Negation and Alternatives in Conditional Antecedents

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1. Summary

How are we to decide between the many semantic frameworks available today? We compared semantic frameworks for alternatives by testing their predictions concerning the effects of negation on alternatives in conditional antecedents.

2. Background

- Many semantic frameworks today make use of alternatives, where expressions sets of their traditional denotations.
- These theories differ on the interaction between negation and alternatives, e.g.: In alternative and inquisitive semantics, negated sentences have a single alternative (Alonso-Ovalle, 2006; Ciardelli et al., 2018a).
- In other frameworks, negated sentences can have multiple alternatives (e.g. Fine, 2017; Willer, 2018; Schulz, 2018).
- In many semantics of conditionals, alternatives play an essential role (see (1)).
- This means that the question of which semantic framework to adopt is an empirical question, one that can be experimentally tested using conditional antecedents.

3. Theories

(1) Conditional semantics with alternatives (Ciardelli, 2016). If $A, C$ is true iff for every alternative $p$ of $[A]$, there is an alternative $q$ of $[C]$ such that $p \equiv q$ holds, where $\equiv$ is given by one’s favorite semantics of conditionals, defined over propositions.

Fine (2012) and Willer (2018) predict $T_1$ to be true, and equivalent to $T_2$, by De Morgan’s Law:

$$\neg(A \lor B) \equiv \neg A \land \neg B \equiv \neg A \lor \neg B \equiv A \lor B$$

Schulz (2018) points out that, according to both the similarity approach and Ciardelli et al. (2018b)’s background semantics, if $A$ has one alternative and $B$ is currently true, then $A \land B$ is equivalent to $B$ in counterfactual antecedents. Since $\neg$ negation flattens alternatives in alternative and inquisitive semantics, and $\neg A$ is actually true, these theories predict $T_3$ to be true.

Schulz (2018) proposes that negation introduces an extra requirement: $$\neg S$$ is the set of states that (i) are truth-conditionally incompatible with $S$, and (ii) specify all and only the values of each atomic sentence in $S$ (binary: true/false, or $n$-ary).

8. References