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Exclusification in conditional antecedents

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Hurford's constraint

- (1) If switch B was up, or switches A and B were up, the light would be on.
- (2) # If John were from Paris or France, he would speak French.

(2) violates Hurford's constraint

- Hurford (1974)
- Typically explained in terms of **redundancy** (Simons, 2001; Katzir and Singh, 2013; Meyer, 2013, 2014; Ciardelli et al., 2017)

Why does (1) not violate Hurford's constraint?

Exclusification

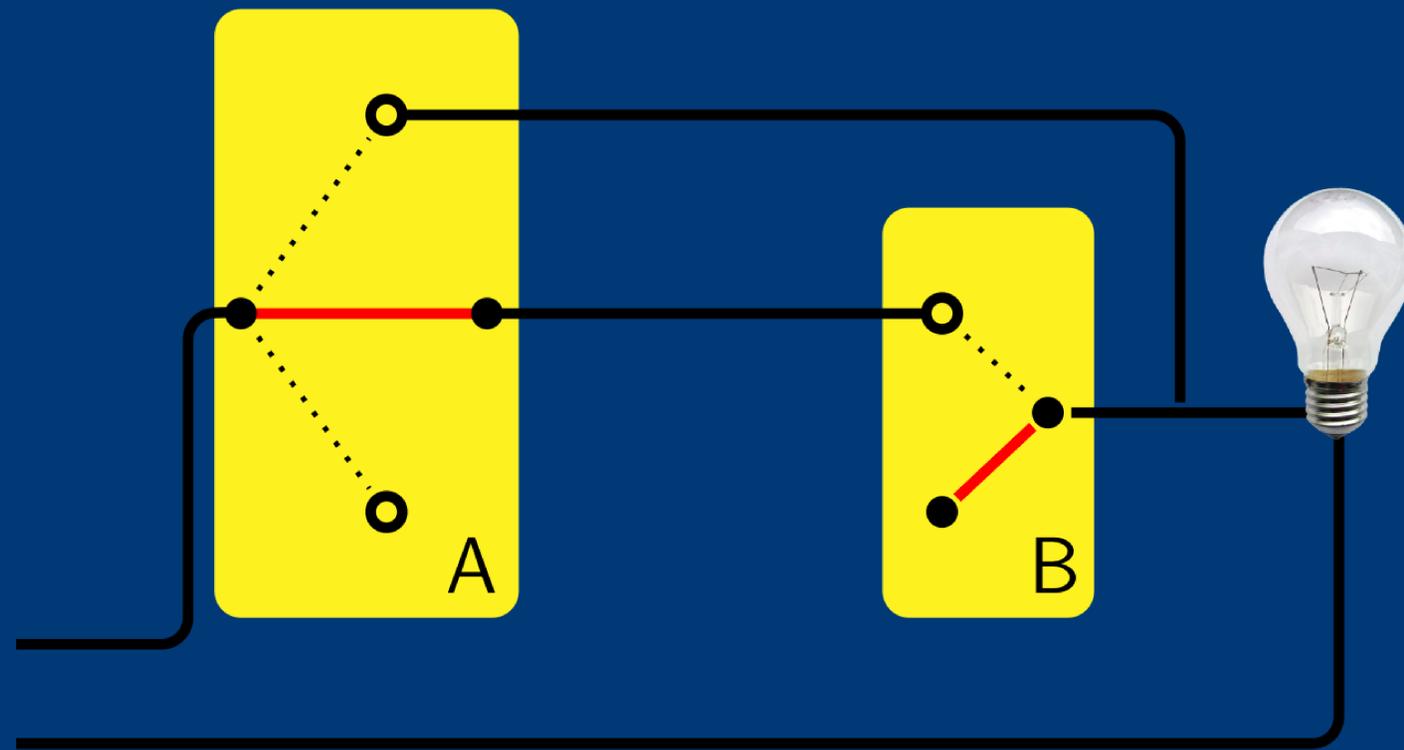
- (3) $\text{exh}(P, \text{alt})$
 $= P \wedge \forall Q \in \text{alt} : \neg(P \rightarrow Q) \rightarrow \neg Q$
- (4) $\text{alt}(B \vee (A \wedge B)) = \{A, B\}$
- (5) $\text{exh}(B) \vee \text{exh}(A \wedge B)$
 $= (B \wedge \neg A) \vee (A \wedge B)$

- (1) If switch B was up, or switches A and B were up, the light would be on.
- (6) If switch B was up but not A, the light * would be on.

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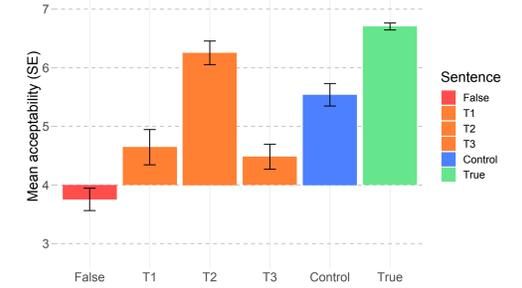
Evidence from conditional antecedents suggests that semantic content is remarkably fine-grained.



If switch B was up, or switches A and B were up, the light would be on.

M-turk experiment

joint work with Alexandre Cremers



- $A \text{ mid} \wedge B \text{ down} > \text{on}$ (False)
- $\neg\neg(A \text{ up} \vee B \text{ up}) > \text{on}$ (T1)
- $(A \text{ up} \vee B \text{ up}) > \text{on}$ (T2)
- $(B \text{ up} \wedge \neg A \text{ up}) > \text{on}$ (T3)
- $\neg B \text{ down} > \text{on}$ (Control)
- $\neg A \text{ up} > \text{on}$ (True)

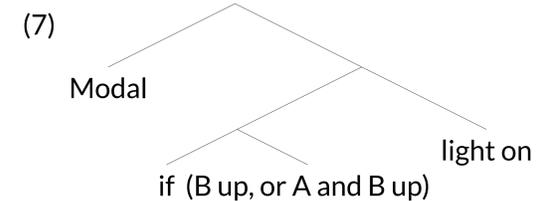
Cumulative link mixed model ($N = 192$):

- T1 and T3 rated significantly lower than control (both $z < -2.5, p < .01$)
- T2 was rated significantly higher than control ($z = 2.1, p = .039$)
- Posthoc comparison of targets T1 and T3 revealed no difference between the two ($z = -0.5, p = .62$)

Semantic frameworks

- Possible worlds (Stalnaker, 1968; Lewis, 1973): $\llbracket B \vee (A \wedge B) \rrbracket = \llbracket B \rrbracket$
- Inquisitive semantics (Ciardelli et al., 2018): $\llbracket B \vee (A \wedge B) \rrbracket = \llbracket B \rrbracket$
- Alternative semantics (Alonso-Ovalle, 2009): $\llbracket B \vee (A \wedge B) \rrbracket = \{|B|, |A| \cap |B|\} \neq \{|B|\} = \llbracket B \rrbracket$
- Truthmaker semantics (Fine, 2012)

Counterfactual exhaustification



- $\text{exh}_Q(\text{switch B is up})$ (Q : What happened to the switches?)
- Switch B is up, and **nothing** happened to switch A
- $\forall w' \in \underline{f}(\text{switch B is up}, w) :$
switch B is up in w' , and w' agrees with w on the position of switch A