Phil. 450 Lecture 4: Sensitivity and Counterfactuals

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Today's Question: Philosophers have often criticized Nozick's conditions for being **unnecessary** for knowledge. Do any of the counterexamples challenge the **sufficiency** of the four conditions together? If not, discuss a few examples that fail to challenge the sufficiency of the conditions. If so, explain which one.

Time permitting: Reflect on why one might one want knowledge, rather than merely true belief, if Nozick's conditions are either necessary or sufficient

Modality and Knowledge

Motivating Anti-Luck Conditions

- Nozick's two conditions and the safety condition (which we'll discuss more next time) are all supposed to rule out knowledge arising from luck or coincidence.
- **Example:**
  - Imagine you predict the winner of the World Cup on the basis of which direction an octopus in a tank moves on a given day.
  - Even if true, your belief doesn't seem to be knowledge because you **could** have easily believed something false. It was not a "close possibility" that your belief came out false.

Modality

Modal propositions describe what is possible, impossible, necessary, contingent, etc.

They describe not only how the world *is*, but how it **could** or **must** be.

Contingency

Example: The sentence "Barack Obama was president" is true, but contingent.

- *P* is contingently true if the proposition it expresses is true but could have been false. It's contingently false if the proposition it expresses is false but could have been true.

Necessity and Possibility

Example: The sentence "Two is greater than one" is necessarily true.

- The proposition it expresses could not have been false, no matter the make up of the physical universe.

Types of Possibility

Discussion: Distinguish three senses in which the word "possible" is used in English, and give an example illustrating a use of each.

Types of Possibility

There are many different senses of possibility.

- Logical
- Physical
- Technological
- Epistemic
- Contextual

Types of Possibility

According to many epistemologists, you don't know P if It is possible your belief is false.

Question: In what sense of possible?

- Not the epistemic one.
- Something close to the contextual one. In situations like the ones that actually occurred, your belief wouldn't have been false.

Modal statements are typically thought to fail to be truth-functional.

Truth-Functionality and Subjunctive Conditionals

Sentential Connective

A sentential connective is a way of taking forming a new sentence from one or more existing sentences.

- English sentential connectives: and, or, if-then, before, after, while, but, it is surprising that, ...
- Spanish connectives: y, o, si, antes de que, ...
- Logical connectives: $\&, \vee, \rightarrow, \neg$

Sentential Connective

Important: A single word may have different meanings, and so one use of the word may be a sentential connective and others not.

Example: Some uses of "and" are as sentential connectives; some not.

- Obama was president, and Biden was his vice president.
- Biden ate mac and cheese for dinner.

In an introductory logic class, someone showed you the following tables about logical connectives ...

Truth Tables for Four Connectives

φ	ψ	$(\varphi \& \psi)$
F	F	F
F	T	F
T	F	F
T	T	T

φ	ψ	$(\varphi \vee \psi)$
F	F	F
F	T	T
T	F	T
T	T	T

φ	ψ	$(\varphi \rightarrow \psi)$
F	F	T
F	T	T
T	F	F
T	T	T

φ	$\neg\varphi$
F	T
T	F

Truth-Functionality

- Those tables indicate that you can determine the truth of a complex formula like $(P\&\neg(Q \rightarrow R))$ simply by knowing whether P, Q, and R are true.
- Important: You don't need to know what P, Q and R mean. The **truth-values** of P, Q, and R alone always determine the truth-value of $(P\&\neg(Q \rightarrow R))$.
- For this reason, we say the logical connectives $\&$, $\vee$, $\neg$, and $\rightarrow$ are truth-functional

Truth-Functionality

Most English sentential connectives are not truth functional.

Truth Functionality

Example: "It is possible that" is **not** truth-functional. Why?

Let's try to construct a truth-table for "It is possible that" and see what goes wrong.

Truth Functionality

Suppose the Pirates lose their next baseball game. So the sentence "The Pirates will win their next game" is false. Nonetheless, we might think:

The Pirates will win their next game.	It is possible that the Pirates will win their next game.
F	T

In contrast, $2 > 3$ is also false, but:

$2 > 3$.	It is possible that $2 > 3$.
F	F

Truth Functionality

So without knowing what φ represents/means, we cannot finish the second row in a truth table for "It is possible that φ"

φ	It is possible that φ
T	T
F	????

Exercise: Explain why you *can* fill in the first row without knowing what φ asserts.

Truth Functionality

Moral:

- Knowing only that φ is false (and not what φ represents) does not tell you whether "It is possible that φ" is true or false.
- The truth-value of φ alone does not **always determine** whether "It is possible that φ" is true.

Subjunctive Conditionals

Definition: A counterfactual is a sentence of the form "If P, then Q" in which P is known to be false.

Examples: If the Seahawks had run on their last play in Super Bowl 49, they would have won.

Counterfactuals

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Possible World Semantics

Philosophers often describe **possible world semantics** to clarify properties of modal statements.

Possible World Semantics and Counterfactuals

Standard Analysis of Subjunctive Conditionals: The subjunctive conditional "If P were the case, then Q would be the case" is true if Q is true in **close** possible worlds in which P is.

- Which worlds are "close" depends on context and interest.
- To emphasize: this analysis **differs from your logic class**. If you took a logic class here, some schmoe taught you a truth-table for the **material** conditional: the truth of the material conditional depends only whether P and $\neg Q$ are *in fact* true, not upon whether they *could* be true.

Question: What is up with this nonsense-talk about possible worlds?

Answer: Although discussing possible worlds might not seem to clarify anything yet, we'll see that it allows us to show that counterfactuals do not have the same properties as material conditionals, and that will be important in upcoming readings.

Antecedent Strengthening

P	Q	R	$(P \rightarrow Q)$	$((P\&R) \rightarrow Q)$
F	F	F	T	T
F	F	T	T	T
F	T	F	T	T
F	T	T	T	T
T	F	F	F	T
T	F	T	F	F
T	T	F	T	T
T	T	T	T	T

Material conditionals admit of **antecedent strengthening.**

- Suppose "If P, then Q" is true. Then "If P *and* R, then Q" is true.
- E.g., If x is prime, then it is divisible by itself and one only. So if x is prime *and* odd, then it is divisible by itself and one only.

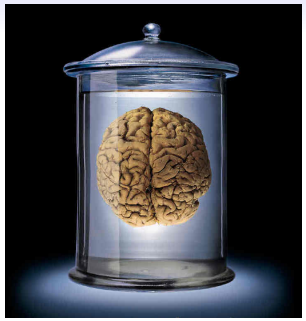
Fallacies of Counterfactuals: Antecedent Strengthening

Subjunctive conditionals (esp. counterfactuals) violate antecedent strengthening.

- "If the Seahawks had run, they would have won" is true.
- "If the Seahawks had run and the Patriots had returned the ensuing kickoff for a touchdown, then the Seahawks would have won" is false.

Skepticism and Sensitivity

Simple Skeptical Argument



- **Premise 1:** I don't know that I am not a BIV.
- **Premise 2:** If I don't know that I am not a BIV, then I don't know I have hands.
- **Conclusion:** I don't know I have hands.
  - Again, you can replace "I have hands" with virtually any number of other mundane things that you believe you know.

Responding to the Simple Skeptical Argument

No matter the version of the simple skeptical argument, you have three options.

- Reject P1.
- Reject P2.
- Maintain the argument is invalid (i.e., that the conclusion does not follow from the premises).

Options

Philosophers have taken all three options.

- Neo-Mooreans reject P1 but often endorse P2.
- Nozick and fans of sensitivity-like conditions reject P2. They typically endorse P1.
- Contextualists deny the argument is valid and maintain both premises are true (in a sense).

Epistemic Closure

Epistemic Closure

Epistemic closure is the principle that knowledge is closed under known entailment, i.e.,
IF

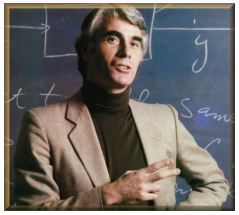
- If one knows that φ, and
- One knows that φ entails ψ,
- And one deduces ψ from φ,

THEN

- One knows that ψ.

It is generally agreed that Nozick's theory violates epistemic closure.

S No(zick)s that p

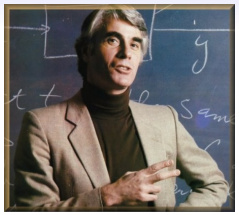


S knows that p if and only if

- p is true.
- S believes that p.
- SENSITIVITY: If p were not true, then S would not believe that p.
- ADHERENCE: If p were true, then S would believe that p.

Nozick [1981].

S No(zick)s that p

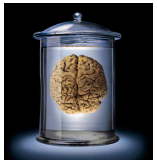


S knows that p if and only if

- p is true.
- S believes that p.
- SENSITIVITY: In the nearest possible worlds in which p is false, S does not believe that p.
- ADHERENCE: In nearby possible worlds in which p is true, S believes that p.

Nozick [1981].

Epistemic Closure



Example:

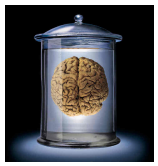
- φ be "I have hands."
- ψ be "I am not a hand-less brain-in-a-vat."

Epistemic Closure

I know φ in Nozick's sense because

- In similar possible worlds in which I have hands, I believe so.
  - Thus, my belief is adherent.
- If I had no hands (e.g. because I was born without hands or cut them off in shop class), then I would not believe I had hands.
  - Thus, my belief is sensitive.

Epistemic Closure



However, I do not know ψ in Nozick's sense because

- My belief is not sensitive.
- If I were a hand-less brain-in-a-vat, I would nonetheless believe I had hands.

At Home Exercise: Explain why, according to Nozick's theory, you know that $\varphi \rightarrow \psi \ldots$

Here's another violation of **antecedent strengthening** ...

Fallacies of Counterfactuals: Antecedent Strengthening

- "If I didn't have hand hands, then I wouldn't believe I have hands" is true.
- "If I didn't have hand hands and I was a BIV, then I wouldn't believe I have hands" is false.

So P2 of the various skeptical arguments is false because counterfactuals violate antecedent strengthening.

Contextualism

Contextualist Response

We won't read any papers on contextualism, but I thought I'd introduce their strategy for responding to skepticism.

Equivocation

- **Premise 1:** Nickelback sucks.
- **Premise 2:** Nothing that sucks blows.
- **Conclusion:** Nickelback does not blow.

Question: What's wrong with the above argument?

Equivocation

Definition: An argument equivocates if it uses the same word or expression in two different senses.

- Example: The above argument uses the words "suck" and "blow" in two different ways.

Contextualists

Contextualists claim that the following argument equivocates in its use of the word "knows."

- The premises are only ever uttered in epistemology classes, where the standards for knowledge are high. The conclusion – or rather it's negation – is uttered in everyday contexts in which the standards for knowledge are lower.

Simple Skeptical Argument:

- **Premise 1:** I don't know that I am not a BIV.
- **Premise 2:** If I don't know that I am not a BIV, then I don't know I have hands.
- **Conclusion:** I don't **know** I have hands.

References I

Nozick, R. (1981). *Philosophical explanations*. Harvard University Press.