need to consider the following conditional:
- **If there had not been a barn over there, Henry would not have believed there was a barn over there.**
- Intuitively false: there is a very similar possible world where a fake barn was built in the spot Henry was looking at. At this world, Henry still would have believed (falsely) that he is looking at a real barn.

The Truth-Tracking Analysis

- **Tracking Analysis (First Pass):**
- S knows *p* iff
- 1) *p* is true (truth condition)
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- 3) If *p* were false, S would not have believed *p* (Sensitivity condition)
- **4) If *p* were true, S would have believed *p* (Adherence condition)**

Adherence

- **4) If *p* were true, S would have believed *p* (Adherence condition)**

- i.e., in all of the most similar worlds where *p* is true, S believes *p*.

- *Question to think about:* Why does Nozick impose this condition in addition to Sensitivity?

Truth-Tracking and Closure

- Consider the following principle about knowledge:

- **Closure:** If S knows *p*, and *p* logically entails *q*, then S knows *q*.

- Note: "*p* logically entails *q*" means that whenever *p* is true, *q* is guaranteed to be true as well.
- - i.e., the argument from *p* to *q* is valid

Truth-Tracking and Closure

- Consider the following principle about knowledge:

- **Closure:** If S knows *p*, and *p* logically entails *q*, then S knows *q*.

- On the face of it, Closure seems plausible. Suppose I know *p*: *Class starts at exactly noon*. Now *p* entails *q*: *Class doesn't start later than noon*. It seems that if I do indeed, know *p*, then I should thereby be able to know q on this basis.

Truth-Tracking and Closure

- But is the Truth-Tracking Analysis consistent with Closure?

Truth-Tracking and Closure

- Consider the following two propositions:

- **H:** *Bob has hands.*
- **Not BIV:** *Bob is not a (handless) brain in a vat.*

- **H** arguably entails **Not BIV**.

Truth-Tracking and Closure

- Consider the following two propositions:

- **H:** *Bob has hands.*
- **Not BIV:** *Bob is not a (handless) brain in a vat.*

- **H** arguably entails **Not BIV**.
- So, if Closure is true, then if someone knows **H**, they also know **Not BIV**.

Truth-Tracking and Closure

But what does the Truth-Tracking Analysis say here?

Truth-Tracking and Closure

Bob know **H** iff:

1) **H** is true ✔
2) Bob believes **H** ✔
3) If **H** were false, Bob would not believe **H**. ✔
   - i.e., in all the most similar worlds where **H** is false, Bob does not believe **H**.
4) If **H** were true, Bob would believe **H**. ✔

So, according to the Truth-Tracking Analysis, Bob can know **H**.

Truth-Tracking and Closure

Bob know **Not-BIV** iff:

1) **Not-BIV** is true ✔
2) Bob believes **Not-BIV** ✔
3) If **Not-BIV** were false, Bob would not believe **Not-BIV**. ✗
4) If **Not-BIV** were true, Bob would believe **Not-BIV**.

Truth-Tracking and Closure

So the Truth-Tracking Analysis predicts that Bob knows **H** (*he has hands*), but he cannot know **Not-BIV** (*he is not a handless BIV*), even though **H** logically entails **Not-BIV**.

So the Truth-Tracking Analysis is inconsistent with Closure.

A Blessing or a Curse?

Nozick thought this was a good result – indeed, this is the heart of Nozick's response to skepticism.

Nozick grants the skeptic that I cannot know that I am not a BIV. But Nozick thinks the skeptic goes wrong in concluding from this that I cannot know that I have hands.

A Blessing or a Curse?

On the other hand…

- Some have argued that rejecting Closure is too a high price to pay. These philosophers argue that Closure is highly intuitive – it explains, for example, why it seems we can expand our knowledge via deduction.

A Blessing or a Curse?

Moreover, these philosophers argue, denying Closure leads one to accept "abominable conjunctions" of the form:

- # Bob knows he has hands, but he doesn't know that he's not a handless Brain in a Vat.
- # Wendy knows she's sitting at her desk, but she doesn't know that she's not sound asleep in her bed.

Discussion Questions

- 1) Does the Truth-Tracking Analysis deliver the right results in the Stopped Clock case and the Coins case? Are there any Gettier cases where it delivers the wrong results?

- 2) Why does Nozick impose the Adherence Condition (i.e., condition 4) in addition to the Sensitivity Condition?