

Scalarity, information structure and relevance in varieties of Hurford Conditionals★

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Puzzle

Mandelkern and Romoli (2018) observed that an asymmetry arises in Hurford Conditionals (HC) like (1). **The asymmetry disappears in HCs involving scalemates (2).**

- (1) a. If Jo studied in **France** she did not study in **Paris**. $p \rightarrow \neg p^+$
 b. # If Jo did not study in **Paris** she studied in **France**. $\neg p^+ \rightarrow p$
- (2) a. If Jo has read **some** of the books she hasn't read **all**.¹ $s \rightarrow \neg s^+$
 b. If Jo hasn't read **all** of the books she has read **some**. $\neg s^+ \rightarrow s$

This pattern is surprisingly opposite to the disjunctive case (Gazdar, 1979; Hurford, 1974; Singh, 2008).

- (3) a. # Jo studied in **France** or **Paris**. $p \vee p^+$
 b. # Jo studied in **Paris** or **France**. $p^+ \vee p$
- (4) a. Jo read **some** or **all** of the books. $s \vee s^+$
 b. ?? Jo read **all** or **some** of the books. $s^+ \vee s$

The pattern of (3-4) was previously explained by assuming that whatever constraint $\mathcal{C}$ bans (3) gets obviated by *exh* (Fox, 2007) in (4a) but not (4b). Behind this is the idea that *exh* is incrementally weakening (IW) in (4b), and so fails to be inserted (Fox & Spector, 2018). But no implementation of $\mathcal{C}$ can cover the full pattern (1-4): either $\mathcal{C}$ cannot capture (1) (Katzir and Singh, 2014 a.o.), or can (Kalomoiros, 2024), but together with IW cannot get (2b). Assuming IW is not active in conditionals may help explain (2), but runs into a challenge with the “Long-Distance” Hurford Conditionals (LDHC) in (5).

- (5) a. ? If Jo studied in **France** she didn't study in **Paris** or **Brussels**. $p \rightarrow \neg(p^+ \vee r)$
 b. # If Jo didn't study in **Paris** or **Brussels** she studied in **France**. $\neg(p^+ \vee r) \rightarrow p$

¹(1a) might not sound perfect – which in fact represents an extra challenge for existing theories of HCs. My full framework, including Q-Redundancy (Hénót-Mortier, 2024a, 2024b), predicts (1a) to be odd. This is assuming negation is transparent w.r.t. information structure, which is maybe a bit simplistic.

Upshot

We keep IW and explain (1-5) based on 3 ideas:

- Questions under Discussion (QuD, Roberts, 1996) are compositionally accommodated when processing out-of-the-blue declaratives;
- scalemates may answer same-granularity QuDs;
- QuD computation is constrained by Q-Relevance (Hénót-Mortier, 2024a).

The HCs in (2) avoid violating Q-Relevance, because their consequent can evoke a question that is fine-grained enough to “fit” the question introduced by their antecedent. (1a) can do the same, but crucially not (1b).

QuD-dependence: $\vee$ vs. $\rightarrow$

In a context like (6), (LD)HCs improve (cf. Haslinger, 2023 for similar effects on disjunctions/conjunctions).

- (6) Context: French accents vary across countries and between Paris and the rest of France.

Al: I'm wondering where Jo learned French.

Lu: I'm not completely sure but... (1b) ✓(5b) ✓

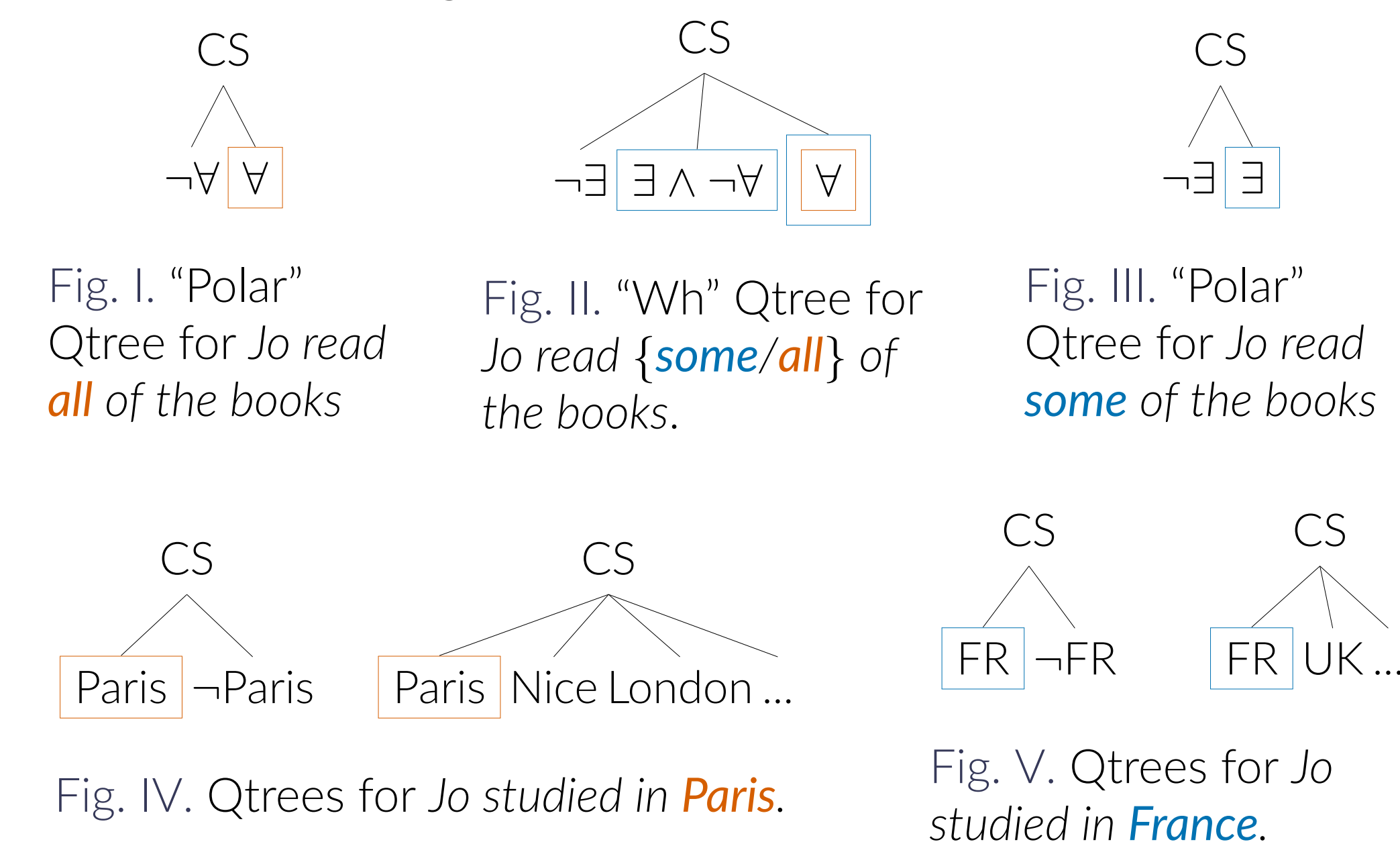
This suggests that (6) makes salient a specific partition of the Context Set, which can coerce the pragmatic interpretation of assertions – making them able to answer a different question than the one they use to. Additionally, conditionals and disjunctions seem to accommodate distinct QuDs. To show this, we use the construction *depending on Q, p* (Karttunen, 1977; Kaufmann, 2016). This construction has been argued to force the partition conveyed by Q to match specific live issues raised by *p*.

- (7) Depending on [how her accent sounds like]_Q...
- a. Jo grew up in France **or** in Belgium. $p \vee q$
 b. ?? **if** Jo didn't grow up in France she grew up in Belgium. $\neg p \rightarrow q$
 c. ? **if** Jo didn't grow up in France, she grew up in Belgium **or** in Québec. $\neg p \rightarrow (q \vee r)$

The contrast between (7a) and (7b) then suggests that disjuncts are both live issues while (negated) antecedent and consequent are not. The improvement between (7b) and (7c) also implies that the issues targeted by *depending on Q*, when *p* is conditional, are the ones made available by the consequent of *p* (which is appropriately disjunctive in (7c)). We now focus on explaining the novel datapoints (2).

Implicit QuDs and granularity

We represent QuDs as trees (Büring, 2003; Hénót-Mortier, 2024a; Zhang, 2024) parsing the Context Set. We call them Qtrees. **Out-of-the-blue assertions evoke candidate Qtrees in a compositional fashion. Assertions also indicate how they answer each of their potential Qtrees by flagging some of their nodes.** Intuitively, *Paris* and *France* answer questions of distinct granularity (*which city?/which country?*)² while *some* and *all* may answer the same question (*how many/much?*). This is cashed out in Figs. I-V



To build Qtrees from negated sentences, we assume the tree structure is retained, and the flagged nodes get flipped. For conditionals (but not disjunctions!), one takes a Qtree for the antecedent and replaces each flagged node by its intersection with a Qtree for the consequent. This is exemplified in Figs. VI-IX.

²Paris and France may both answer a more general *where?*-question, but we can imagine this question is coerced by the speaker into a more specific question (e.g. *which city?*), depending on how informed the speaker is.

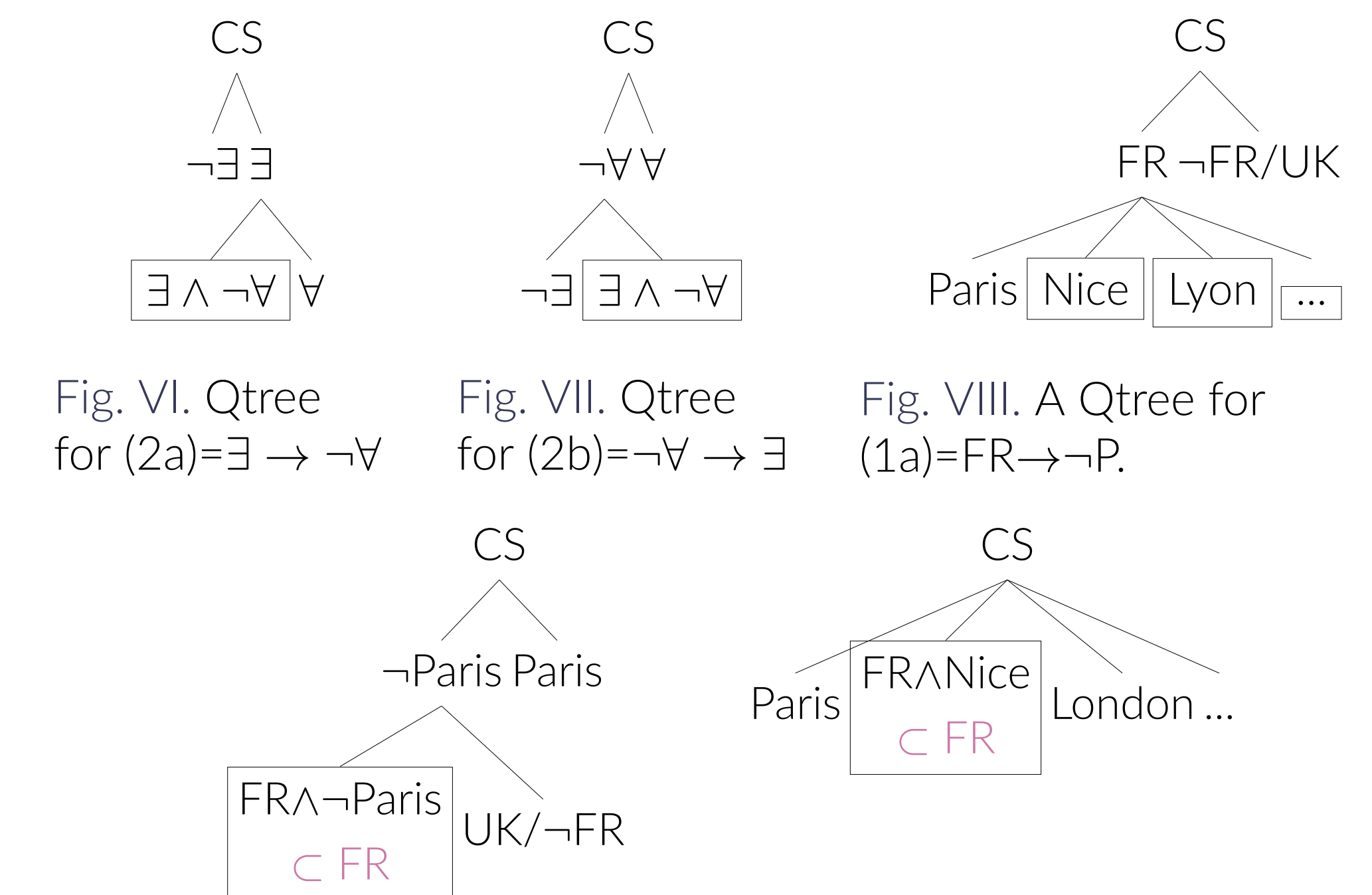


Fig. IX. All Qtrees for (1b)= $\# \neg P \rightarrow F$.

A problem of Relevance

Hénót-Mortier (2024a) defined Q-Relevance as a constraint on Qtree computation: when combining Qtrees incrementally, **none of the flagged nodes of the input Qtree should be cut across** (i.e. be strictly entailed by some node) in the output Qtree. This allowed to capture (1). Indeed, in the Qtree for (1a) in Fig. VIII, all flagged leaves of the consequent are contained in some leaf of the antecedent Qtree. But in the Qtrees for (1b) in Fig. IX, the *France* flagged leaves are always cut across.

The same reasoning shows that the Qtrees corresponding to (2a) and (2b), in resp. Fig. VI and VII, verify Q-Relevance. Qtree VI can be built from the antecedent Qtree III and a Qtree like II (modulo flipped flagged nodes) for the consequent, whose flagged nodes (which become $\neg \exists / \exists \wedge \neg \forall$ after negation) are not cut in the process. Qtree VII can be built from Qtrees I (antecedent), and II (consequent), whose flagged nodes ($\forall / \exists \wedge \neg \forall$) are not cut in the process. **In brief, (1a-b) are rescued, not by *exh* (IW!), but by the fact their consequent can evoke a Qtree whose flagged nodes are fine-grained enough to properly “fit” the structure already introduced by the antecedent Qtree.** This easily extends to LDHCs.

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