Which alternatives matter?

A QUD-based approach to disjunctive questions

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Alternatives

Different types of alternatives are often modelled in the same way: as sets of propositions

1. **Q-alternatives:** Answers/resolutions as alternatives in questions

   (Hamblin, 1973, 1976; Ciardelli, Groenendijk, & Roelofsen, 2018)

2. **I-alternatives:** Inherent alternatives of disjunction and indefinites

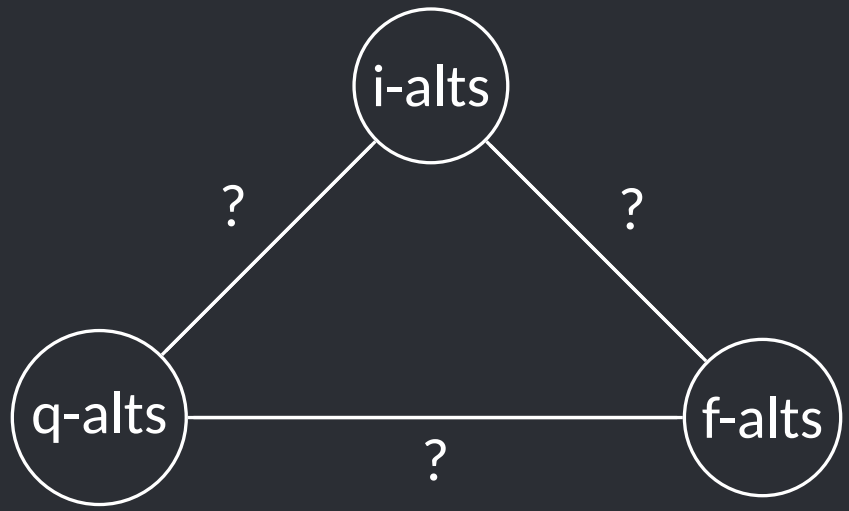
   (Simons, 2005; Alonso-Ovalle, 2006; Aloni, 2007; Ciardelli et al., 2018)

3. **F-alternatives:** Alternatives introduced via focus marking
   (Rooth, 1992; Büring, 2003; Beck, 2006; Beck & Kim, 2006)

Alternatives

Can we simply collapse these distinctions?

And how do these types of alternatives interact?

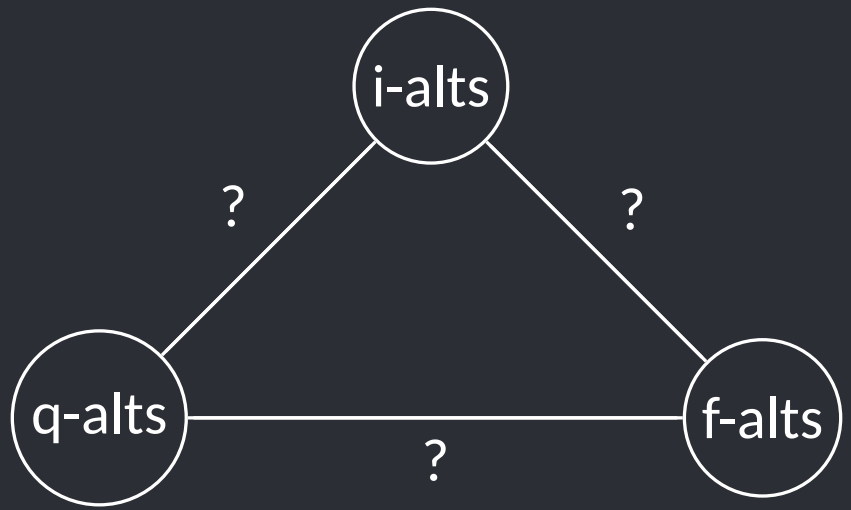


Alternatives in disjunctive questions

To look into this, I look at disjunctive questions like (1)

(1) Did Tony drink coffee or tea?

Obviously, these are questions, they contain disjunctions, and they involve focus marking



The pattern

Disjunctive questions like (1) are also interesting because they are ambiguous in English:

(1) Did Tony drink coffee or tea?

The pattern

Disjunctive questions like (1) are also interesting because they are ambiguous in English:

(1) Did Tony drink coffee or tea? ✓PolQ, AltQ, OpenQ

They can be interpreted as a polar question (PolQ), as an alternative question (AltQ) or as open disjunctive question (OpenQ).

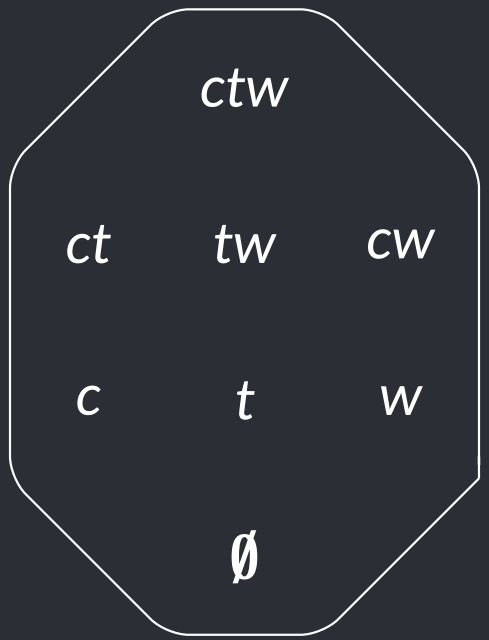
(Bartels, 1999; Roelofsen & van Gool, 2009; Meertens et al., 2018)

The pattern: AltQs

These different readings are disambiguated by prosody:

(2) a. Did Tony drink COFFEE^{H*} or TEA$^{L-L\%}$ ✓AltQ

b. He drank COFFEE.



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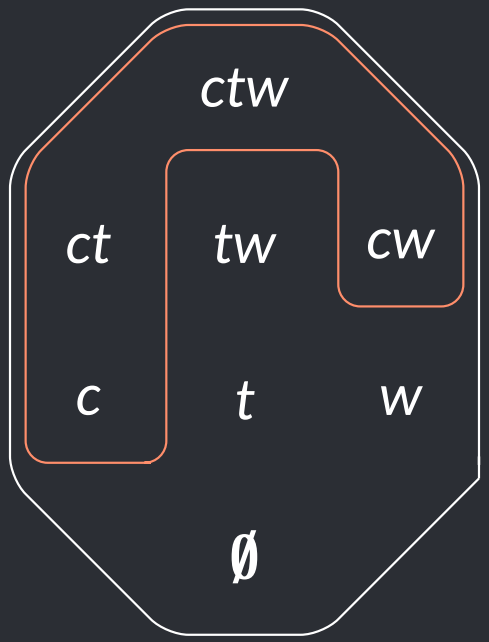

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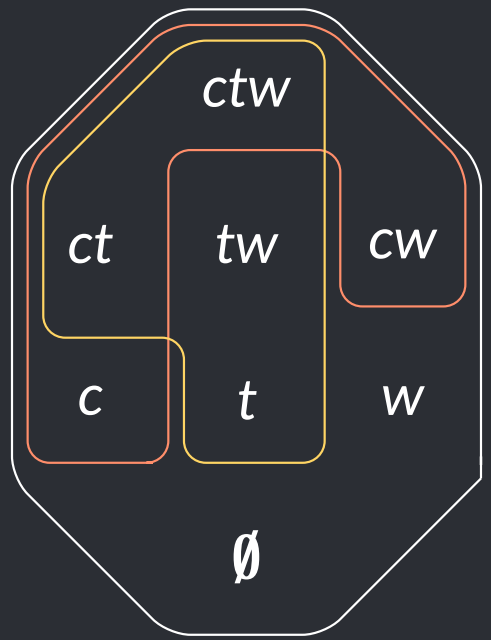
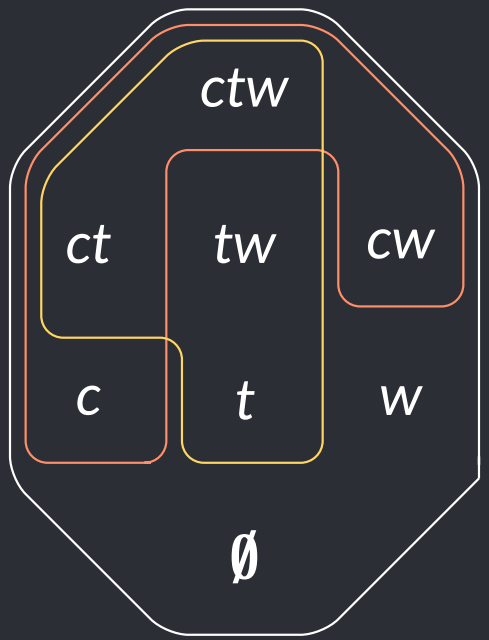


The pattern: AltQs

These different readings are disambiguated by prosody:

(2) a. Did Tony drink COFFEE^{H*} or TEA$^{L-L\%}$ ✓AltQ

b. #He drank WATER.



The pattern: AltQs

These different readings are disambiguated by prosody:

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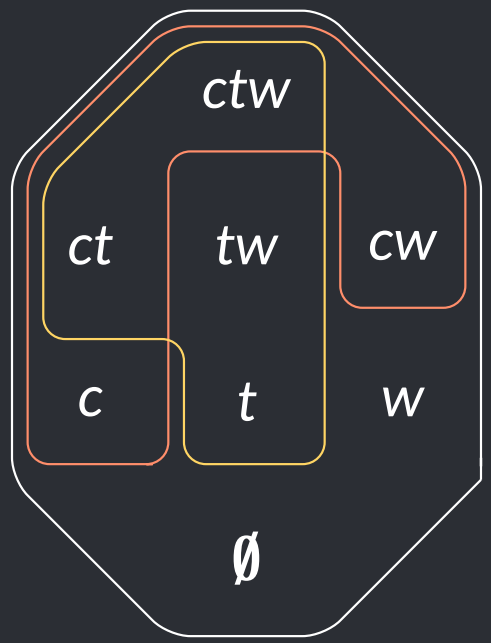
b. #Yes, he did.

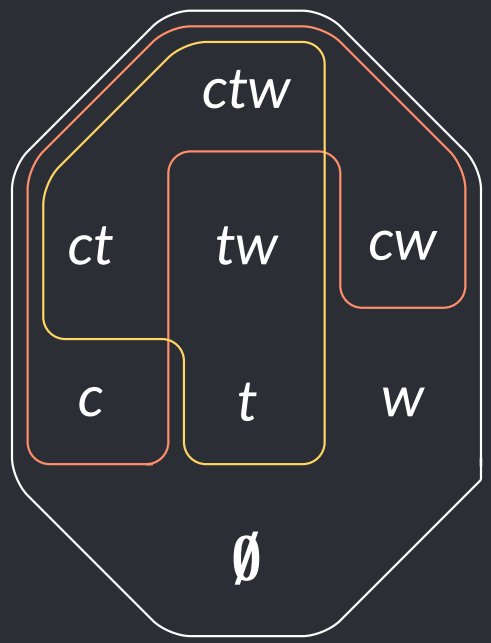


The pattern: AltQs

These different readings are disambiguated by prosody:

(2) a. Did Tony drink COFFEE^{H*} or TEA$^{L-L\%}$ ✓AltQ

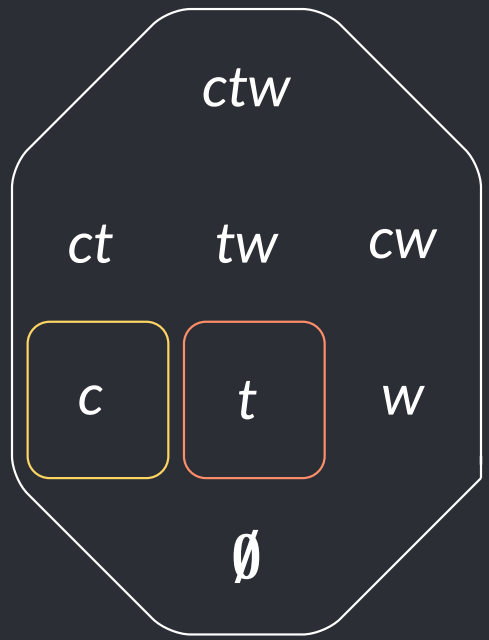
b. #No, he didn't.



The pattern: AltQs

AltQs are also often argued to come with an additional set of presuppositions:

- They presuppose that the disjunction itself is true.
- They presuppose that not both of the disjuncts are true.

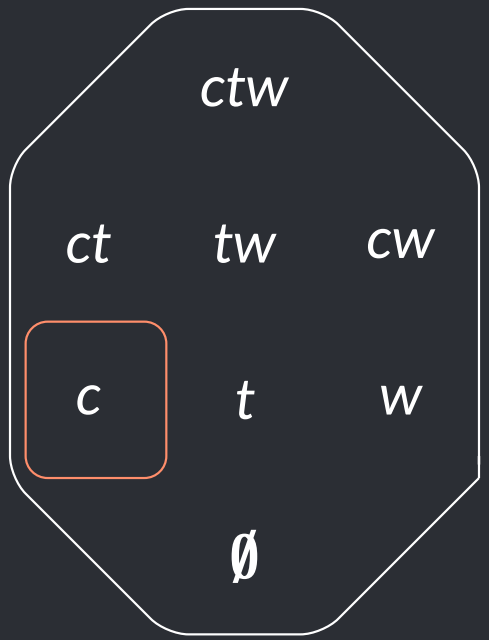


The pattern

This question can also be an OpenQ:

(3) a. Did Tony drink COFFEE^{H*} or TEA$^{H-H\%}$? ✓OpenQ

b. He drank COFFEE.



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(3) a. Did Tony drink COFFEE^{H}* or TEA$^{H-H\%}$? ✓OpenQ

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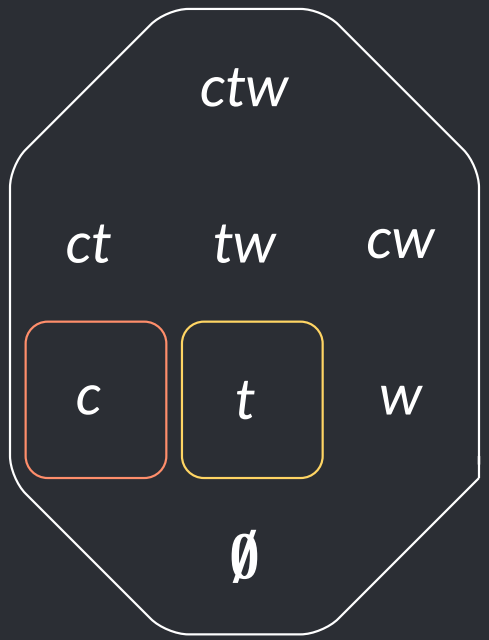

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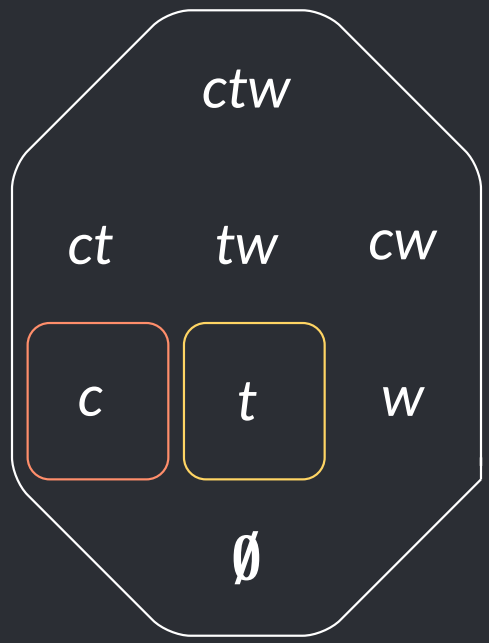

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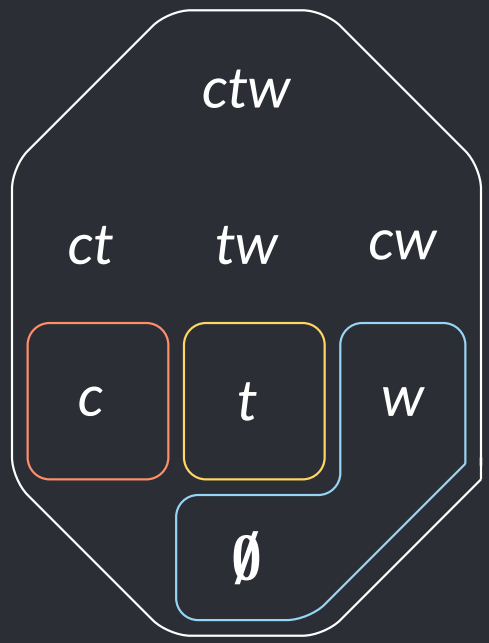
b. ?No, he didn't.

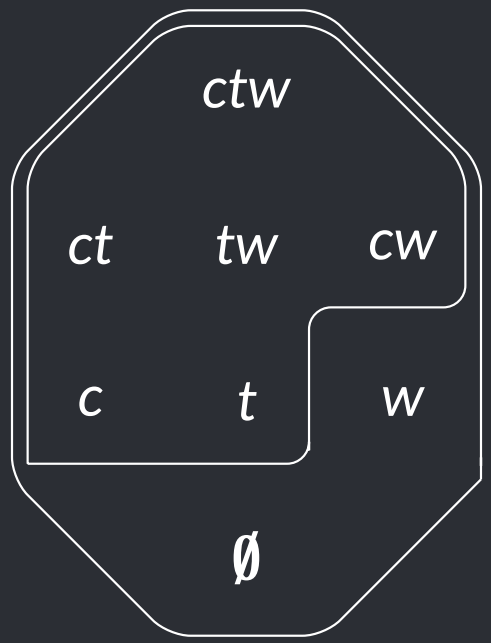


The pattern

Finally, this question can be a PolQ:

(4) a. Did Tony drink coffee or tea$^{H-H\%}$ ✓PolQ

b. Yes, he did.



The pattern

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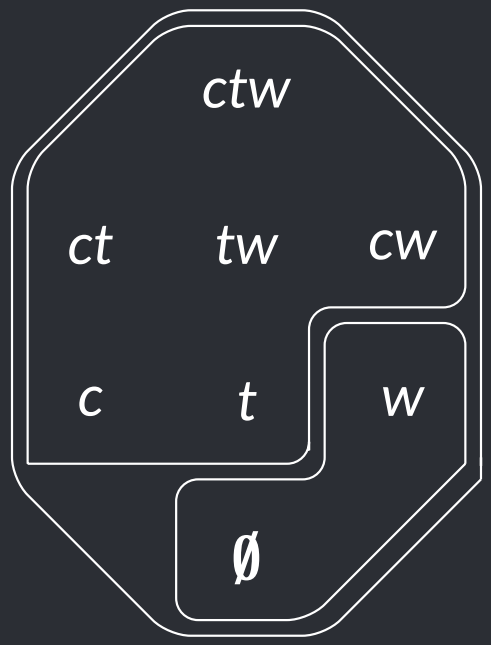

The puzzle

AltQs	$[\![(2a)]\!] = \{\|c \wedge \neg t\|, \|t \wedge \neg c\|\}$
OpenQs	$[\![(3a)]\!] = \{\|c\|, \|t\|, \|w\|, \ldots\}$
PolQs	$[\![(4a)]\!] = \{\|c \vee t\|, \|\neg(c \vee t)\|\}$

Disjunction provides alternatives in the case of AltQs & OpenQs, but not in the case of PolQs.

PolQs & OpenQs involve possible answers which do not entail the disjunction, but AltQs don't.

The question

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Different approaches in the literature

1. Syntactic approach: Deriving question alternatives from alternatives introduced by disjunction
2. Focus approach: Deriving question alternatives from focus marking on the disjuncts

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Roadmap

1. Previous approaches

- Syntactic approaches and some issues with them:
  - Q-alts in AltQs cannot be derived from i-alts of disjunction
- Previous focus approach and some issues:
  - Q-alts in AltQs cannot be equated with f-alts

2. A QUD-based approach

- Deriving q-alts from f-alts, but allowing both to exist in parallel

Syntactic approaches: Movement (Larson 1985)

Main assumptions:

- Difference between AltQs and PolQs is a difference in scope
- Question operator *Q* takes scope by moving
- In AltQs, *Q* moves from disjunction to the left periphery
- In PolQs, *Q* takes wide scope over the full question, and a silent "or not" disjunct

(5) a. Q_i Did Tony drink x_i [[tea] or [coffee]] ✓AltQ

b. *Q* [[Did Tony drink tea or coffee] [or not]] ✓PolQ

.

(Larson, 1985)

Syntactic approaches: Movement (Larson 1985)

Argument for this approach: AltQs seem island-sensitive (Larson, 1985)

(6) ??Do you believe the claim that Tony drank TEA or COFFEE?

However, this claim does not generalize:

(7) a. *Who$_i$ did Tony eat a sandwich that x_i made?
b. Did Tony eat a sandwich that SOPHIE or TOM made?

(8) a. *Who$_i$ did Tony eat a sandwich before seeing x_i?
b. Did Tony eat a sandwich before seeing SOPHIE or TOM?

Syntactic approaches: Using disjunctive alternatives

Instead of relying on movement, more recent approaches suggest that the ambiguity between AltQs and PolQs arises due to ellipsis.

- Either by assuming a combination of movement and ellipsis (Han & Romero, 2004)
- Or by assuming that ellipsis affects a a scopal interaction between disjunction and a flattening operator $\exists$. (Uegaki, 2018; Roelofsen, 2015; Gračanin-Yuksek, 2016; Roelofsen & Farkas, 2015)

Main assumption: Disjunction introduces alternatives by default

(9) $[\![or]\!] = \lambda p \lambda p' \lambda q.q = p \vee q = p'$

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(9) $[\![or]\!] = \lambda p \lambda p' \lambda q.q = p \vee q = p'$

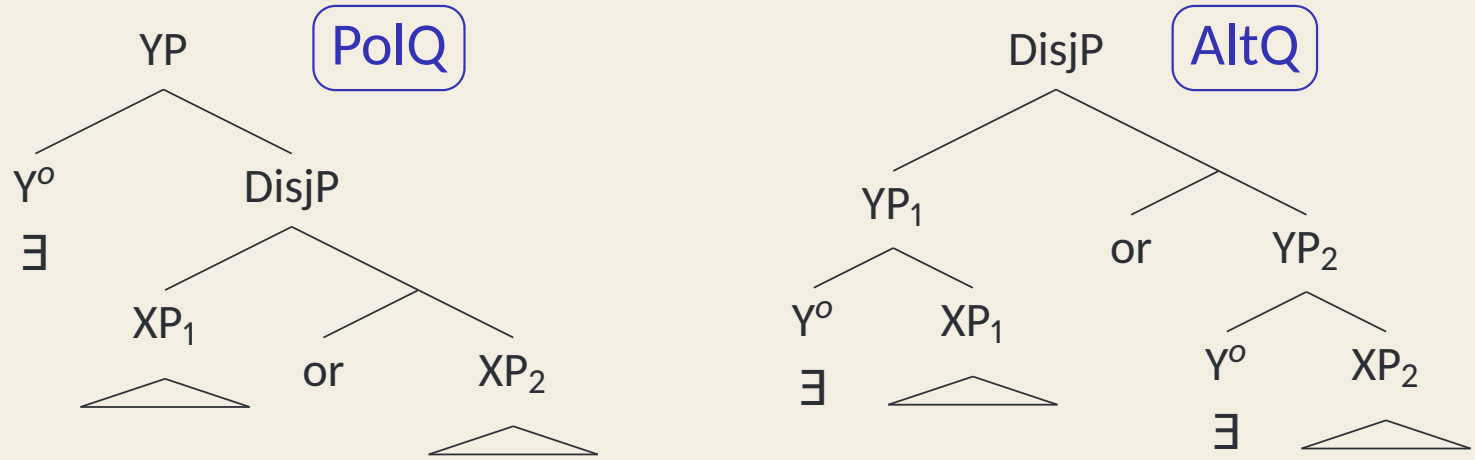
Alternatives are flattened out in case of PolQs using an existential closure operator.

(10) $[\![\exists \alpha]\!] = \lambda w.\exists p \in [\![\alpha]\!] : p(w) = 1$

Syntactic approaches: Using disjunctive alternatives

Differences in interpretation due to different scope configurations of disjunction and ∃

(11)



Although different approaches assume different positions for ∃, to capture all cases Y^o has to be somewhere in the left periphery:

(12) John or Mary ate the beans.

Using disjunctive alternatives: How does prosody come in?

Thus, AltQs always involve underlyingly large disjuncts, PolQs always involve small disjuncts.

Pitch accents on the disjuncts only arise when the disjuncts are large:

- Pitch accent reflect focus marking
- But focus marking is only a by-product of the size of the disjuncts

(Han & Romero, 2004; Uegaki, 2018; Roelofsen, 2015; Gračanin-Yuksek, 2016)

Using disjunctive alternatives: The problem

The AltQ in (13) would need to have the underlying structure in (13a) where material in the first disjunct is deleted:

(13) a. Did TONY or ANNEY drink coffee?

b. [$\boxed{\exists}$ [Did TONY ~~drink coffee~~] or $\boxed{\exists}$ [~~did~~ ANNEY drink coffee]]

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All AltQs with non-final disjunctions, like subject disjunctions, would have to involve backwards gapping.

But this is generally impossible in English. (Hankamer, 1979)

(14) a. *I don't ~~like coffee~~ and/or Bill likes coffee.

b. *Ann ~~likes~~ coffee and/or Bill likes tea.

A possible workaround: Right Node Raising?

Could (13) have the following structure?

(15) [∃ [Did TONY x_i] or ∃ [(~~did~~ ANNEY x_i]] [drink coffee]$_i$

But AltQs do not have the typical prosody that RNR constructions usually exhibit.

AltQs seem to pattern with constructions for which such prosody is out:

(16) #[[TONY x_i] or [ANNEY x_i]] [drank coffee]$_i$

The problem with Right Node Raising

Just like VPE as in (17), RNR parses generally allow for 'sloppy' readings as shown in (18). (Sabbagh, 2014)

(17) I didn't pass my exam, but I'm sure that Hana will ~~pass her exam~~.

(18) I didn't ~~pass my exam~~, but Jonathan will ~~pass his exam~~, pass his exam.

But (19a), just like (19b) cannot be interpreted in such a way:

(19) a. #Will JONATHAN or HANA, pass her exam?

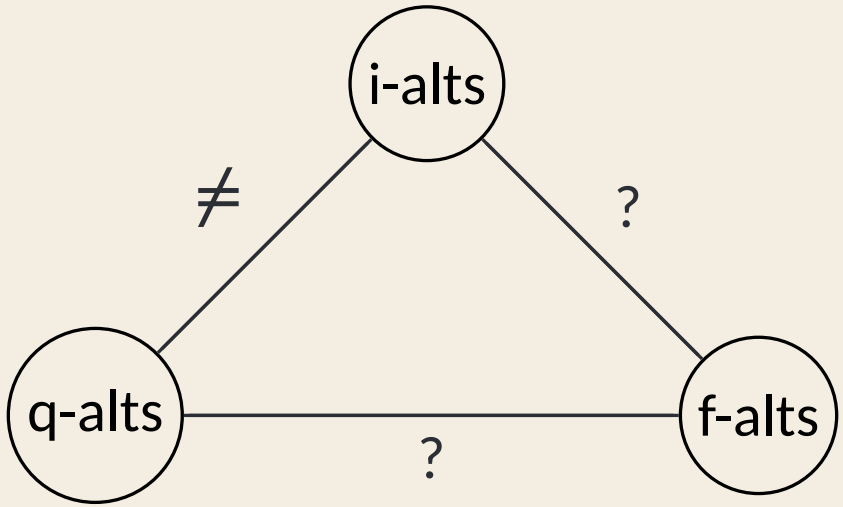
b. #Jonathan or Hana, will pass her exam.

Perhaps this is because the disjuncts are too small to allow for RNR (see e.g. (Swingle, 1993)).

Syntactic approaches

In sum, syntactic approaches are not going to help us out.

- At least for English, we cannot rely on differences in the underlying syntax of PolQs and AltQs to make sure that disjunctive i-alts survive in the latter but not the first.
- This also means that we cannot derive the meaning of AltQs and OpenQs by assuming that i-alts of the disjunction are at play.



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Using f-alternatives: Beck & Kim (2006)

We can use f-alternatives to derive the meaning of OpenQs and AltQs by assuming that pitch accents in these questions indicate focus marking (Meertens et al., 2018; Beck & Kim, 2006)

(20) Did TONY$_F$ or ANNEY$_F$ drink coffee?

Beck & Kim style focus account: Q-alts are f-alts

Beck and Kim (2006) use a Roothian account of focus to account for the semantics of AltQs. (Rooth, 1992)

- Expressions have both an ordinary and a focus semantic value.
- Focus marking triggers the introduction of alternatives in the focus semantic value. For instance:

(21) a. $[\![\text{Ann}_F]\!]^o = a$

b. $[\![\text{Ann}_F]\!]^f = \{x \mid x \in \textit{human}\}$

- The f-value and o-value of a disjunction are defined as follows:

(22) [TEA_F or COFFEE_F]

a. $[\![\textit{DisjP}]\!]^o = \lambda P \lambda w.P_w(t) \vee P_w(c)$

b. $[\![\textit{DisjP}]\!]^f = \{[\![\textit{tea}]\!]^o, [\![\textit{coffee}]\!]^o\}$

Beck & Kim style focus account: Q-alts are f-alts

The f-alternatives introduced by the disjunction percolate up the tree using PFA, and get interpreted by the question operator:

(23) $[\![Q_{B\&K}\ \varphi]\!]^o = [\![\varphi]\!]^f$ Q flips the o- and f-value of its prejacent.

Our familiar AltQ example thus has the following structure and denotation:

(24) $Q_{B\&K}$ Did Tony drink TEA$_F$ or COFFEE$_F$

(25) $[\![(24)]\!]^o = \{\lambda w.$ T drank tea in $w, \lambda w.$T drank coffee in $w\}$

This allows us to derive the q-alts in AltQs directly from f-alts

Difficulties for B&K

- However, this account does not deal with OpenQs.
- This account doesn't actually make use of focus alternatives, but instead relies on the ordinary values of each disjunct

(26) [TEA_F or COFFEE_F]

a. $[\![DisjP]\!]^o = \lambda P \lambda w.P_w(t) \vee P_w(c)$

b. $[\![DisjP]\!]^f = \{[\![tea]\!]^o, [\![coffee]\!]^o\}$

- It therefore also needs to assume that the whole disjunction is f-marked, as opposed to the disjuncts.

(27) [tea or coffee]

a. $[\![DisjP]\!]^o = \lambda P \lambda w.P_w(t) \vee P_w(c)$

b. $[\![DisjP]\!]^f = \{\lambda P \lambda w.P_w(t) \vee P_w(c)\}$

AltQs within the wider landscape of focused questions

Most importantly, B&K's approach doesn't allow for a general account of focus marking in questions across different types of questions.

We don't just see f-marking in AltQs:

(28) What did TOM$^{(L+)H*}_{CT}$ bring to the potluck?

(29) Who did SOPHIE$^{(L+)H*}_{CT}$ invite to the party?

AltQs within the wider landscape of focused questions

The presence of these contrastive topics do not directly affect the answerhood conditions of the questions they occur in.

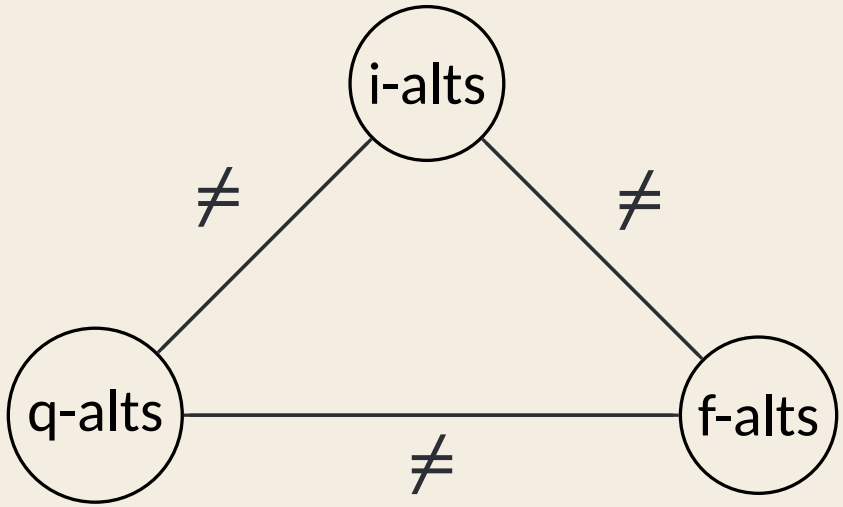
(30) What did TOM$_{CT}^{(L+)H*}$ bring to the potluck?
QUD: for each individual, what did they bring?

(31) Who did SOPHIE$_{CT}^{(L+)H*}$ invite to the party?
QUD: for each individual, who did they invite?

- Contrastive topics are often assumed to signal something about the structure of the QUD instead. (Constant, 2014; Büring, 2003)
- Concretely, why would $Q_{B\&K}$ not show up in these cases?

The upshot

A satisfying theory of focus marking in questions allows for f-alts to interact q-alts, but does not equate the two



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The claim

We can derive the interpretational differences between disjunctive questions by unifying them with the effects of other foci in questions.

We need a general account of focus marking in questions that explains how differences in the prosodic realization affect answerhood conditions.

A QUD-based approach

1. Differences in the prosodic realization of a question give rise to different QUDs.
2. QUDs can affect answerhood conditions in disjunctive questions.

What's next

A QUD-based approach

Goal: propose an account of focus marking that explains the link between prosody of a question, the structure of its presupposed QUD and its answerhood conditions.

- Put forward basic theory of CT-marking in WhQs
  - How does the presupposed QUD affect answers?
  - How do we derive the correct alternatives?
- Apply it to F and CT-marked PolQs
- Extend it to OpenQs
- Extend it to AltQs

CT-marking in WhQs

Contrastive topics in WhQs

Contrastive topics presuppose a discourse antecedent which is a set of questions (a superquestion). (Constant, 2014; Büring, 2003)

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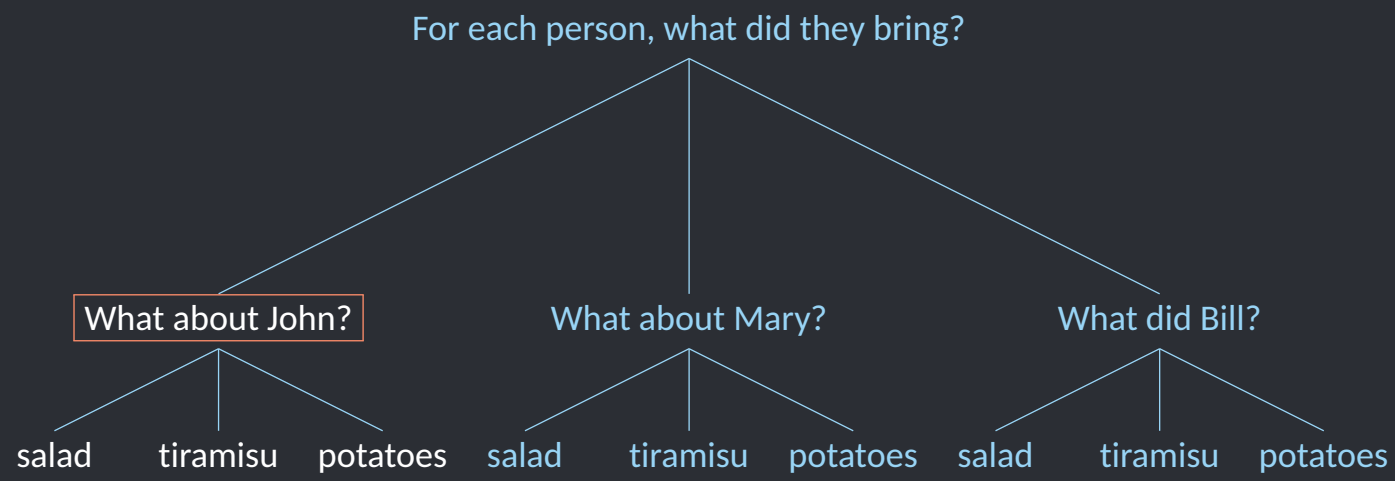
This is the presupposed QUD.

(32) What did JOHN$^{(L+)H*}_{CT}$ bring to the potluck?
QUD: for each person, what did they bring?



Generalizing ∼

The squiggle operator (∼) is responsible for interpreting both CT and F-alternatives:

(33) **Generalized squiggle**:

a. $[\![\sim \varphi]\!]^o = [\![\varphi]\!]^o$

b. $[\![\sim \varphi]\!]^f = [\![\varphi]\!]^o$

c. and presupposes that the context contains a *QUD* such that $QUD \subseteq [\![\varphi]\!]^f$

Contrastive topics in WhQs

Answers to CT-marked questions also have to be CT-marked, therefore presupposing a question antecedent too.

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The answer in (34b) presupposes the same question antecedent as the question in (34a).

(34) a. What did JOHN$_{CT}^{(L+)H*}$ bring to the potluck?
QUD: for each person, what did they bring?

b. JOHN$_{CT}$ brought POTATOES$_{F}$
QUD: for each person, what did they bring?

Contrastive topics in WhQs

This is necessarily the case: in order to be a cooperative participant in conversation, an addressee needs to adopt the speaker's QUD:

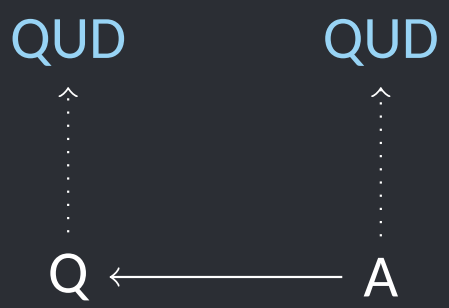
(35) a. What did JOHN$_{CT}^{(L+)H*}$ bring to the potluck?
QUD: for each person, what did they bring?

b. #The POTATOES$_{CT}$ were brought by JOHN$_{F}$
QUD: for each dish, who brought it?

QUD maintenance

Main intuition: a speaker not only raises a question, but by f-marking it they situate this question within a particular QUD.

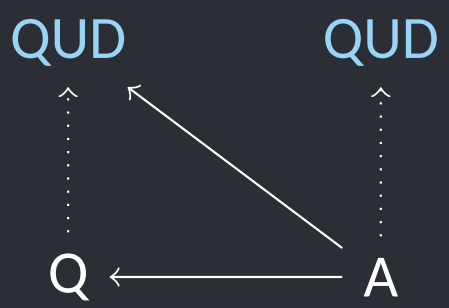
Answers need to respect that QUD: addressees cannot just switch to a different QUD before the one that is signalled by the speaker is resolved.



QUD maintenance

Main intuition: a speaker not only raises a question, but by f-marking it they situate this question within a particular QUD.

Answers need to respect that QUD: addressees cannot just switch to a different QUD before the one that is signalled by the speaker is resolved.



A fully cooperative conversational participant not only adopts the QUD, but also resolves it.

Focus marking in questions and answerhood conditions

(36) **Focus-sensitive answerhood:** An answer A properly answers a question Q iff

a. $[\![A]\!]^o$ resolves $[\![Q]\!]^o$,

b. $[\![A]\!]^f \subseteq QUD_Q$, and where QUD_Q is the salient *QUD* of Q

c. $[\![A]\!]^o$ resolves (one subquestion within) $[\![A]\!]^f$.

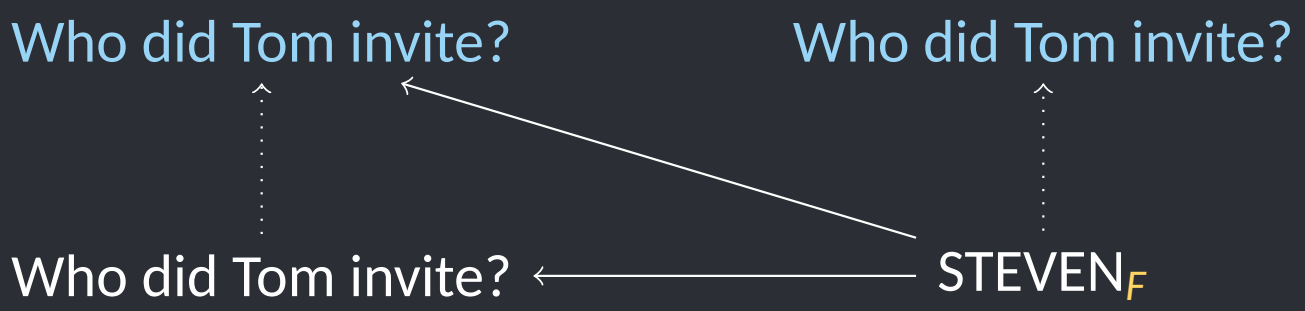
(37) **Resolution:** An answer $[\![A]\!]$ resolves a question $[\![Q]\!]$ iff $[\![A]\!] \subseteq P$ s.t. $P \in [\![Q]\!]$ (Ciardelli et al., 2018)

Question/answer congruence

Our basic question/answer congruence will be derived as a special case:

If a question is not f-marked, the QUD it presupposes is by default simply its o-value

(38) a. Who did Tom invite to the party?
b. Tom invited STEVEN$_F$



Question/answer congruence++

In (39a) and (39b) $\sim$ enforces that $QUD_q \subseteq [\![Q]\!]^f$:

(39) a. What did JOHN$^{(L+)H*}_{CT}$ bring to the potluck?

QUD_q: for each person, what did they bring?

b. JOHN$_{CT}$ brought POTATOES$_F$

QUD_a: for each person, what did they bring?

Question/answer congruence++

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QUD$_a$: for each person, what did they bring?

- Due to focus-sensitive answerhood, $[\![A]\!]^f \subseteq QUD_q$, meaning that $[\![A]\!]^f \subseteq [\![Q]\!]^f$.
- $[\![A]\!]^o$ then has to resolve the question itself and address QUD_q, in this case by addressing at least one subquestion within it.

What's next

A QUD-based approach

Goal: propose an account of focus marking that explains the link between prosody of a question, the structure of its presupposed QUD and its answerhood conditions.

- Put forward basic theory of CT-marking in WhQs
  - ✓ How does the presupposed QUD affect answers?
  - – **How do we derive the correct alternatives?**
- Apply it to F and CT-marked PolQs
- Extend it to OpenQs
- Extend it to AltQs

Deriving the CT-alternatives

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- CTs are associated with a ∼ which has two foci in its scope.

(40) a. $\sim [CT_1 \ldots [\ldots F_2 \ldots]]$
b. $\sim [\ldots F \ldots]$

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- CTs are associated with a $\sim$ which has two foci in its scope.

(40) a. $\sim [CT_1 \ldots [\ldots F_2 \ldots]]$
b. $\sim [\ldots F \ldots]$

(41) **Focus-prosody mapping**

a. CT $\rightarrow$ L+H*
b. F $\rightarrow$ H*

- In other words, only foci that have other foci in their scope are spelled-out with an L+H* accent.

Alternative Composition

- Foci and CTs introduce alternatives in the f-value:

(42) $[\![Tom_F]\!]^f = \{x \mid x \in D_e\}$

- Unlike standard approaches to focus marking, I assume that any final node that is not f-marked: $[\![\ ]\!]^o = [\![\ ]\!]^f$
- When there are no alternative-generating expressions, things compose in the usual way.
- Non f-marked expressions compose with f-marked expressions which denote sets using the following two type-shifters

.

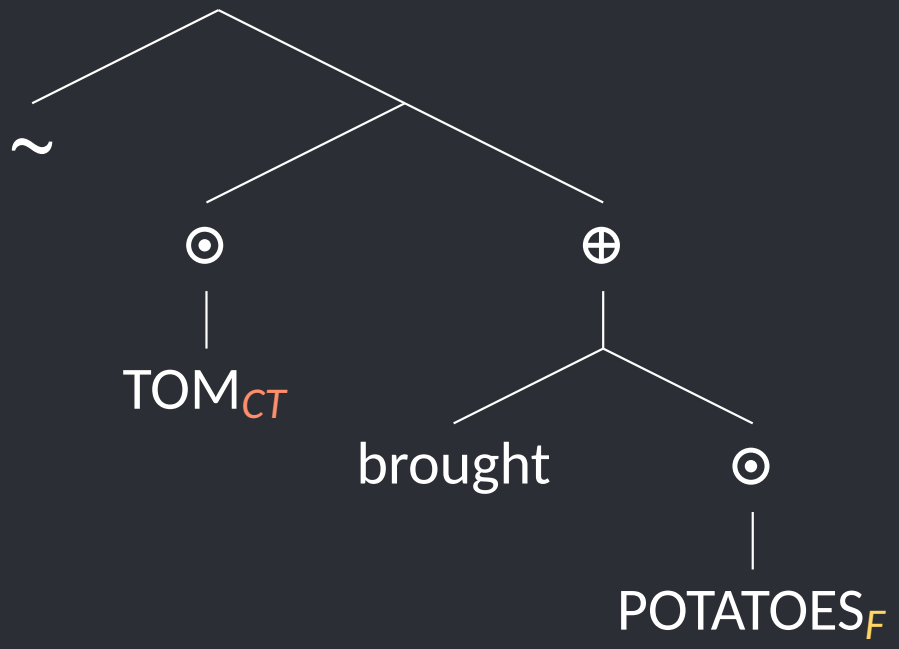
(c.f. Charlow, 2019)

(43) $[\![\odot_{S\alpha\rightarrow(\alpha\beta)\rightarrow S\beta}]\!] = \lambda m_{S\alpha}.\lambda f_{(\alpha\beta)}.\bigcup_{x\in m}\{f(x)\}$

(44) $[\![\oplus_{S(\alpha\beta)\rightarrow\alpha S\beta}]\!] = \lambda f_{S(\alpha\beta)}.\lambda x_{\alpha}.\bigcup_{g\in f}\{g(x)\}$

CT-marking in CT-F answers

(45) $QUD \subseteq \{\{\lambda w.y \text{ brought } x \text{ in } w \mid x \in D_e\} \mid y \in D_e\}$



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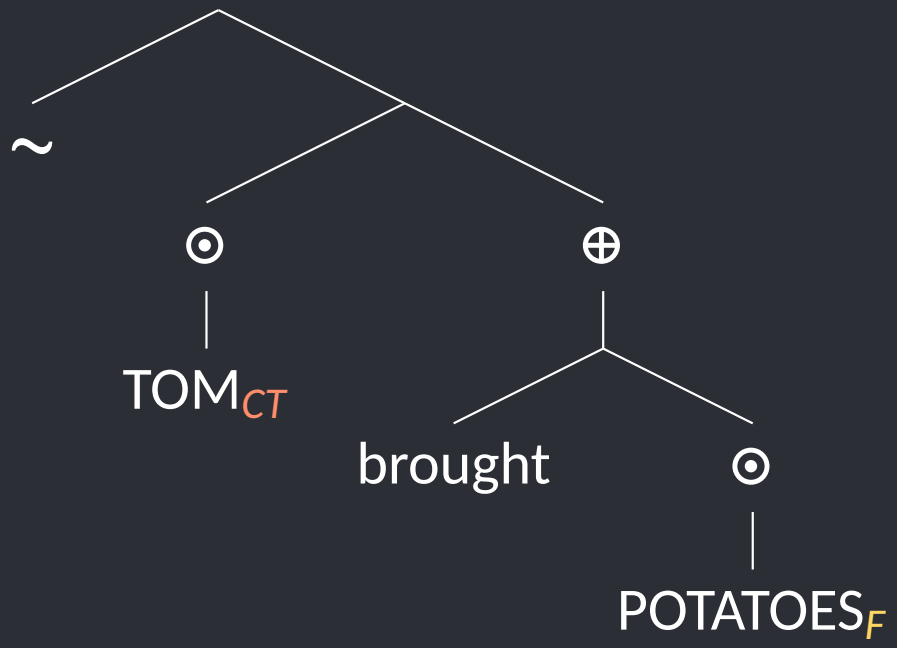

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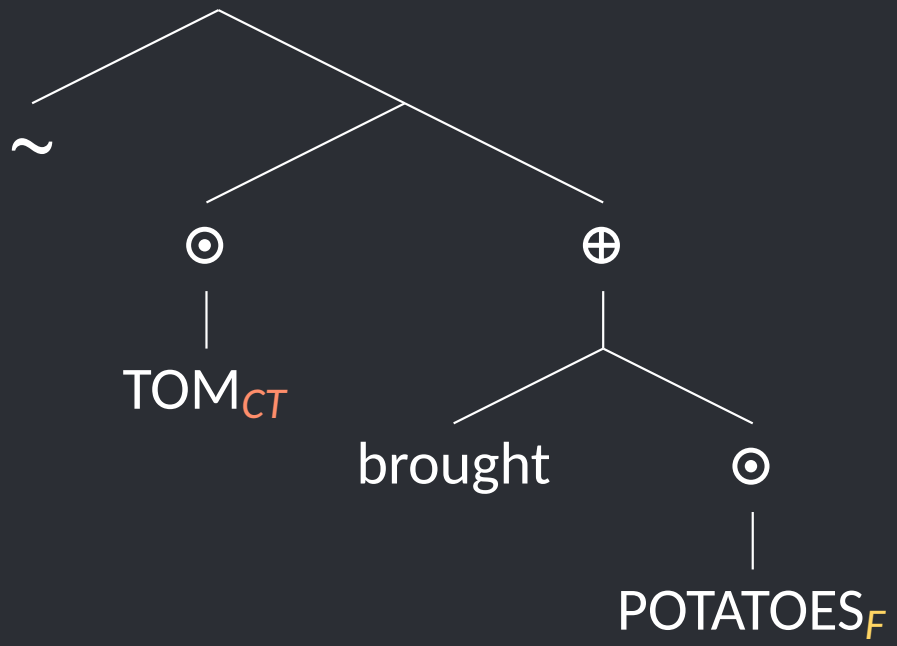

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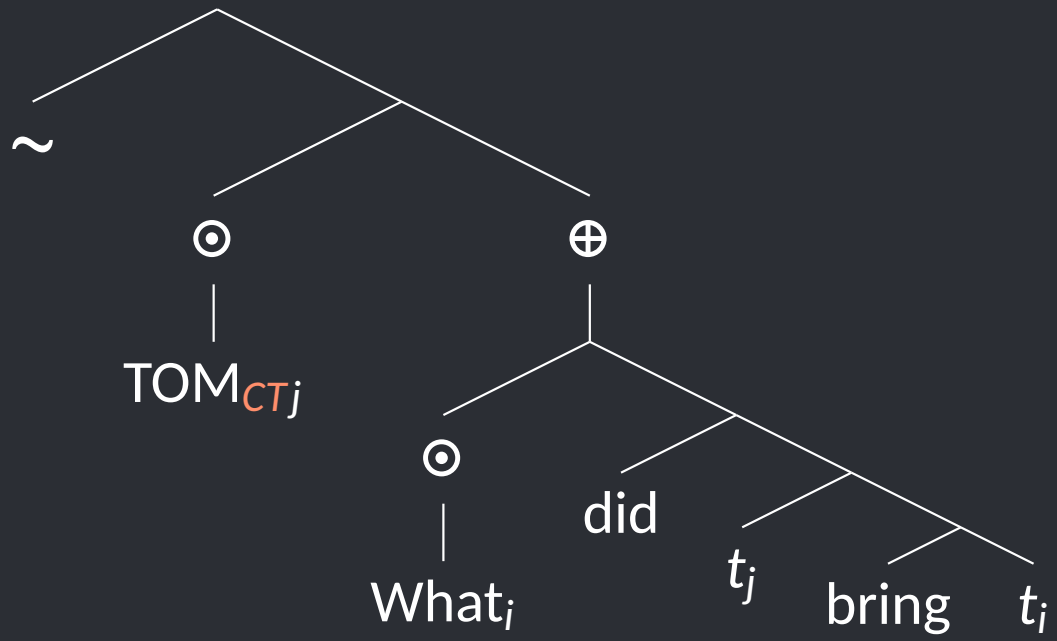
c. $[\![(\text{brought POTS.}^{\odot}_{F})^{\oplus}]\!]^f = \lambda y. \bigcup_{x \in D_e} \{\lambda w.y \text{ brought}_w\ x\}$

CT-marking in WhQs

Wh-elements introduce f-alternatives in both the o- and f-value, and participate in the scopal interaction of CTs

(47) $[\![who]\!]^f = [\![who]\!]^o = \{x \mid x \in D_e\}$

(48) $QUD \subseteq \{\{\lambda w.y \text{ brought } x \text{ in } w \mid x \in D_e\} \mid y \in D_e\}$



What's next

A QUD-based approach

- ✓ Put forward basic theory of CT-marking in WhQs
- **Apply it to F and CT-marked PolQs**
- Extend it to OpenQs
- Extend it to AltQs

F and CT-marking in PolQs

CT-marking in simple PolQs

Less widely discussed: foci in PolQs like (49)

(49) a. Has GRAHAM$_{CT}$ voted already?

b. No, but ANNEY$_{CT}$ DID$_{F}$

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Less widely discussed: foci in PolQs like (49)

(49) a. Has GRAHAM$_{CT}$ voted already?
b. No, but ANNEY$_{CT}$ DID$_{F}$
c. #No, ANNEY$_{F}$ did.

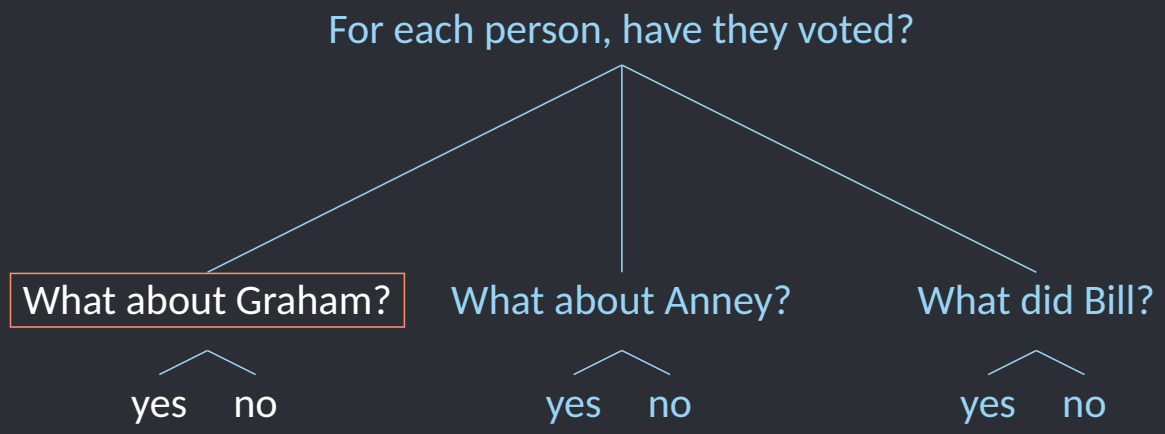
Like WhQs, answers to these CT-marked PolQs must have a CT-F structure

Generalizing the CT-account to simple PolQs

Like CT-marked WhQs presupposed a QUD which was a set of WhQs, the PolQ and its answer in (50) presupposes a QUD which is a set of PolQs:

(50) a. Has GRAHAM$_{CT}$ voted already?

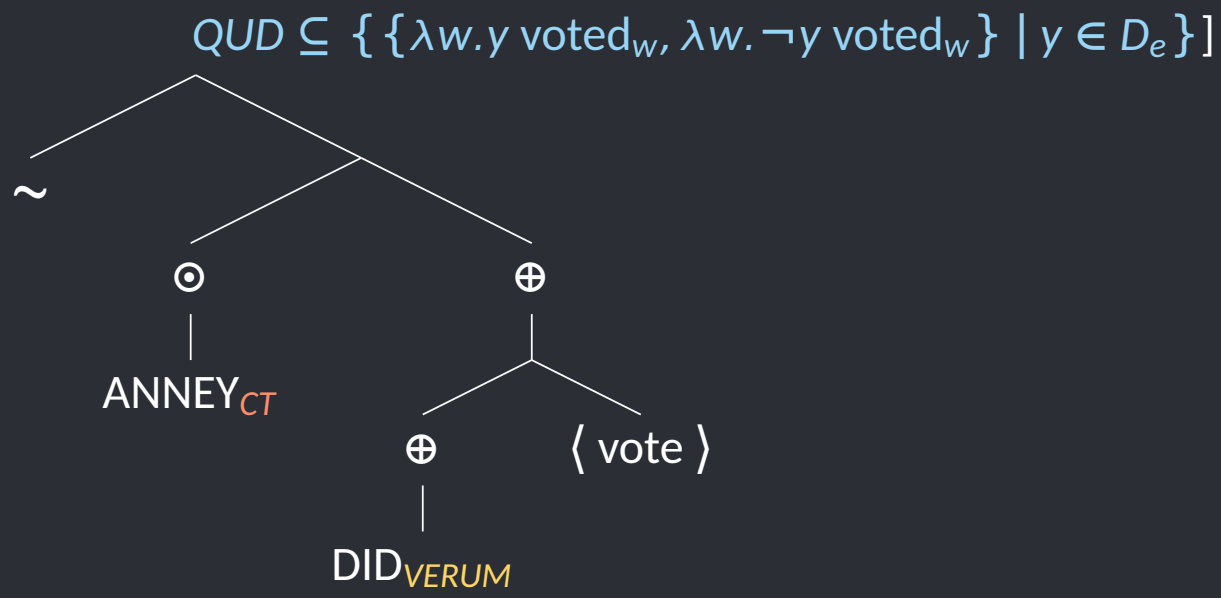
b. No, but ANNEY$_{CT}$ DID$_{F}$



Generalizing the CT-account to simple PolQs

In (51) we derive this for the CT-F answer again:

(51)



The answer in (51) involves verum focus:

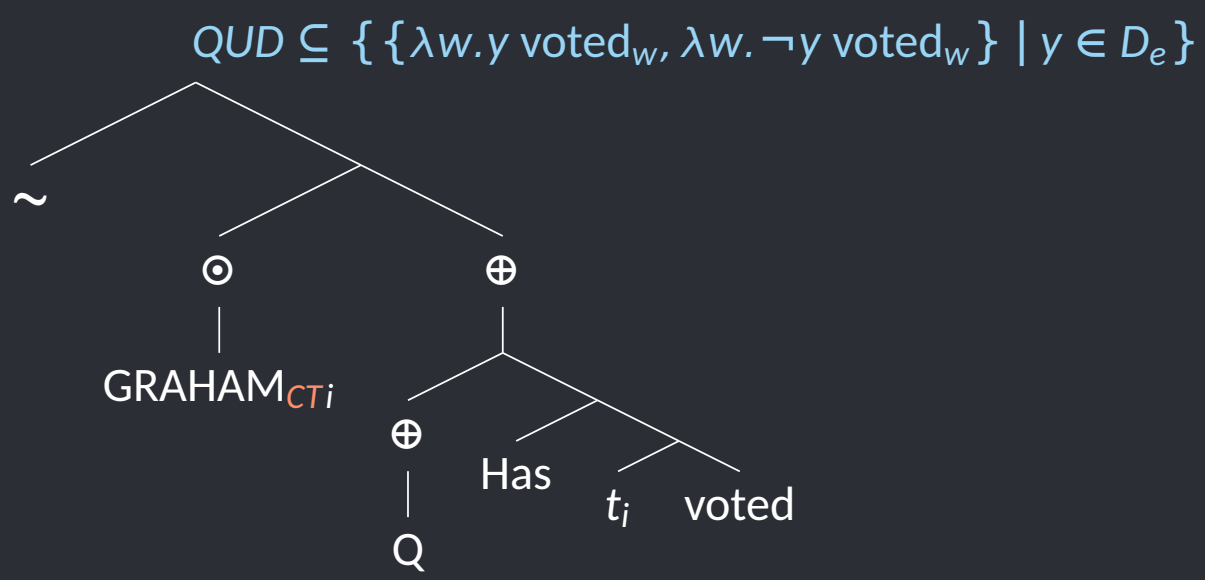
(52) a. $[\![DID_{VERUM}]\!]^o = \lambda p.p$

b. $[\![DID_{VERUM}]\!]^f = \{\lambda p \lambda y.p(y), \lambda p \lambda y.\neg p(y)\}$

Generalizing the CT-account to simple PolQs

Assuming a similar structure for CT-marked PolQs:

(53)



The question operator Q introduces alternatives in both its o-value and f-value, and is similar to the verum focus in the answer:

(54) $[\![\text{Q}]\!]^o = [\![\text{Q}]\!]^f = \{\lambda p \lambda y.p(y), \lambda p \lambda y.\neg p(y)\}$

F-marking in PolQs

In (55b), CT-F marking is an indication that (55a) indeed involves CT-marking:

(55) a. Has GRAHAM$_{CT}$ voted already?

b. No, but ANNEY$_{CT}$ DID$_{F}$

F-marking in PolQs

In (55b), CT-F marking is an indication that (55a) indeed involves CT-marking:

(55) a. Has GRAHAM$_{CT}$ voted already?
b. No, but ANNEY$_{CT}$ DID$_{F}$

But we also have examples like (56): (Kamali & Krifka, 2020)

(56) a. Did GRAHAM$_{CT?}$ win the race?

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But we also have examples like (56): (Kamali & Krifka, 2020)

(56) a. Did GRAHAM$_{F}$ win the race?
b. No, ANNEY$_{F}$ did.

F-marking in PolQs

Intuitively, the QUD that is signalled in each of these two PolQs is indeed different:

(31) a. Has GRAHAM$_{CT}$ voted already?
b. No, but ANNEY$_{CT}$ DID$_{F}$
c. #No, ANNEY$_{F}$ did.

QUD: for each person, have they voted?

(32) a. Did GRAHAM$_{F}$ win the race?
b. #No, but ANNEY$_{CT}$ DID$_{F}$
c. No, ANNEY$_{F}$ did.

QUD: Who was it that won the race?

Difference CT and F marking in questions

I derive this by assuming that the squiggle can be interpreted either above or below the question operator:

- When ~> Q we will get the CT-reading:

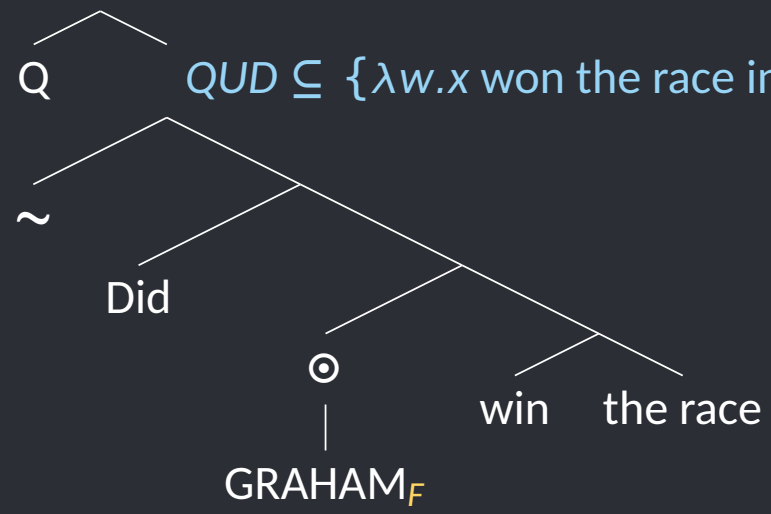
  (33) ~ [CT…[…Q…]]

- When Q >~ we will get a F-reading:

  (34) Q [~ […F…]]

F-marking in simple PolQs

(35)

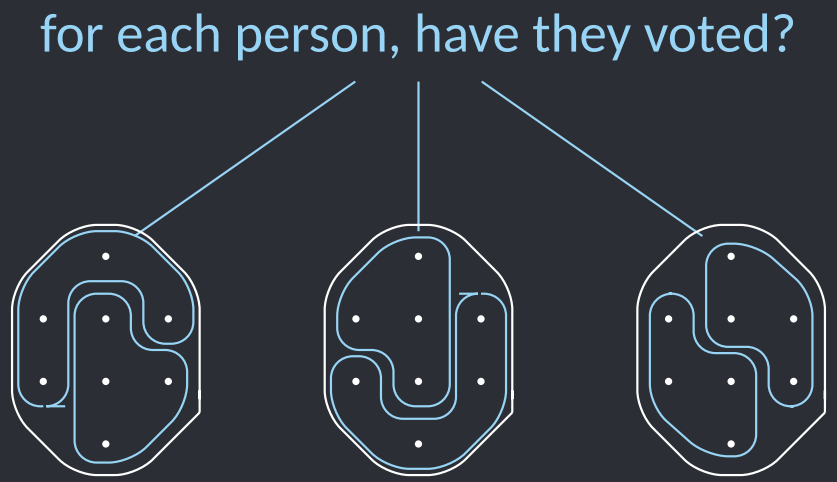


(36) $[\![GRAHAM^{\odot}_{F} \text{ won}]\!]^{f} = \bigcup_{x \in D_e} \{\lambda w.x \text{ won}_w\}$ $\rightsquigarrow$ "Who won?"

What determines the scope of ∼?

In PolQs, both configurations are freely available, but each type of focus marking comes with its own presuppositions.

Since CT-marked questions give rise to a set of PolQs, these questions come with an **independence presupposition**



What determines the scope of ∼?

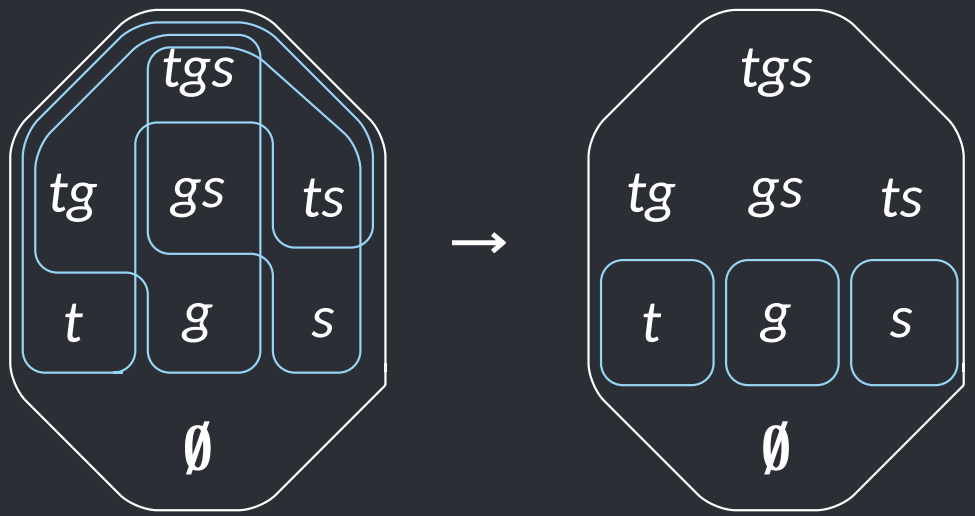
F-marked PolQs always come with an **existential presupposition**

F-marking, but not CT-marking, comes with an exhaustivity presupposition: (Hara & van Rooij, 2007; Tomioka, 2010; Wagner, 2012)

(37) $[\![exh\ \varphi]\!]^f = \{prune(\alpha, [\![\varphi]\!]^f) \mid \alpha \in [\![\varphi]\!]^f\}$

(38) $prune(\alpha, A) = \{w | w \in \alpha \ \&\ w \notin \beta \text{ for any } \beta \in A \text{ s.t. } \alpha \not\subseteq \beta\}$

(Menéndez-Benito, 2005)



What determines the scope of ∼

The form of the question may therefore disambiguate:

- In (31), it is unlikely that the speaker wants to make an existential presupposition.

(31) a. Has GRAHAM$_{CT}$ voted already?
b. #No, ANNEY$_{F}$ did.

- In (32) it is unlikely that the speaker wants to make an independence presupposition.

(32) a. Did GRAHAM$_{F}$ win the race?
b. #No, but ANNEY$_{CT}$ DID$_{F}$

Summing up

A rising pitch accent in PolQs can either indicate CT or F marking.

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In both cases, reference is made to an antecedent question.

- In F-marked PolQs, the QUD is a WhQ.
- In CT-marked PolQs, the QUD is set of PolQs.

Summing up

A rising pitch accent in PolQs can either indicate CT or F marking.

In both cases, reference is made to an antecedent question.

- In F-marked PolQs, the QUD is a WhQ.
- In CT-marked PolQs, the QUD is set of PolQs.

We can see this in the form of the answer:

- Felicitous answers presuppose the same QUD as the question.
- Felicitous answers have to resolve both the question itself and this QUD

Before we move on to OpenQs: disjunctive PolQs!

Disjunctive PolQs

Disjunctive PolQs

I assume a generalized disjunction for *or*:

(33) **Generalized disjunction** for any α, β of conjoinable type τ, $[\![\alpha \text{ or } \beta]\!] = [\![\alpha]\!] \sqcup [\![\beta]\!]$[1]

a. For $T_1, T_2 \in D_t$, $T_1 \sqcup T_2 = T_1 \vee T_2$

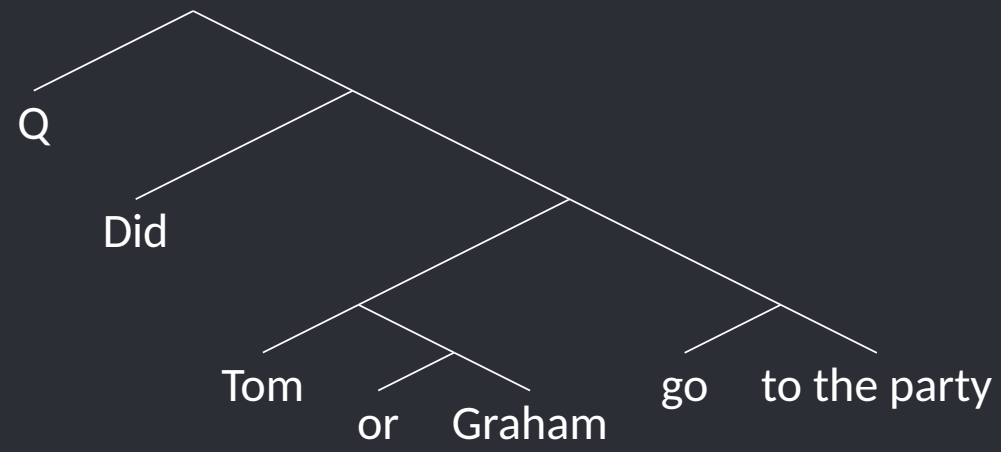
b. For $f_1, f_2 \in D_{(\sigma\tau)}$, $f_1 \sqcup f_2 = \lambda s_\sigma . f_1(s) \vee f_2(s)$

c. For $f_1, f_2 \in D_{S\tau}$, $f_1 \sqcup f_2 = f_1 \cup f_2$

Disjunctive PolQs

In non-focused marked PolQs, the disjuncts don't introduce alternatives

(34)

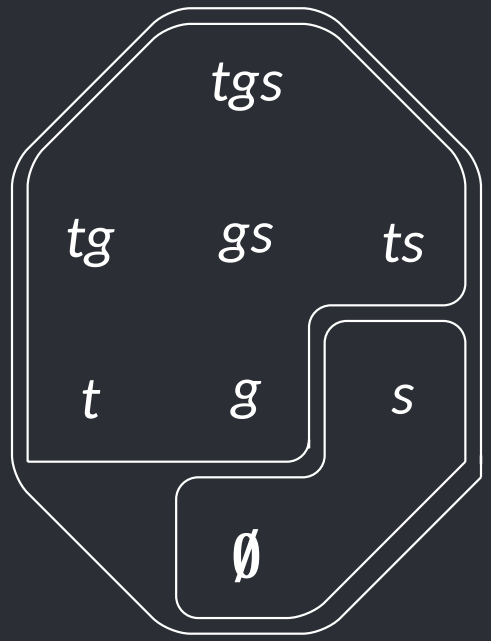


(35) $[\![DisjP]\!]^f = [\![DisjP]\!]^o = \lambda P \lambda w.P_w(t) \vee P_w(g)$

(36) $[\![(34)]\!]^f = [\![(34)]\!]^o = \{\lambda w.\text{t or g went}_w, \lambda w.\neg\text{t or g went}_w\}$

Disjunctive PolQs: answerhood conditions

The question itself will correspond to a PolQ:



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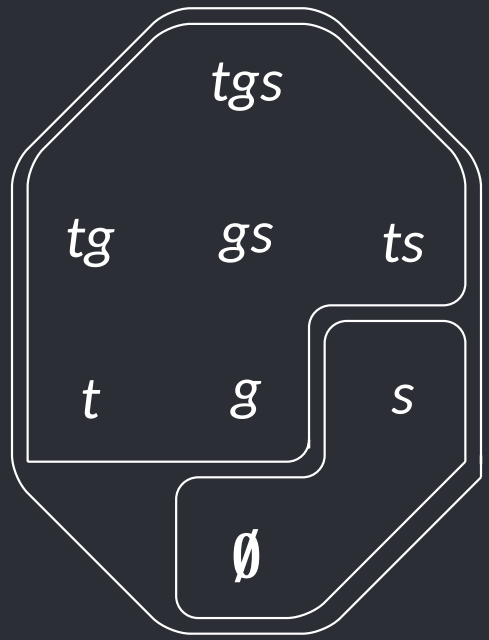

(37) a. Yes, Tom or Graham did.

b. No, neither did.

What's next

A QUD-based approach

- ✓ Put forward basic theory of CT-marking in WhQs
- ✓ Apply it to F and CT-marked PolQs
- *Extend it to OpenQs*
- Extend it to AltQs

F and CT-marking in OpenQs

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Like PolQs, OpenQs are ambiguous, and the form of the question can disambiguate:

(38) a. Has TOM$_{CT}$ voted already, or GRAHAM$_{CT}$ $^{H\text{—}H\%}$

b. TOM$_{CT}$ DID$_{F}$, but GRAHAM$_{CT}$ DIDN'T$_{F}$.

c. #TOM$_{F}$ did.

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c. #TOM$_{F}$ did.
d. #Tom or Graham did.

(39) a. Did TOM$_{F}$ win the race, or GRAHAM$_{F}$ $^{H-H\%}$
b. #TOM$_{CT}$ DID$_{F}$, but GRAHAM$_{CT}$ DIDN'T$_{F}$.
c. TOM$_{F}$ did.
d. #Tom or Graham did.

In both cases, an “either" response does not seem to be enough to resolve the question.

F-marking in OpenQs

Again, we see that the two questions and their corresponding answers seem to have different QUDs:

(40) a. Has TOM$_{CT}$ voted already, or GRAHAM$_{CT}$ $^{H\text{—}H\%}$

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QUD: For each individual, who has voted already?

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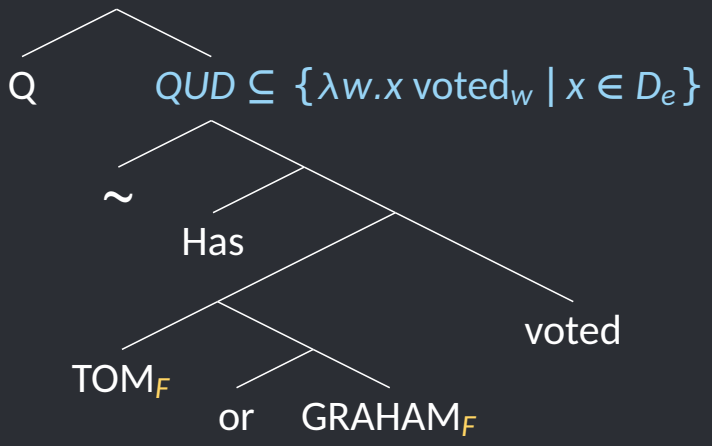
(41) a. Did TOM$_{F}$ win the race, or GRAHAM$_{F}$ $^{H-H\%}$

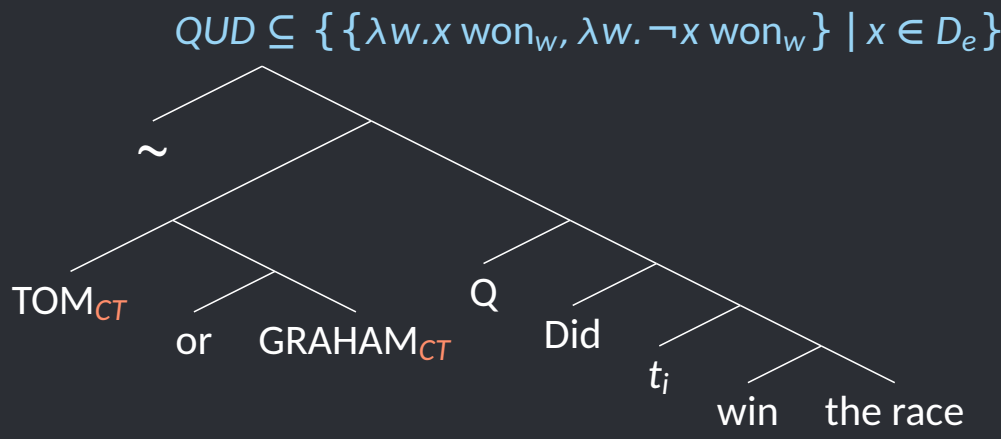
b. TOM$_{F}$ did.

QUD: Who was it that won the race?

F-marking in OpenQs

The squiggle in OpenQs can be interpreted either above or below the question operator, corresponding to an F or CT reading respectively





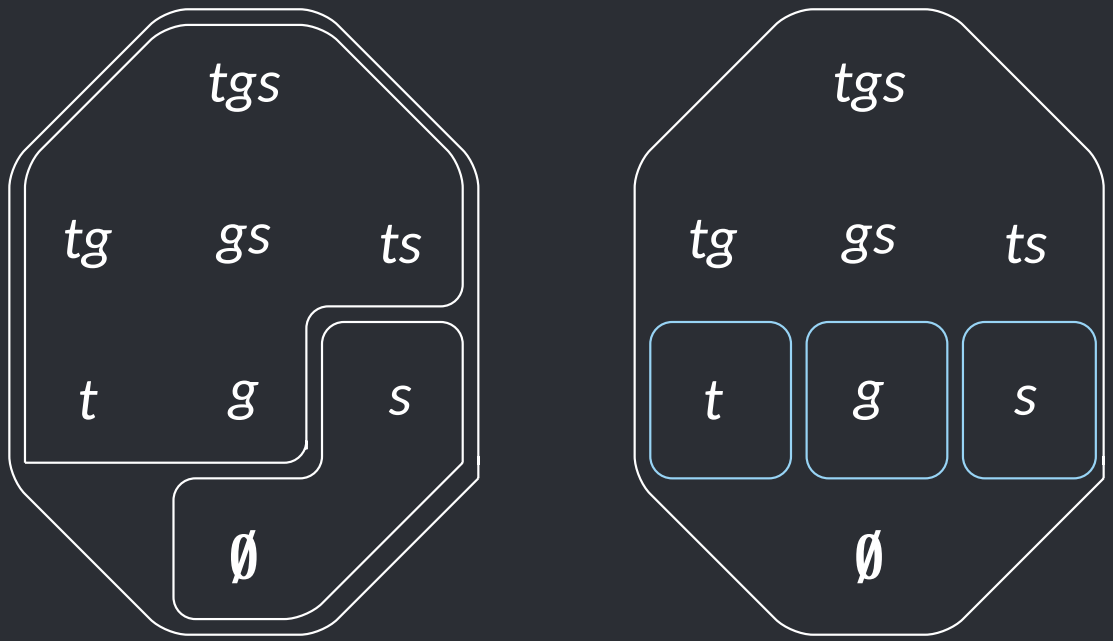
(42) $[\![DisjP]\!]^f = \{x \mid x \in D_e\} \cup \{x \mid x \in D_e\} = \{x \mid x \in D_e\}$

F-marking in OpenQs

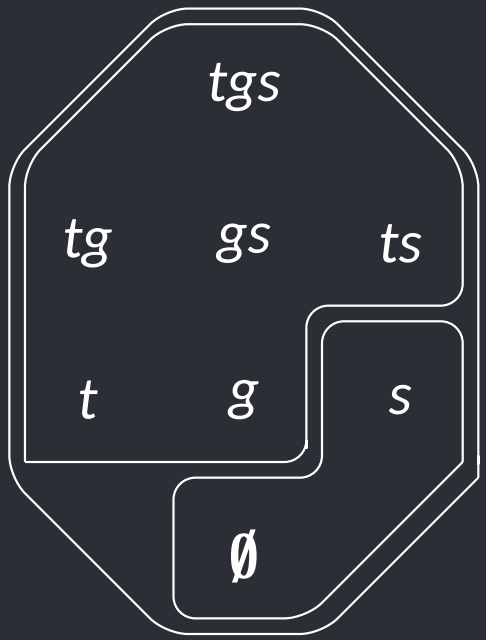
Because disjunction doesn't introduce alternatives in the o-value:

(43) $[\![\textit{OpenQ}]\!]^o = [\![\textit{disj. PolQ}]\!]^o$

But the QUD signalled by this question with F-marking is a WhQ:



F-marking in OpenQs



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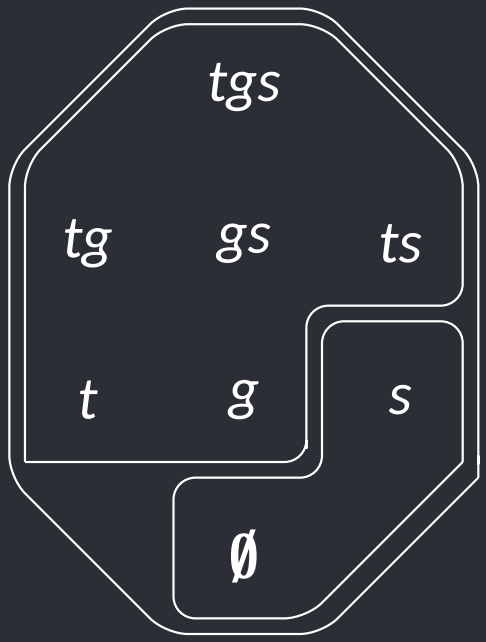

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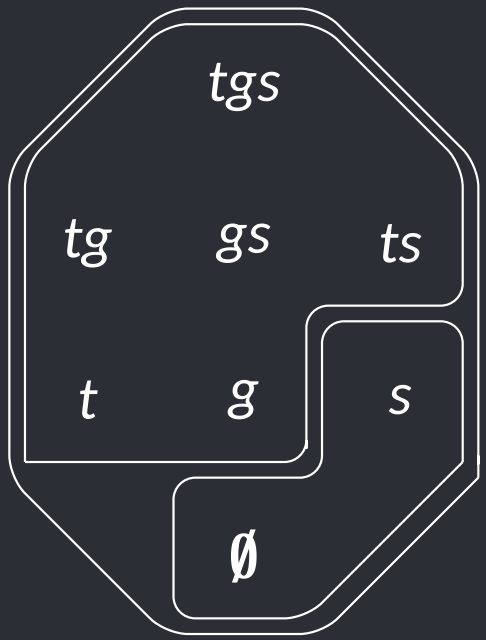

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b. Yes, TOM$_F$ did — resolves both $[\![Q]\!]^o$ and QUD

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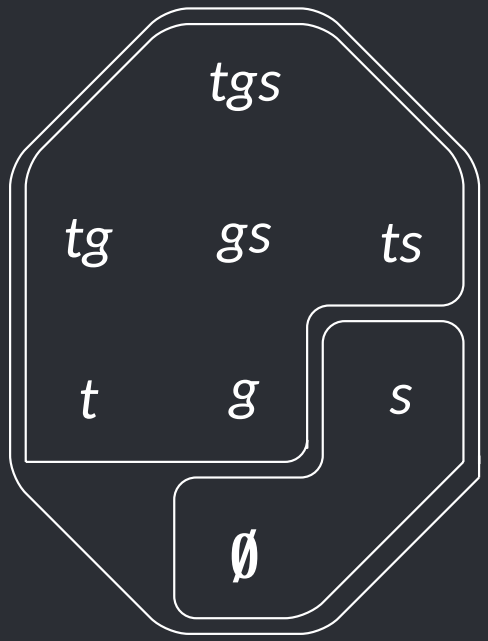
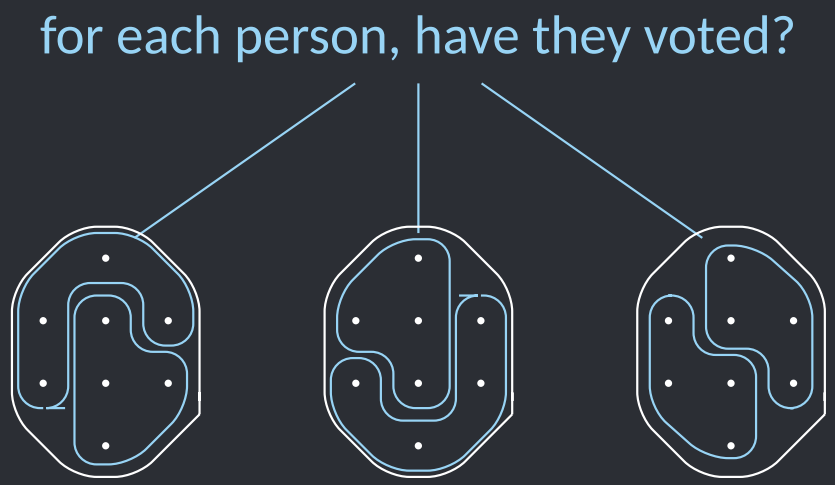
CT-marking in OpenQs

The QUD signalled by an CT-marked OpenQ is again a set of PolQs:





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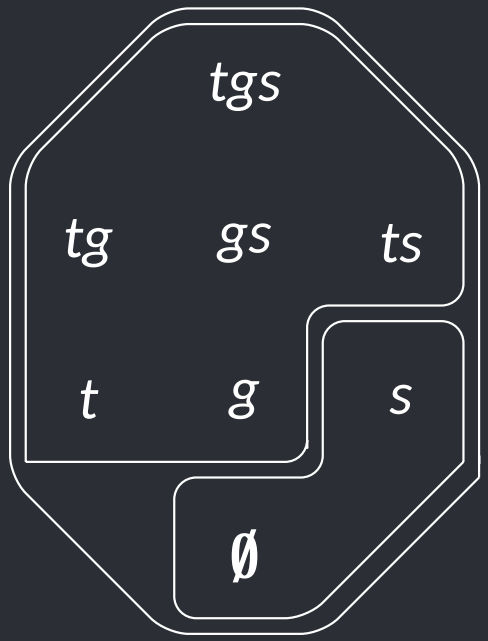

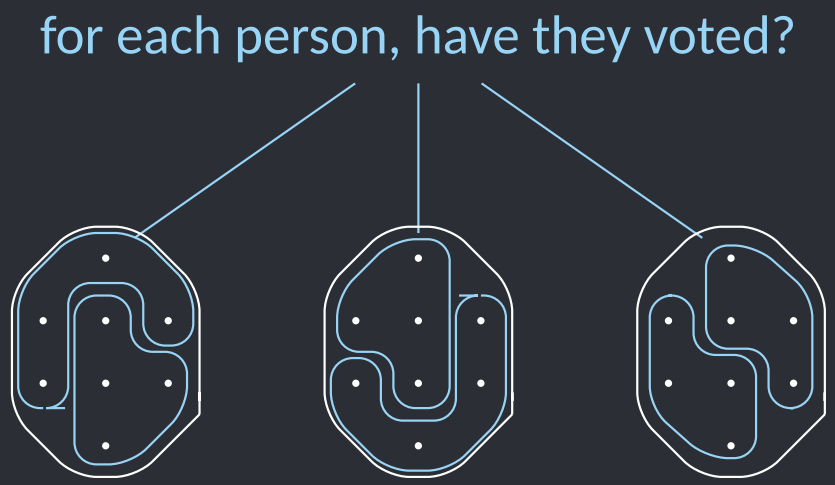

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b. Yes, TOM_{CT} DID_{F} — resolves both $[\![Q]\!]^o$ and QUD

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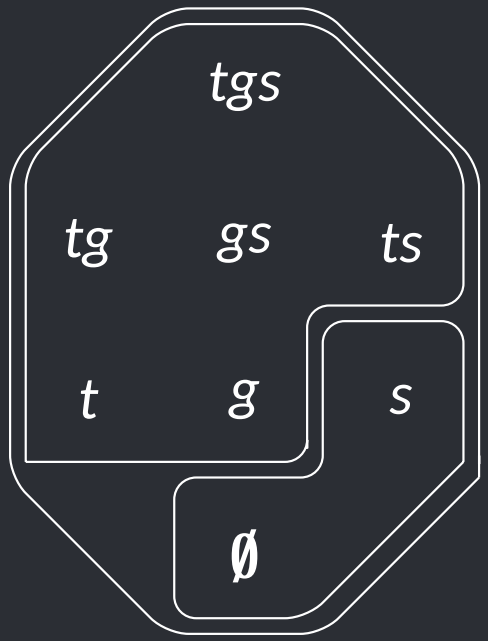

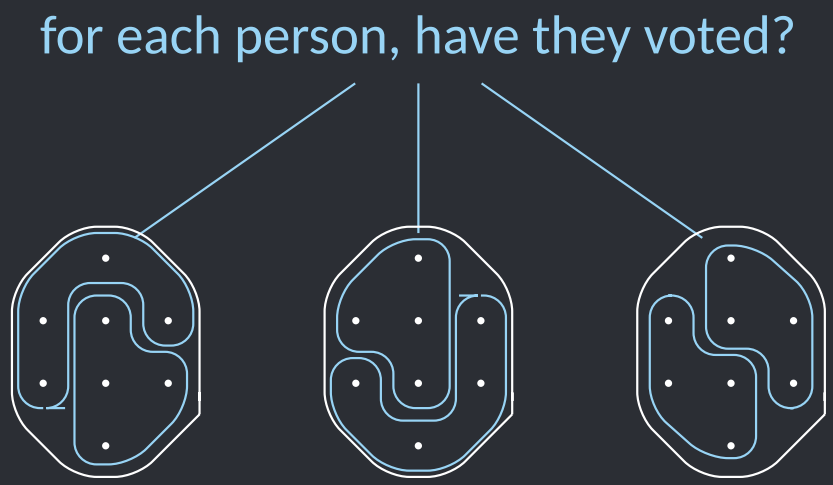

(44)

a. #Tom or Graham did — too weak to resolve QUD

b. Yes, TOM$_{CT}$ DID$_{F}$ — resolves both $[\![Q]\!]^o$ and QUD

c. No, but SOPHIE$_{CT}$ DID$_{F}$ — resolves both $[\![Q]\!]^o$ and QUD

d. No, NEITHER$_{CT}$ DID$_{F}$ — resolves both $[\![Q]\!]^o$ and QUD

Summing up

F-marked questions raise two questions simultaneously: the actual question and a QUD

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Because of the nature of disjunction, the literal meaning of OpenQs and their presupposed QUDs come apart

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Because of the nature of disjunction, the literal meaning of OpenQs and their presupposed QUDs come apart

Felicitous answers resolve both the literal question as well as their presupposed QUD

What's next

A QUD-based approach

- ✓ Put forward basic theory of CT-marking in WhQs
- ✓ Apply it to F and CT-marked PolQs
- ✓ Extend it to OpenQs
- **Extend it to AltQs**

F-marking in AltQs

F-marking in AltQs

AltQs can only involve f-marking:

(45) a. Did TOM$_{F}$ win the race, or did GRAHAM$_{F}^{L-L\%}$

b. #TOM$_{CT}$ DID$_{F}$, but GRAHAM$_{CT}$ DIDN'T$_{F}$.

c. TOM$_{F}$ did.

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(46) #Has TOM$_{F}$ voted already, or has GRAHAM$_{F}$ $^{L-L\%}$

Note that the OpenQ version is felicitous:

(47) Has TOM$_{CT}$ voted already, or has GRAHAM$_{CT}$ $^{H-H\%}$

F-marking in AltQs

The only difference between AltQs and OpenQs is the falling pitch accent (and boundary tone).

Final falling pitch accent signals list closure (Biezma, 2009; Zimmermann, 2000):

- List closure affects focus alternatives: closure intonation restricts focus alternatives to those that are in the ordinary value.

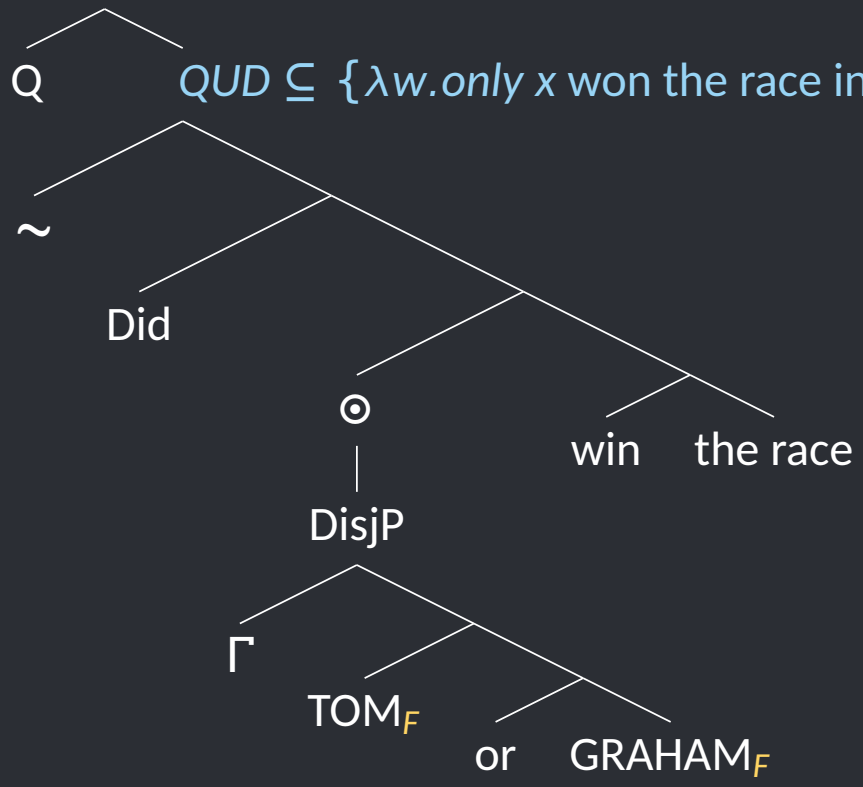
(48) a. $[\![\Gamma\ \varphi]\!]^f = \{\alpha \in [\![\varphi]\!]^f \mid \alpha \subseteq [\![\varphi]\!]^o\}$

b. $[\![\Gamma\ \varphi]\!]^o = [\![\varphi]\!]^o$

F-marking in AltQs

The final falling accent in AltQs forces a low interpretation of ∼:

(49)



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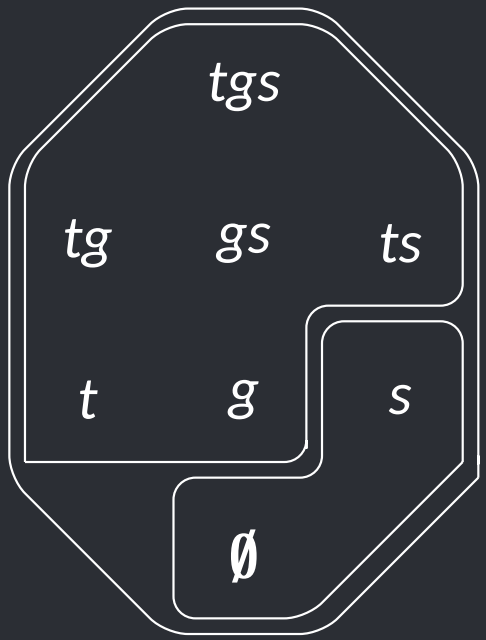

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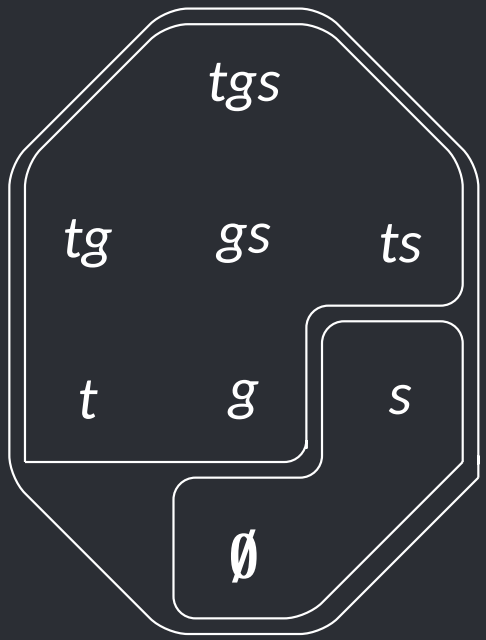

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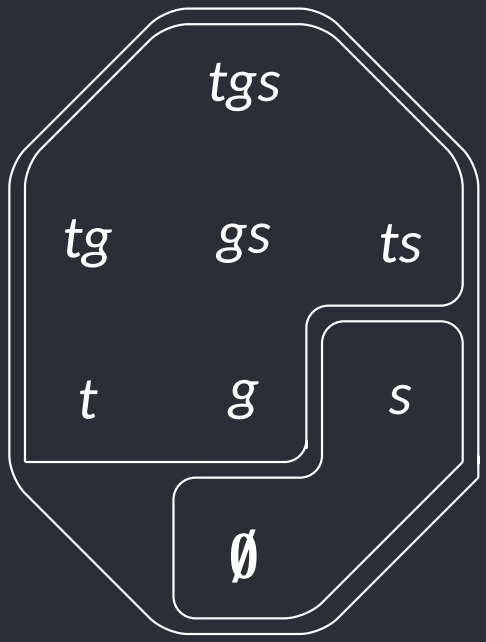
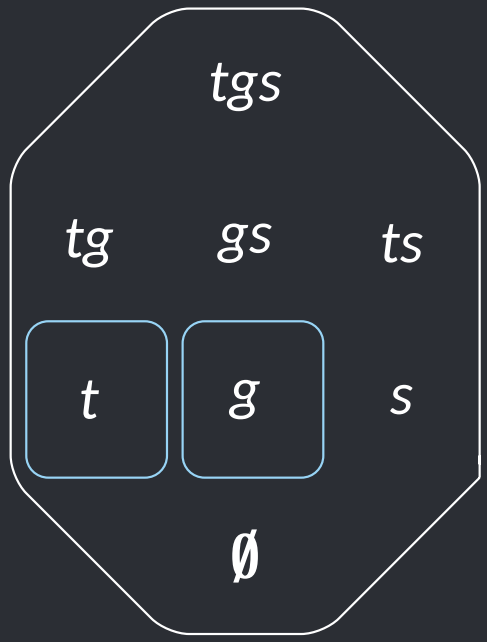




(50)

a. #Tom or Graham did — too weak to resolve QUD

b. TOM$_F$ did — resolves both $[\![Q]\!]^o$ and QUD

c. #SOPHIE$_F$ did — resolves $[\![Q]\!]^o$ but not QUD

Conclusion

Conclusion

The difference between PolQs, OpenQs and AltQs is derived by making reference to the shape of the QUD.

1. Differences in the prosodic realization of a question give rise to different QUDs.
2. QUDs can affect answerhood conditions in disjunctive questions.

Conclusion

F-marking in questions determines what constitutes a possible answer by signaling what the speaker's QUD is like.

Crucial assumption: answers to f-marked questions have to resolve the question itself, but also the presupposed QUD.

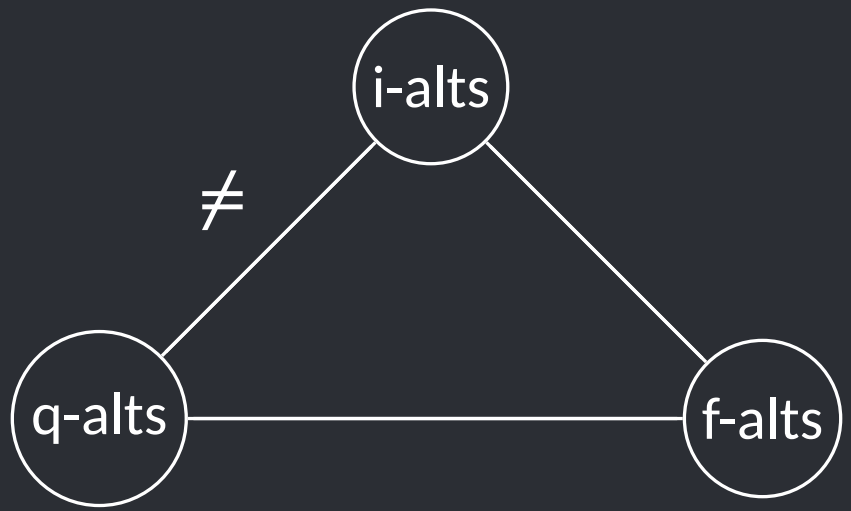
Treating the differences between PolQs, OpenQs and AltQs not in the semantics proper but via discourse conditions.

- This proposal does not rely on structural differences between AltQs/OpenQs and PolQs.
- And it brings out the striking parallel between the prosody of questions with contrastive topics and that of OpenQs and AltQs

Conclusion: Which alternatives?

Coming back to our broader conceptual question: how do these alternatives relate to each other?

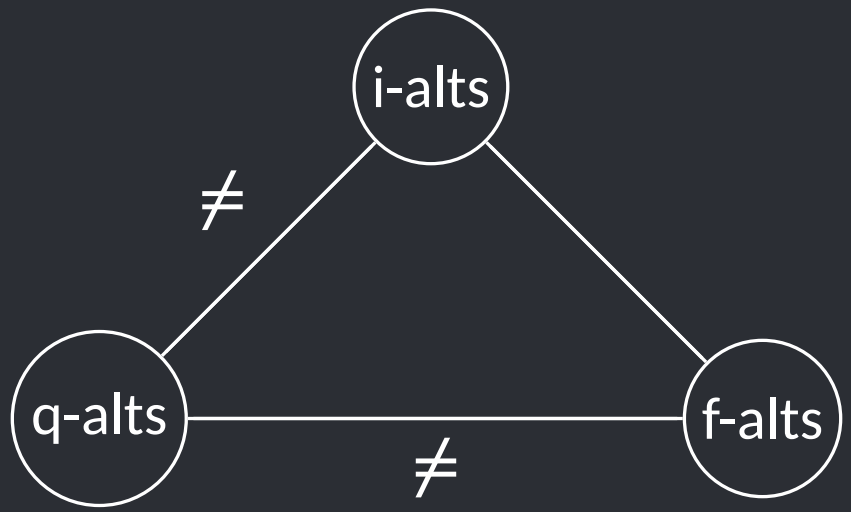
- We saw that q-alts in OpenQs/AltQs cannot be equated to i-alts



Conclusion: Which alternatives?

Coming back to our broader conceptual question: how do these alternatives relate to each other?

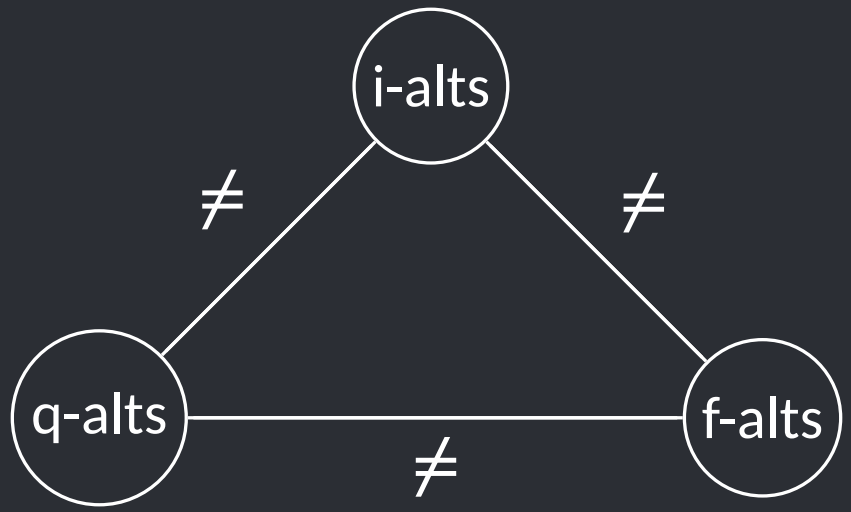
- We saw that q-alts in OpenQs/AltQs cannot be equated to i-alts
- We saw also saw that q-alts in these questions cannot be equated to f-alts



Conclusion: Which alternatives?

The goal of the current account was therefore to keep them distinct without losing their intuitive relatedness

- Disjunction does not provide alternatives, but allows f-alts to project
- F-alts are not equated with q-alts, but exist alongside them



Thank you!

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