Scalarity, information structure and relevance in varieties of Hurford Conditionals

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Abstract

1 Introduction

Hurford Disjunctions (Hurford 1974) are disjunctions involving entailing disjuncts, and generally appear infelicitous (1), regardless of the linear order of the disjuncts.

(1) a. # Mary studied in France or Paris. $\mathbf{p} \vee \mathbf{p}^+$
b. # Mary studied in Paris or France. $\mathbf{p}^+ \vee \mathbf{p}$

Gazdar (1979) observed that infelicity disappears when (i) the Hurford disjuncts are scalemates, and (ii) the **weak** disjunct precedes the **stronger** one, as in (2-a). However, when the order of the two disjuncts is reversed, as in (2-b), infelicity remains (Singh 2008).

(2) a. Mary read some or all of the books. $\mathbf{s} \vee \mathbf{s}^+$
b. ??Mary read all or some of the books. $\mathbf{s}^+ \vee \mathbf{s}$

This linear asymmetry has received several accounts (Singh 2008; Fox and Spector 2018; Tomioka 2021; Hénot-Mortier 2022 i.a.). All accounts capitalize on the idea that (2-a) can be rescued *via* a local scalar implicature within the first disjunct (allowed by the covert operator *exh*, Fox 2007; Spector, Fox, and Chierchia 2008); while (2-b) cannot, due to an interaction between the first disjunct, and the licensing/timing of *exh* in the second disjunct.

In particular, Fox and Spector (2018) suggest *exh* should not be applied to an expression E if it turns out to be Incrementally Weakening (IW), i.e., if it leads to an equivalent/weaker meaning, given what precedes E, and no matter the continuation γ. Under this approach, the contrast in (2) is due to the fact *exh* is not IW in the first disjunct of (2-a), as proved in (3-a), while it is in the second disjunct of (2-b), as proved in (3-b).[1]

(3) a. $\forall\gamma.\ \text{exh}(\mathbf{s}) \vee \gamma \equiv (\mathbf{s} \wedge \neg \mathbf{s}^+) \vee \gamma \not\equiv \mathbf{s} \vee \gamma$
b. $\forall\gamma.\ \mathbf{s}^+ \vee \text{exh}(\mathbf{s}) \equiv \mathbf{s}^+ \vee (\mathbf{s} \wedge \neg \mathbf{s}^+) \equiv (\mathbf{s}^+ \vee \mathbf{s}) \wedge (\mathbf{s}^+ \vee \neg \mathbf{s}^+) \equiv \mathbf{s}^+ \vee \mathbf{s}$

With related conditionals obtained *via* the or-to-if tautology, the opposite pattern holds: as observed by Mandelkern and Romoli (2018), an asymmetry arises when the antecedent and consequent are *not* natural scalemates as in (4). Such conditionals were dubbed Hurford Conditionals (henceforth HC). Interestingly, we observe that the asymmetry *disappears* in HCs involving scalemates (5).

(4) a. If Mary studied in France she did not study in Paris. $\mathbf{p} \rightarrow \neg \mathbf{p}^+$
b. #If Mary did not study in Paris she studied in France. $\neg \mathbf{p}^+ \rightarrow \mathbf{p}$

[1] (1-a) cannot be rescued like (2-a), either because *Paris* is not a natural alternative to *France* out-of-the blue, or because exhaustifying *France* by-city would lead to a symmetry problem (Kroch 1972; Fox 2007).

(5) a. If Mary has read some of the books she hasn't read all. $\mathbf{s} \rightarrow \neg\mathbf{s}^+$
b. If Mary hasn't read all of the books she has read some. $\neg\mathbf{s}^+ \rightarrow \mathbf{s}$

Kalomoiros (2024) proposed an extension of the Local Redundancy constraint posited by Katzir and Singh (2014) to account for Hurford Disjunctions. This extension, called Super Redundancy, is spelled out in (6).

(6) Super Redundancy. A sentence S is infelicitous if it contains a subconstituent C s.t. $(S)^-_C$ is defined and for all D, $(S)^-_C \equiv S_{Str(C,D)}$. Where:
- $(S)^-_C$ designates S where C got deleted
- $Str(C,D)$ refers to a strengthening of C with D, defined inductively and whose key property is that it commutes with negation: $Str(\neg\alpha, D) = \neg(Str(\alpha, D))$ – as well as with binary operators $Str(O(\alpha,\beta), D) = O(Str(\alpha, D), Str(\beta, D))$.
- $S_{Str(C,D)}$ designates S where C is replaced by $Str(C,D)$.

Given this constraint, (4-b) is Super-Redundant (henceforth SR), because any local strengthening of its antecedent yields an expression equivalent to its consequent, as shown in (7-b). (4-a) on the other hand, is not SR, as proved in (7-a).

(7) a. Take $D = \top$. $\mathbf{p} \rightarrow \neg(\mathbf{p}^+ \wedge D) \equiv \mathbf{p} \rightarrow \neg(\mathbf{p}^+ \wedge \top) \equiv \mathbf{p} \rightarrow \neg\mathbf{p}^+ \not\equiv \mathbf{p}$
Take $D = \bot$. $(\mathbf{p} \wedge D) \rightarrow \neg\mathbf{p}^+ \equiv (\mathbf{p} \wedge \bot) \rightarrow \neg\mathbf{p}^+ \equiv \bot \rightarrow \neg\mathbf{p}^+ \equiv \top \not\equiv \neg\mathbf{p}^+$
b. $\forall D.\ \neg(\mathbf{p}^+ \wedge D) \rightarrow \mathbf{p} \equiv (\mathbf{p}^+ \wedge D) \vee \mathbf{p} \equiv \mathbf{p}$

What about (5-a) vs. (5-b)? (5-a) amounts to (4-a) given that *exh* is IW in the antecedent and the consequent (even when above negation), whether the conditional is material or strict. This is shown in (8).

(8) a. *exh* is IW in the antecedent of (5-a).
$\forall\gamma.\ \text{exh}(\mathbf{s}) \rightarrow \gamma \equiv \neg(\mathbf{s} \wedge \neg\mathbf{s}^+) \vee \gamma \equiv \neg\mathbf{s} \vee \mathbf{s}^+ \vee \gamma \dashv \neg\mathbf{s} \vee \gamma \equiv \mathbf{s} \rightarrow \gamma$
$\forall\gamma.\ \forall w : \text{exh}(\mathbf{s})(w).\ \gamma(w) \equiv \forall w : \mathbf{s}(w) \wedge \neg\mathbf{s}^+(w).\ \gamma(w) \dashv \forall w : \mathbf{s}(w).\ \gamma(w) \equiv \mathbf{s} \rightarrow \gamma$
b. *exh* is IW in the consequent of (5-a).
$\forall\gamma.\ \mathbf{s} \rightarrow \text{exh}(\neg\mathbf{s}^+) \equiv \mathbf{s} \rightarrow (\neg\mathbf{s}^+ \wedge \mathbf{s}) \equiv \neg\mathbf{s} \vee (\neg\mathbf{s}^+ \wedge \mathbf{s}) \equiv \neg\mathbf{s} \vee \neg\mathbf{s}^+ \equiv \mathbf{s} \rightarrow \neg\mathbf{s}^+$
$\forall\gamma.\ \forall w : \mathbf{s}(w).\ \text{exh}(\neg\mathbf{s}^+)(w) \equiv \forall w : \mathbf{s}(w).\ \neg\mathbf{s}^+(w) \wedge \mathbf{s}(w) \dashv \forall w : \mathbf{s}(w).\ \mathbf{s}^+(w) \equiv \mathbf{s} \rightarrow \mathbf{s}^+$

(9) show that this extends to (5-b), which turns out to be problematic. Given that *exh* is IW in both the antecedent and the consequent of (5-b), SR incorrectly predicts (5-b) to pattern like (4-b), i.e. to be infelicitous.

(9) a. *exh* is IW in the consequent of (5-b).
$\forall\gamma.\ \neg\mathbf{s}^+ \rightarrow \text{exh}(\mathbf{s}) \equiv \neg\mathbf{s}^+ \rightarrow (\mathbf{s} \wedge \neg\mathbf{s}^+) \equiv \mathbf{s}^+ \vee (\mathbf{s} \wedge \neg\mathbf{s}^+) \equiv \mathbf{s}^+ \vee \mathbf{s} \equiv \neg\mathbf{s}^+ \rightarrow \mathbf{s}$
$\forall\gamma.\ \forall w : \neg\mathbf{s}^+(w).\ \text{exh}(\mathbf{s})(w) \equiv \forall w : \neg\mathbf{s}^+(w).\ \mathbf{s}(w) \wedge \neg\mathbf{s}^+(w) \equiv \forall w : \neg\mathbf{s}^+(w).\ \mathbf{s}(w) \equiv \neg\mathbf{s}^+ \rightarrow \mathbf{s}$
b. *exh* is IW in the antecedent of (5-b).
$\forall\gamma.\ \text{exh}(\neg\mathbf{s}^+) \rightarrow \mathbf{s} \equiv (\neg\mathbf{s}^+ \wedge \mathbf{s}) \rightarrow \mathbf{s} \equiv \mathbf{s}^+ \vee \neg\mathbf{s} \vee \mathbf{s} \equiv \top \dashv \neg\mathbf{s}^+ \rightarrow \mathbf{s}$
$\forall\gamma.\ \forall w : \text{exh}(\neg\mathbf{s}^+)(w).\ \mathbf{s}(w) \equiv \forall w : \neg\mathbf{s}^+(w) \wedge \mathbf{s}(w).\ \mathbf{s}(w) \equiv \top \dashv \mathbf{s}^+ \rightarrow \mathbf{s}$

To capture the pattern (2) while retaining the right predictions for (1), (2) and (4), we propose an alternative to Super Redundancy based on two ideas: the idea that Questions under Discussion (QuD,Roberts 1996; Büring 2003; Riester 2019; Onea 2016; Zhang n.d.) are accommodated in a compositional way when processing out-of-the-blue declaratives; and the idea that QuD computation is constrained by a new notion of relevance.

2 A compositional theory of accommodated QuDs

Here we entertain the idea that out-of-the-blue, simplex declarative expressions evoke the potential QuDs they may answer, and that whenever such expressions combine *via* logical operators, so do their respective QuDs. We motivate this view by first showing that disjunctions and conditionals are differentially sensitive to *overt* QuDs. We take this as evidence that, in the absence of an overt QuD, disjunctions and conditionals accommodate different kinds of implicit QuDs.

2.1 QuD-sensitivity of HCs vs. HDs

If a context contrasting *Paris* and *France but not Paris* is set as in (10), (4-b) improves (cf. Haslinger 2023 for similar effects on disjunctions and conjunctions). This is strange: even if the context and question made *Paris* (but no other French city) a relevant alternative to *France*, *exh* would remain IW in the consequent of (4-b): *if Mary did not grow up in Paris, she grew up in France but not Paris*, is equivalent to *if Mary did not grow up in Paris, she grew up in France*. In other words, *exh* (as constrained by IW) cannot leverage the contextually provided alternatives to make (4-b) escape SR.

(10) *Context: French accents vary across countries and between Paris the rest of France.*
Tom: I'm wondering where Mary learned French.
Sue: I'm not completely sure but if she did not grow up in Paris, she grew up in France.

This suggests that not a purely logical view of redundancy such as SR, may be insufficient to capture the interaction between HCs and how their context of utterance packages information.

Besides, conditionals seem to package information differently from disjunctions. Indeed, assuming the structure *Depending on Q, p* (Karttunen 1977; Kaufmann 2016), where Q is a question and p a proposition, has to match the cells of Q to the maximal answers of any QuD evoked by p, the contrast (11-a) vs. (11-b) suggests *France* and *Belgium* can be matched against Q in the disjunctive, but not in the conditional case.

(11) Depending on [how her accent sounds like]$_Q$...
a. Mary grew up in France **or** in Belgium. $\mathbf{p} \vee \mathbf{q}$
b. ??**if** Mary did not grow up in France she grew up in Belgium. $\neg\mathbf{p} \rightarrow \mathbf{q}$
c. ?**if** Mary did not grow up in France, she grew up in Belgium **or** in Québec. $\neg\mathbf{p} \rightarrow (\mathbf{q} \vee \mathbf{r})$
d. ??**if** Mary did not grow up in France **or** Belgium, she grew up in Québec. $\neg(\mathbf{p} \vee \mathbf{q}) \rightarrow \mathbf{r})$

The existence of improvement between (11-b) and (11-c), and the absence of a similar improvement in between (11-b) and (11-d), also implies that the answers targeted by *depending on Q*, when p is conditional, are the ones made available by the consequent of p (which is appropriately disjunctive in (11-c), but not (11-d)). We now focus on explaining the novel datapoints building on the formalism introduced in Hénot-Mortier 2024a; Hénot-Mortier 2024b to account for non-scalar HCs and HDs.

2.2 Compositionally deriving accommodated QuDs

The formalism presented here summarizes the more complete model set out in Hénot-Mortier 2024a. Building on Büring (2003), Onea (2016), Riester (2019), and Zhang (n.d.) we take QuDs to be trees (**Qtrees**), that have the Context Set (**CS**, Stalnaker 1974) as their root, and are s.t. each intermediate node is a subset of the CS, partitioned by its children nodes. Thus, the leaves of a Qtree form a partition CS, and correspond to the standard denotation of questions (Hamblin 1958; Groenendijk 1999). Any intermediate subtree can be seen as a conditional question, granted a certain subset of the CS. A proposition answers a Qtree if it can be identified with the union of a strict subset of the Qtree's nodes. Building on Katzir and Singh (2015), Hénot-Mortier (2024a), and Hénot-Mortier (2024b), we assume that any out-of-the-blue declarative sentence denoting a proposition p gets paired with the set of salient Qtrees p may answer. Such Qtrees additionally carry information about how p answers them, in the form of specific nodes entailing p (**verifying nodes**). We will refer to the structure formed by Qtrees, along with their verifying nodes, as "flagged Qtrees". The pairing between LF and flagged Qtrees is compositional, meaning, the flagged Qtrees evoked by a complex LF, are derived from the flagged Qtrees derived from its parts, and how these parts combine.

We therefore start with the base case: a simplex LF X denoting p. For simplicity, we assume here that a Qtree for X may be a depth-1 Qtree whose leaves denote p and $\neg p$ (∼polar question *p?*); or a depth-1 Qtree whose leaves correspond to the Hamblin partition of the CS generated by p and same-granularity alternatives to p.[2] We do not provide a principled definition of granularity here, but assume that scalemates such as *some* and *all* *may* be seen as same granularity alternatives to each other, while non-scalemates, like *Paris* and *France*, *cannot* be considered being so, at least out-of-the blue.[3] In any case, Qtrees derived from simplex LFs get "flagged" by defining their verifying nodes as the set of nodes entailing p.

According to this definition, *Mary read all of the books* gets paired with a "polar" Qtree corresponding to whether or not she read all the books (cf. Fig. 1); and a "wh" Qtree corresponding to whether she read none, only some, or all of the books (generated by $\text{Alt}(\exists) = \{\exists, \forall\}$, cf. Fig. 2). Same can be done for *Mary read some of the books*, except the "polar" Qtree is different (cf. Fig. 3). For *Mary lives in Paris* (resp. *France*), *wh*-Qtrees are generated by city (resp. country) alternatives, cf. Fig. 4&5.

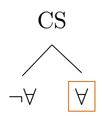

Figure 1: "Polar" Qtree for *Mary read **all** of the books*

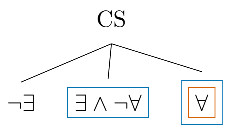

Figure 2: "Wh" Qtree for *Mary read {**some**/**all**} of the books.*

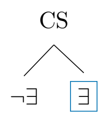

Figure 3: "Polar" Qtree for *Mary read **some** of the books*

Figure 4: Qtrees for *Mary studied in **Paris**.*

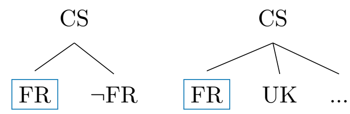

Figure 5: Qtrees for *Mary studied in **France**.*

Just like the meanings of simple sentences are incrementally composed, their sets of candidate Qtrees get incrementally combined. The Qtrees compatible with a negated LF $\neg X$, are Qtrees for X in which the set of compatible nodes is "flipped" on a layer-by-layer basis. *Mary did not read all of the books* is thus linked to the Qtrees in Fig. 6 and *Mary didn't study in Paris* to those in Fig. 7. The Qtrees compatible a disjunctive LF $X \vee Y$, are all the Qtrees that result from the union of a tree for X, and a tree for Y. The union operation – understood as union over sets of

[2]Hénot-Mortier 2024a proposes that simplex LFs may evoke deeper, tiered Qtrees. We do not reject this assumption here, but omit it for brevity and simplicity. This omision does not affect our main prediction about scalar HCs, which is based on the granularity distinction between *all*/*some* vs. *Paris*/*France*.

[3]This might relate to the symmetry problem with such alternatives.

nodes, sets of edges, sets of verifying nodes – ensures that the Qtree of a disjunction addresses the QuDs evoked by its disjuncts *in parallel* (Simons 2001; Zhang n.d.). *Mary read some or all of the books* is therefore only compatible with Tree 2 because all the other unions obtained from of Trees 1, 3 and 2 do not generate proper Qtrees. The HDs (1-a)-(1-b) are not compatible with any Qtree, because the Qtrees for *Paris* and those for *France* always subdivide the CS differently. Same is predicted for (12-a)-(12-b). The Qtrees compatible with a conditional LF $X \rightarrow Y$ are Qtrees for X, where each verifying node is replaced by its intersection with a Qtree for Y. Verifying nodes are inherited from the consequent Qtree (in line with the observations in (11-d)). (5-a) is then compatible with the Trees in Fig. 8; and (5-b), with those in Fig. 9.

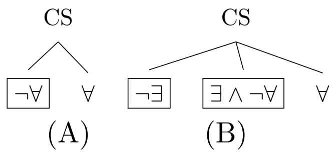

Figure 6: Qtrees for *Mary didn't read **all** of the books*, derived from Fig. 1 & 2

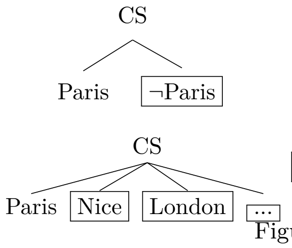

Figure 7: Qtrees for *Mary didn't study in **Paris***, derived from Fig. 4.

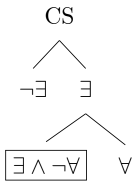

Figure 8: A Qtree compatible with (5-a) derived from Fig. 3&6A/B

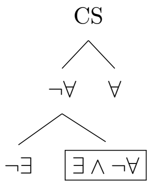

Figure 9: A Qtree compatible with (5-b) derived from Fig. 6A&2

3 Relevance as a constraint on QuD computation

: any local QuD Q that gets incrementally combined with an existing QuD Q' should have its maximal answers "fit" the information structure already introduced by Q'. A proposition p is relevant in the standard sense if it does not cut across the cells provided by the QuD Lewis 1988. In Hénot-Mortier 2024a, Relevance was modified by saying that, when combining Qtrees, none of the compatible leaves should be cut-across, i.e. they should be either completely preserved or completely removed from the resulting Qtree. As for conditional Qtrees, this forces each of the compatible nodes of the antecedent Qtree to either entail or contradict each of the compatible nodes of the consequent Qtree. The Qtrees corresponding to (5-a)&(5-b), in resp. Fig. 8&9, verify Relevance, because they can be built by choosing as consequent Qtree those in resp. Fig. 6B and 2, which have a compatible $\exists \wedge \neg\forall$-leaf that properly "fits" the antecedent Qtree in both cases. Fig. 10 is a Qtree for the felicitous HC (4-a); again, Relevance is satisfied because each compatible city is either entailed or ruled-out by the *France* node. Fig. 11&12 lastly, represent the 2 LDHCs (12-c)&(12-d). For (12-c), Relevance is violated because the compatible *France* leaf from the consequent Qtree cannot "fit" into the city-level nodes introduced by the antecedent (this issue extends to the HC (4-b))). For (12-d), Relevance is satisfied because the compatible *Paris* leaf is entailed, and the *Brussels* leaf fully ruled-out, by *France*. The feeling of redundancy in (12-d) may come from the fact removing *Brussels* from the sentence leads to the same overall meaning/Qtree.

(2′) a. Mary read (only) some (but not all) or all of the books.
b. Mary read all or #(only) some #(but not all) of the books.

(5′) a. If Mary read (#only) some (#but not all) of the books she hasn't read all.
b. If Mary hasn't read all of the books she's read (#only) some (#but not all).

4 Conclusion

We observed that Hurford Conditionals involving scalar items appear surprisingly felicitous, despite *exh* not being able to rescue those structures from Super-Redundancy, a principle recently introduced by Kalomoiros 2024 to account for non-scalar HDs and HCs in a unified way. Moreover, non-scalar ***Long-Distance*** HCs (**LDHCs**), which involve an extra embedded disjunct, pattern like non-scalar HCs, yet are never predicted to be Super-Redundant. We proposed an account of scalar HCs and LDHCs exploiting the intuitive idea that conditionals evoke "restricted" questions whose composition is constrained by a notion of Relevance. The patterns are then derived from the facts that conditionals are sensitive to how their antecedent and consequent package information (roughly: the latter has to properly *refine* the question(s) evoked by the former). The contrast between scalar and non-scalar Hurford Conditionals is captured, not *via exh per se*, bu instead by appealing to how scalar vs. non-scalar pairs of items differ information-structurally: that scalar items can evoke fine-grained enough questions (generated by their scalemates) out-of-the-blue, while non-scalar items with different granularities cannot.

Long-Distance HCs (**LDHC**, cf. (12-c)-(12-d)), derived *via* the or-to-if tautology from Long-Distance HDs (**LDHD**, cf. Marty and Romoli 2022 & (12-a)-(12-b)), also suggest SR might be insufficient. In both cases, $\mathbf{p}^+$ gets further disjoined with $\mathbf{r}$, which is taken to be incompatible with $\mathbf{p}$. But $\mathbf{r}$ makes *both* (12-c)&(12-d) non-SR, and so unexpectedly ok, while actually, (12-c) sounds as odd as (4-b), and (12-d) sounds just partly tautological. Let us conclude by sketching how this account can also capture

(12) a. # Mary studied in Paris or Brussels or she studied in France. $(\mathbf{p}^+ \vee \mathbf{r}) \vee \mathbf{p}$

b. # Mary studied in France or she studied in Paris or Brussels. $\mathbf{p} \vee (\mathbf{p}^+ \vee \mathbf{r})$

c. # If Mary didn't study in Paris or Brussels she studied in France. $\neg(\mathbf{p}^+ \vee \mathbf{r}) \to \mathbf{p}$

d. ? If Mary studied in France she didn't study in Paris or Brussels. $\mathbf{p} \to \neg(\mathbf{p}^+ \vee \mathbf{r})$

&(12-c) improves too

(13) *Context: French accents vary across countries and also between Paris and other areas of France.*
Tom: Mary has a funny French accent. I'm wondering where she learned French. Did she study in Paris, the rest of France, Belgium, or maybe Switzerland?
Sue: I'm not completely sure but...
(11): ?if she did not study in Paris or Brussels she studied in France. $\neg(\mathbf{p}^+ \vee \mathbf{r}) \to \mathbf{p}$

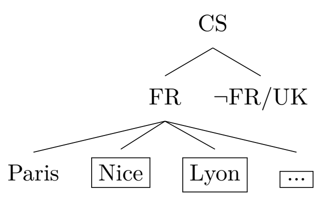

Figure 10: Qtree for (4-a), derived from Fig. 5&7. The compatible *not Paris* nodes from the consequent country-level Qtree introduced by the antecedent.

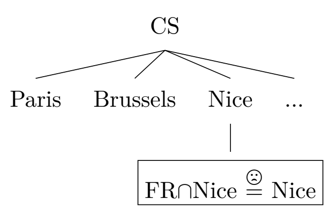

Figure 11: Qtree for (12-c). The compatible *France* node from the consequent Qtree does not "fit" the (disjunctive) city-level Qtree introduced by the antecedent.

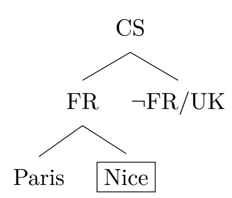

Figure 12: Qtree for (12-d). The compatible nodes from the consequent Qtree (all cities, different from Paris and Brussels) "fit" the country-level Qtree introduced by the antecedent.

4.1 References and Citations

We use the biblatex package for bibliography management. We've added a convenience command for possessive citations: use `\posscite{}` to cite in this way; for example, **einstein**'s (**einstein**). Additionally, you can use standard citation commands, such as `\textcite{}`, `\cite{}`, `\citeauthor{}`, `\citeyear{}`; for example, **dirac** or **knuth-fa**.

References

Büring, Daniel (2003). "On D-Trees, Beans, and B-Accents". In: *Linguistics & Philosophy.*

Fox, Danny (2007). "Free choice and the theory of scalar implicatures". In: *Presupposition and implicature in compositional semantics.* Springer.

Fox, Danny and Benjamin Spector (2018). "Economy and embedded exhaustification". In: *Natural Language Semantics.*

Gazdar, Gerald (1979). *Implicature, Presupposition and Logical Form.*

Groenendijk, Jeroen (1999). "The Logic of Interrogation: Classical Version". In: *SALT.*

Hamblin, Charles L. (1958). "Questions". In: *Australasian Journal of Philosophy.*

Haslinger, Nina (2023). "Pragmatic constraints on imprecision and homogeneity". PhD thesis. Georg-August-Universität Göttingen.

Hénot-Mortier, Adèle (2022). "Alternatives are blind to some but not all kinds of context: the view from Hurford Disjunctions". In: *Proceedings of the 27th Sinn und Bedeutung.*

— (2024a). ""One tool to rule them all"? An integrated model of the QuD for Hurford sentences". In: *Proceedings of the 29th Sinn un Bedeutung.* Draft (`https://adelemortier.github.io/files/SuB_2024_TMT_paper.pdf`), to appear.

— (2024b). "Redundancy under Discussion". In: *Proceedings of the 29th Sinn un Bedeutung.* To appear.

Hurford, James R. (1974). "Exclusive or Inclusive Disjunction". In: *Foundations of Language.*

Kalomoiros, Alexandros (2024). "An approach to Hurford Conditionals". In: *SALT.*

Karttunen, Lauri (1977). "Syntax and Semantics of Questions". In: *L&P.*

Katzir, Roni and Raj Singh (May 2014). "Hurford disjunctions: embedded exhaustification and structural economy". In: *Proceedings of Sinn und Bedeutung.* Vol. 18, pp. 201–216. URL: `https://ojs.ub.uni-konstanz.de/sub/index.php/sub/article/view/313`.

— (2015). "Economy of structure and information: Oddness, questions, and answers". In: *SuB 19.*

Kaufmann, Magdalena (2016). "Free Choice is a Form of Dependence". In: *Natural Language Semantics.*

Kroch, A. (1972). "Lexical and inferred meanings for some time adverbs". In: *Quarterly Progress Report of the Research Laboratory of Electronics 104.*

Lewis, David (1988). "Relevant Implication". In: *Theoria.*

Mandelkern, Matthew and Jacopo Romoli (2018). "Hurford Conditionals". In: *Journal of Semantics.*

Marty, Paul and Jacopo Romoli (2022). "Varieties of Hurford disjunctions". In: *Semantics and Pragmatics.*

Onea, E. (2016). *Potential questions at the semantics-pragmatics interface.* Brill.

Riester, Arndt (2019). "Constructing QUD Trees". In: *Questions in Discourse.*

Roberts, Craige (1996). "Information structure in discourse: Towards an integrated formal theory of pragmatics". In: *Semantics and Pragmatics.*

Simons, Mandy (2001). "Disjunction and Alternativeness". In: *L&P.*

Singh, Raj (2008). "On the Interpretation of Disjunction: Asymmetric, Incremental, and Eager for Inconsistency". In: *L& P.*

Spector, Benjamin, Danny Fox, and Gennaro Chierchia (2008). "Hurford's Constraint and the Theory of Scalar Implicatures". In: *Ms.*

Stalnaker, Robert (1974). "Pragmatic Presuppositions". In: *Context and Content.*

Tomioka, Satoshi (2021). "Scalar Implicature, Hurford's Constraint, Contrastiveness and How They All Come Together". In: *Frontiers in Communication.*

Zhang, Yichi (n.d.). "A Questions-Under-Discussion-Based Account of Redundancy". In: *Unpublished manuscript* ().