Epistemology

Lecture 6: Knowledge Analysis – Nozick's Truth-Tracking Account

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Special Topic:
Counterfactuals and Possible Worlds

Indicative conditionals

- These are the most commonly used conditionals in natural language, expressed in the indicative mood.

- Simple Form:

  ‘If *P*, then *Q*’ where *P* and *Q* are declarative sentences.

  NB: Being declarative, such sentences have a truth-value.

  Examples:

  * If the UK leaves the EU under the current plan, the UK’s GDP will shrink by 3.5% in the next 10 years.

  * If Shakespeare didn’t write Hamlet, someone else did.

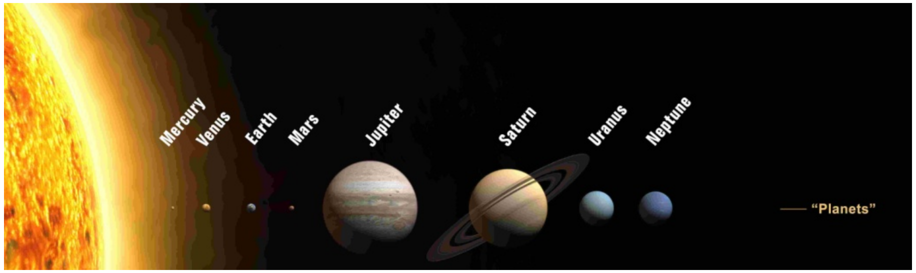
  * If John isn’t helping us, James will gladly do so.

Truth-conditional semantics

- How are we meant to understand the meaning of these conditionals?

- An influential approach is to use truth-conditions:
  Meaning equals (or reduces to) truth-conditions.

Example (non-conditional):
'There are exactly eight planets in the solar system'.



To understand its meaning we need only specify its truth-conditions, viz. it comes out true if and only if there are only eight things that qualify as what we call 'planets' in what we call the 'solar system'.

NB: Other approaches to semantics include the proof-theoretic one.

Semantics for indicative conditionals

- Following this approach to semantics, we specify the meaning of a complex sentence through the truth-conditions of its parts.
- Indicative conditionals are complex sentences. The following truth-table provides the standard way of specifying their truth conditions.
- ‘A $\rightarrow$ B’ is true if and only if A is false or B is true.
- This conception of indicative conditionals is known as the ‘**material** conditional / implication’.
- Other conceptions give a different truth-table, e.g. rows 3 & 4 may come out as indeterminate.

	A	B	$A \supset B$
1.	T	T	T
2.	T	F	F
3.	F	T	T
4.	F	F	T

Subjunctive conditionals

- Forms:

  ‘If *A* **were (not)** the case, *B* **would (not) be** the case’.

  ‘If *A* **had (not) been** the case, *B* **would (not) have been** the case’

  NB: The antecedent asserts something that we assume to be false. No wonder that such conditionals are a.k.a. ‘counterfactuals’.

- Subjunctive conditionals are used to express modal claims.

  Examples:

  If Jane were not ten minutes late, she would have caught the train.

  If Hitler were a pacificist, WWII wouldn’t have happened.

Indicative vs. subjunctive

- Compare:

  (1) If Oswald didn’t kill Kennedy, someone else did.

  Vs.

  (2) If Oswald hadn’t killed Kennedy, someone else would have.

- 1 questions whether Oswald killed Kennedy but does not question that he died on 22/11/1963 in (otherwise) exactly those circumstances.

- 2 assumes that Oswald did kill Kennedy but asserts that Kennedy would have at some point been assassinated anyway.

Science and counterfactuals

- Counterfactuals are not just aberrations of everyday language and fiction. They seem to pop-up everywhere, including science.

  Examples:

  * Had the conditions in the first few moments of the big bang been different, there would not have been any matter in the universe.

  * Were there no forces to act on a body, it would continue at rest or in uniform motion along a straight line.

Semantics for counterfactuals

- The most influential way to understand the truth conditions of counterfactual conditionals is through possible worlds.
- Truth-conditions become relations between possible worlds.
- What’s a possible world? It doesn’t have to be a real world as David Lewis holds. Rather, it can be merely a device to express modal claims.
- For any way the actual world could have been (but isn’t) we **imagine** another world instantiating those differences.
- These are the possible non-actual worlds. Note that the actual world is also possible!

Possible world semantics

- **Proposal**: The counterfactual ‘If *X* were the case, then *Y* would be the case’ (formally: ‘*X* □→ *Y*’) holds or is true *if and only if Y* holds in all *X*-worlds which are closest to the actual world.

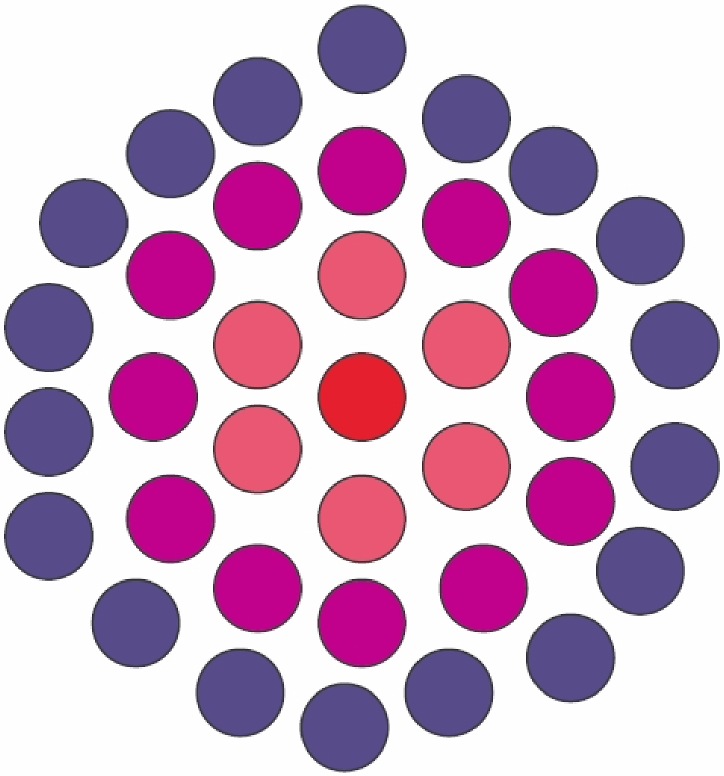
- Colour-coding scheme:

  Red: The actual world

  Pink: Closest possible worlds

  Violet: Worlds not close enough

  Purple: Furthest possible worlds



- The closest the world, the more similar to the actual world. Such worlds are meant to differ only by one small fact (and any knock-on differences that change demands).

Chapter I:
Nozick’s Theory

The sensitivity-to-truth connection

- Recall from the last two lectures that truth and belief need to connect in the right way.
- One proposal for how to achieve this is through ‘truth-tracking’ across close possible worlds.
- That is, belief in a given proposition must be sensitive to the truth by checking what happens in nearby possible worlds.
- **Hint**: If something is luckily believed (in the actual world), then we imagine that in nearby worlds it is not believed.

Nozick's truth-tracking theory

- *S* knows that p if and only if

  (i) *S* **believes** that *p*,

  (ii) *p* is **true**,

  (iii) If ***p* were not true**, ***S* wouldn't believe *p***.

  (iv) If ***p* were true**, ***S* would believe *p***.

  NB1: Nozick (1981) actually goes for a variant of the above that incorporates reference to a *method* through which *S* knows *p*.

  NB2: See also Dretske (1970; 1971; 1972; 2005).

- As we will soon see, counterfactual conditions iii and iv are there to combat cases where truth and belief line up accidentally.

The third condition

- Let us consider the third condition in more detail:

  (iii) If *p* were not true, *S* wouldn't believe *p*.

- Suppose *p* is true by accident in the actual world. Presumably, in the closest worlds *p* is false - and (almost) everything else is the same

- Does *S* still believe *p* in those worlds?

- If YES, then *S* doesn't know *p*. That is, if *S* is consistently wrong like that across close possible worlds, *S* doesn't know *p*.

  NB: Condition (ii) is still satisfied as in the actual world *p* is true.

The Smith-Jones case revisited

- Smith **believes** that the person who gets the job has ten coins in their pocket. So, **condition (i) is satisfied**. The proposition ‘The person who gets the job...’ is **true**. So, **condition (ii) is satisfied**.

  In the closest possible world(s), the accident of Smith having 10 coins in his pocket doesn’t happen. That means *p* is false in those worlds.

  Presumably, **in such world(s) Smith would still believe *p*** – recall the ceteris paribus clause. So, **condition (iii) is NOT satisfied**!

  Thus, Smith doesn’t know *p*. This verdict accords with the intuitions Gettier seems to be eliciting in that counterexample.

The dog in sheep's clothing revisited

- *S* **believes** that there is a sheep in the prairie. So, **condition (i) is satisfied**. The proposition 'There is a sheep in the prairie' is **true**. So, **condition (ii) is satisfied**.

- In the closest possible world(s), the accident of the real sheep being in the prairie doesn't happen. That is, *p* is not true in those worlds.

- But, presumably, in such world(s) ***S* would still believe *p*** – recall the ceteris paribus clause. So, **condition (iii) is NOT satisfied**!

- **Thus**, ***S* doesn't know *p***. Again, this accords with the standard intuitions!

Does Henry (of fake barn land repute) know according to Nozick's theory?

Yes

No

The fake barns case revisited

- Henry **believes** that there is a real barn in an area. So, **condition (i) is satisfied**. The proposition ‘There is a real barn in this area’ is **true**. So, **condition (ii) is satisfied**.

  In the closest possible world(s), the barn Henry is looking at is fake. That is, *p* is not true in those worlds. Presumably, in such world(s) **Henry would still believe *p***. So, **condition (iii) is NOT satisfied**!

- **Thus, Henry doesn’t know p** as per the intuitions of those who put forth this case.

Counterexample: Kripke's barns

- Henry **believes** that there is a red barn in an area. So, **condition (i) is satisfied**. The proposition *p*: 'There is a red barn in this area' is **true**. So, **condition (ii) is satisfied**.

  In the closest world(s), the barn is not red, e.g. it is yellow, but not fake. That is, *p* is not true in those worlds.

  Presumably in such world(s), **Henry would not believe *p***. **Condition (iii) is thus satisfied!**

- **Thus**, (provided condition iv is also satisfied) **Henry knows that *p***.

Counterexample: Kripke's barns (2)

- Because Henry believes there is a red barn, he also **believes** that there is a barn in this area, i.e. **condition (i) is satisfied**. The proposition *p':* 'There is a barn in this area' is **true.** So, **condition (ii) is satisfied**.

  In the closest world(s) the barn is fake, i.e. *p'* is false in those worlds. But **Henry still believes *p'*. So, condition (iii) is NOT satisfied**!

  Thus, **Henry doesn't know *p'***. That's regardless of whether condition iv is satisfied as condition iii is not satisfied.

  That seems **absurd**. According to Nozick's account, Henry knows that there is a red barn, i.e. *p*, but he doesn't know that there is a barn, *p'*.

The fourth condition

- Let us consider the fourth condition in more detail:

  (iv) If *p* were true, ***S* would believe *p***.

- Suppose *p* is true in the closest possible worlds but some other minor things are different.

  NB: I can't stress the importance of the latter, i.e. the other minor things being different, enough!!!

- If *S* would still believe *p* in those worlds, i.e. if they consistently tracking the truth like that, then we say that *S* knows *p*.

The clock case revisited

- *S* **believes** that it is 8:21. So, **condition (i) is satisfied**. The proposition 'The time is 8:21' is **true**. **Condition (ii) is satisfied**.

  Take the closest possible world(s) where *p* is true, i.e. it is 8:21. Suppose the clock in these world(s) stops at different times.

  Presumably, in such worlds ***S*** **would no longer believe** ***p***. So, **condition (iv) is NOT satisfied**!

  Thus, ***S*** **doesn't know** ***p***. This accords with the intuitions elicited in that counterexample.

In the same case (i.e. the clock case), is condition (iii) satisfied? Why? Why not?

The End