**1. Background: acceptability puzzle**

Wh-questions can be conjoined but they cannot always be disjoined (Szabolcsi 1997):

1. Who did you marry and where do you live?
2. Who did you marry or where do you live?

But some disjoined WhQs are fine (Ciardelli et al., 2015; Hirsch, 2017):

3. Where can we rent a car or who might have one that we could borrow?

Potential approaches to this puzzle:

- **Syntactic** route: conjunction and disjunction simply have different syntactic properties.
- **Semantic** route (Szabolcsi 1997): questions as partitions; the union of two partitions does not yield another partition.
- **Speech acts** route (Krieka 2001): questions as speech acts, which can be conjoined (sequenced) but not disjoined.
- **Pragmatic** route (Ciardelli et al., 2015): questions can be disjoined, but (2) is odd for pragmatic reasons: it is difficult to construe a single decision problem which makes the resolutions of both disjuncts relevant.

Approaches $$(1, 2, 3)$$ can capture the contrast in (1) vs. (2), but not (2) vs. (3).

The debate has focused so far on wh-questions. We argue that non-wh-questions shed new light on the issue. We focus on three types of non-wh-questions:

4. **Disjoined PolQs**

   - The question in (5) can be resolved in three ways:
     - (i) Mary speaks Spanish
     - (ii) Mary speaks French
     - (iii) Mary speaks neither.

   The disjunction itself contributes the first two alternatives, while the third alternative is added by the $\lor$ operator:

   $$\neg P \lor \neg Q \lor (P \land Q)$$

   Crucially, (5) does not correspond to a disjunction of PolQs:

   $$\neg P \lor Q$$

   (5) A: Does Mary speak Spanish? or does she speak French?
   B: She does not speak Spanish but she does speak French.

   The same point can be made based on mixed polar/wh-interactive:

   - (6) When is the bus coming and can Sue pick us up at the bus stop?
   - (7) A: When is the bus coming or can Sue pick us up at the bus stop?
   - B: The bus isn’t coming.
   - B': Sue can’t pick us up.
   - B": Sue will pick us up.

5. **The puzzle: missing readings**

   - In (4) we have a question operator in each conjunct, but in (5) the question operator scope over the disjunction.
   - Therefore, (4) is a conjunction of two PolQs, but (5) is not a disjunction of PolQs.

   While the contrast we saw in (1-3) concerned acceptability, the puzzle here is to account for missing readings.

Potential approaches:

- **Pragmatic** route: unclear how to extend the missing readings puzzle, since all alternatives of $\lor \neg P \lor \neg Q$ are relevant w.r.t. an easily construable decision problem.
- **Semantic** route: It has been proposed that each alternative in a question meaning must correspond one-to-one to a cell in the partition that represents the underlying decision problem (Fox, 2018). This constraint cannot be satisfied by $\lor \neg P \lor \neg Q$.

   - However, it is not clear why decision problems always have to be partitions; think of mention-some scenarios.
   - **Commitment** route: does not add the negative answer in the semantics; rather, it signals lack of speaker commitment to the informative content of the sentence, which pragmatically licenses the negative answer (Westerna 2017, cf. Rudin 2019).

   - This can capture that it seems to scope over the disjunction, but cannot directly account for the contrast between conjunction and disjunction.

- **Speech act** route cannot account for the contrast between (2) and (3), but can potentially solve the missing readings puzzle: both responsible for addition of complement alternative as well as illocutionary force.

6. **Analysis in terms of speech acts (building on Krieka 2001)**

   **Crucial assumptions**:
   - ForcePs express speech acts; in particular, $\downarrow$ turns its prejacent into a speech act.
   - Speech acts are functions mapping one discourse context to another.
   - Discourse contexts are not simple set-theoretic objects; they cannot be disjoined.
   - This could be implemented as follows (Farkas & Bruce 2010; Roelofsen & Karsav 2017): $\Delta$

   - **(8) A discourse context C is a triple (A, T, CS), where**
     - A is the set of discourse participants;
     - T is a stack of props, representing the Table;
     - CS is a function mapping each participant $a \in A$ to a set of props that $a$ is publicly committed to.

   - **(9) Updating** a discourse context with $\varphi, C[\varphi]_a$ means:
     - 1. Adding $\varphi$ to T.
     - 2. Adding $\varphi$ to CS(a).

   - At the propositional level and below, conjunction expressions generalized intersection.
   - At the speech act level, conjunction expresses function composition: a conjunction of ForcePs corresponds to consecutive update with each conjunct.

   - **(10) Updating a context with $\varphi$ and $\psi$, C[\varphi \land \psi]_a$ means**:
     - 1. Adding $\varphi$ to T.
     - 2. Adding $\psi$ to CS(a).

   - Speech act disjunction is impossible. Taking the union of two update functions would not yield another update function. Taking the union of the output contexts generated by the two disjuncts would not yield another output context either.

   - If disjunction can only express generalized union, it follows that full ForcePs cannot be disjoined.

7. **Embedding**

   In embedded environments a disjunction of two PolQs is ruled out as well:

   - (11) John wonders whether or not Mary speaks Spanish $\downarrow$ wonder(j, $\varphi$)
   - (12) John wonders whether or not Mary speaks S. and whether or not Mary speaks F. $\downarrow$ wonder(j, $\varphi \land \varphi$) or equivalently: wonder(j, $\varphi \lor \neg \varphi$) wonder(j, $\varphi$).
   - (13) John wonders whether or not Mary speaks S. or whether or not Mary speaks F. $\downarrow$ wonder(j, $\varphi \lor \neg \varphi$)

   - To extend our account to embedded interrogatives, we need to assume that speech acts can be embedded (cf. McCloosey, 2006, Krieka, 2014).

   - We have to assume an operator to resolve the mismatch this creates:

   - (14) wonder [Op ? [whether Mary speaks French] ]

   - The operator Op takes a speech act and turns it into a set of propositions.

   - (15) Op $\downarrow$ $\lambda$A Tab, where:
     - $C[A]$ is the initial discourse context updated with speech act A, and
     - Tab is the intersection of all proposition sets on the Table, i.e. the proposition set $\bigcap \{P | P \in T\}.$

   - Op cannot just be inserted anywhere; otherwise disjoining ForcePs would become possible again. To ensure this, Op could be seen as part of the embedding predicate.

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