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# 2 Presuppositions and Epistemology

## 2.1 A puzzle

**A puzzle**

1. The meaning (lexical entry) of a name is simply its referent (Millianism). (A)

2. Therefore, any co-referring names are synonymous. (1)

3. For any synonymy $S$ holding between any expressions in natural language, it is knowable a priori (for anyone competent in the language(s)) that $S$ holds. (A)

4. Therefore, it is knowable a priori that co-referring names are synonymous. (2,3)

5. For any two referring expressions '$A$' and '$B$', if it is knowable a priori that '$A$' and '$B$' are synonymous and that '$A$' and '$B$' have referents, then it is knowable a priori that $A$ is $B$. (A)

6. Therefore, it is knowable a priori that Cicero is Tully. (4,5)

**Comments**

- Premise (5) seems true.
- Meanings are the lexical entries used by the extensional semantics, in the case of names $D_e$.
- The Millian could avoid the conclusion by stating the obvious: its not knowable a priori that Cicero and Tully refer. But premise (3) joined with the Millian proposal entails that it is knowable a priori that Cicero and Tully have the same meaning (and, so, refer). So this involves denying (3).
- My solution to the puzzle is just a fancy version of the obvious, but with a lot more range. The solution is compatible with premises (1) and (5), but not with the conclusion, so joined with (1) and (5) it entails (3)'s denial.

## 2.2 A solution

**The presuppositions of names**

- Uncontroversially, sentences which contain proper names generally *imply* that there is one (and only one) thing designated by the name (in some contextually restricted domain). E.g., "Sue quit smoking".
- But is this implication a presupposition? Some tests.
  - Hey wait a minute! Ceteris paribus, if it's acceptable to utter "hey wait a minute! I didn't know that $q$" in response to an utterance of some sentence $S$, $S$ presupposes that $q$.
  - Presuppositions *project* under embedding under modals, negation, etc. (example)
  - Local accommodation: a conditional's presuppositions are given by $A_1 \wedge ... \wedge A_n \wedge B_1 \wedge ... \wedge B_n$ (where $A_1, ..., A_n$ give the presuppositions of $A$ and $B_1, ..., B_n$ give the presuppositions of $B$ such that $\{A\} \nvdash B_i$).
    - If 'Bill' names the Queen of England, Bill lives in London.

**Presuppositions affect a priori knowability**

- For all sentences $S$ and propositions $p$ and $q$, if $S$ expresses $p$ and presupposes $q$, then $p$ is knowable a priori only if $q$ is knowable a priori. (Call this **'AK'**).
- Since 'Cicero is Tully' carries two existence presuppositions (one for each name), its content isn't knowable a priori.
- Nothing here that's incompatible with Millianism.

- **Intuition check**: The content of 'the queen of England is a queen' isn't knowable a priori, according to AK. But the content of the conditional 'if there is just one queen of England, the queen of England is a queen' may be knowable a priori (local accommodation).

**What notion of presupposition does AK invoke?**

- English sentences presuppose that the addressee speaks English. But its never knowable a priori that ones addressee speaks English. This makes AK seem implausible.
- Solution: restrict AK's focus to a special class of presuppositions (call them "presuppositions").
  - A sentence $S$ expressing $p$ presupposes $q$ iff either
    1. $p$ is a partial function mapping worlds into truth-values such that, for any world $w$ in which $\neg q$, $p(w)$ is undefined, or
    2. If $q$ is false in the world of evaluation, our extensional semantics cannot compute a meaning for $S$ in that world. E.g. $[\![\textbf{the}]\!] = \lambda f\ s.t.\ |\{x/f(x)\}| = 1\ [\lambda g\ [\{x/f(x)\} \subseteq \{x/g(x)\}]]$
- This solves the problem.
- Condition (2)'s obtaining in a world $w$ ensures that condition (1) will obtain when the propositional content of the sentence is evaluated at $w$ (not quite, but close enough).

# 3 Presuppositions and Frege's Puzzle

## 3.1 Frege's puzzle and a related puzzle

**The puzzles**

- **AK puzzle**: it seems that even if the presuppositions of 'Cicero is Tully' were knowable a priori, it wouldnt be knowable a priori that Cicero is Tully. So AK can't be the whole story here.
- **Frege's puzzle**: roughly, how is it that an utterance of 'Cicero is Tully' can be informative for someone who knows both Cicero and Tully, but doesnt know them to be the same?
  - Solution: when a processor processes a name, it pays attention to just the presuppositional content of the name (the basic idea is from B. Geurts [1997] and E. Swanson [2006]).

## 3.2 Information states and DRT

**Information States**

- We partially represent the pre-utterance information state of someone who can interpret an utterance of 'Cicero is Tully' (and for whom the utterance will be informative) as follows:
  - ($I_1$) $\exists!x\exists!y[is\ named\ `Cicero'(x) \wedge is\ named\ `Tully'(y)]$
- The agent responds to the utterance by updating her information state, plausibly as follows:
  - ($I_1$) $\exists!x\exists!y[named\ `Cicero'(x) \wedge named\ `Tully'(y)]$
  - ($I_2$) $\exists!x\exists!y[named\ `Cicero'(x) \wedge named\ `Tully'(y) \wedge x = y]$
  - ($I_3$) $\exists!x[named\ `Cicero'(x) \wedge named\ `Tully'(x)]$
- **Comment**: intuitively, the processor interprets the name as a presupposition tag (cf. Geurts [1997]). She checks her information state to locate the part that has the presuppositional content of the name written on it, then she writes *a little bit more on it*, per the utterance.

**Doxastic Change Potential**

- Let the doxastic change potential (DCP) of an utterance in some language $L$ refer to the information-state *update instruction* a competent processor of $L$ will interpret the utterance as giving.
- So the DCP of an utterance of 'Cicero is Tully' is plausibly the following ordered sequence of instructions ('/' is a replace directive):
  - $\langle I_1/I_2,\ I_2/I_3\rangle$
- Note: In order to conform to the DCP, the addressee must first add $I_1$ to her information state. This is *presupposition accommodation* in Lewis' sense.

## 3.3 Some solutions

**Solutions**

- So we say that an utterance with DCP $\phi$ will be informative to some subject $K$ iff $K$'s conforming to $\phi$ alters $K$'s information state.
- **Comment**: this ensures that an utterance of 'Cicero is Tully' will be informative for a subject whose pre-utterance information state does not require the individuals satisfying the formulas $named\ `Cicero'(x)$ and $named\ `Tully'(y)$ to be identical).

- We can also explain why it would not be knowable a priori that Cicero is Tully, even if the presuppositions of each name were knowable a priori. Plausibly, the content of a sentence with DCP $\phi$ is knowable a priori only if the information state that results from conforming to $\phi$ is knowable a priori.
  - $I_3$ would not be knowable a priori, even in such a situation.

# 4 Presuppositions and the contingent a priori

## 4.1 Kripke's case

**Kripke's case and an objection**

- We stipulate that the length of a stick named '$S$' is one meter, by way of fixing a meaning for 'one meter.'
- According to Kripke, the sentence **'the length of $S$ is one meter'** is contingent, since 'the length of $S$' non-rigidly designates the length of $S$, while 'one meter' rigidly designates the same.
- The sentence's content is known a priori, says Kripke, since we know it "automatically, without further investigation."
- **Worry**: if AK is right, we cannot know the sentence's content a priori. But if we conditionalize as below, we do get something that is plausibly knowable a priori.
  1. $\exists!x[length\ of\ S(x)] \rightarrow$ the length of $S$ is one meter

  This works because conditionalizing filters presuppositions (local accommodation).

## 4.2 Bound or free?

**Bound or free?**

- Note: if it is false that $\exists!x[length\ of\ S(x)]$ then the stipulation *fails to fix a lexical meaning* for 'one meter', and the semantics cannot compute a meaning for (1).
- So, by condition (2) of our earlier definition, 'one meter' bears the presupposition that $\exists!x[length\ of\ S(x)]$. AK says that this presupposition will need to be locally accommodated by (1)'s antecedent in order to achieve a sentence whose content is knowable a priori.
- But, when the presuppositions of some expression $\phi$ occurring in the consequent of a conditional $A \rightarrow ...\phi...$ are locally accommodated by $A$, this will induce a *bound* interpretation of $\phi$. Call this claim the **binding hypothesis**.

**Bound or free?**

- To illustrate the binding hypothesis, note that there are *two readings* for 'the king of France' in the sentence 'if there is just one king of France, the king of France is male': a local accommodation (bound) reading and a projection (free) reading. (The former is not associated with a sense of presupposition failure, while the latter is.)
- The *local accommodation reading* is represented as follows.

  $\exists!x[\textit{king of France}(x)] \rightarrow x$ is a king

  That's to say, on the local accommodation reading of the sentence, 'the king of France' is represented as a *variable* bound by quantificational material in the sentence's antecedent.

**Bound or free?**

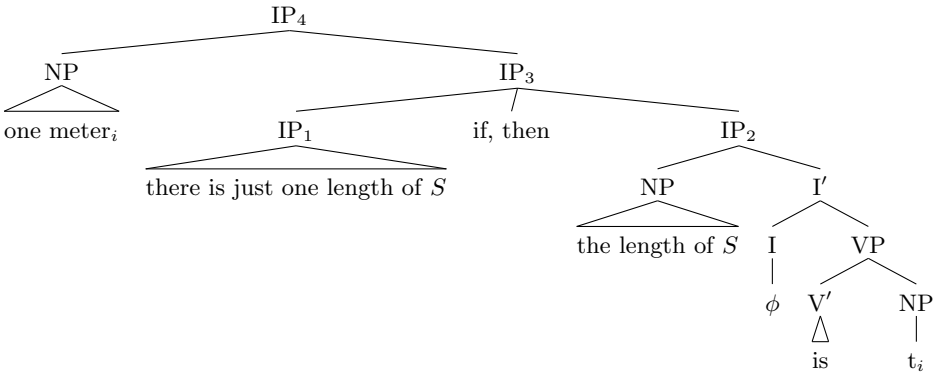
- Applying this model to sentence (1) yields the following representation:

  $\exists!x[\textit{length of } S(x)] \rightarrow x$ is $x$

- But this sentence is obviously **necessary**, not contingent.
- There is a contingent reading of (1), but by the binding hypothesis, it is not a local accommodation reading. So on the contingent reading, the presupposition of 'one meter' will project (i.e., it will be carried by the entire conditional). So, by AK, the content of the conditional cannot be known a priori.

**Bound or free?**

- We might try to block binding by scoping 'one meter' out of the consequent and giving it scope over the entire sentence, as follows.



**Bound or free?**

- Scoping out 'one meter' does seem to yield something contingent.
- But the presuppositions of 'one meter' will not be locally accommodated, since syntactic filtering of the presuppositions of some piece of syntax $\phi$ by another piece of syntax $\psi$ is not possible when $\phi$'s scope includes $\psi$.
- So this reading of the conditional will carry the presupposition that $\exists!x[\textit{length of } S(x)]$. Since this isn't knowable a priori, according to AK, neither is the content of the contingent reading of the conditional.