

On the reportative complementizer *que* in Spanish

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5th Meeting of the DFG Network “Definiteness across Domains”
University of Accra, Ghana, March 18-19, 2024

1. INTRODUCTION

■ Two CP_{interrogative} strategies in Spanish:

Certain attitude verbs V in Spanish allow for two CP strategies for an embedded interrogative clause (Rivero 1980, Plann 1982, Suñer 1993, a.o.)

- ① V + CP_{interr}
- ② V + **que** ‘that’/‘QUE’ + CP_{interr}

■ Interpretation

Each strategy often leads to a different interpretation (Plann 1982, Suñer 1993):

- ① V + CP_{interr}: (1a), (2a), (3a). ⇒ x V-ed the **answer** to the question
- ② V + **que** ‘QUE’ + CP_{interr}: (1b), (2b), (3b) ⇒ x V-ed the **question**

- (1) a. Paco repitió [quién vino].
Paco repeated who came
‘Paco repeated who came’ ⇒ Paco repeated the **answer**
b. Paco repitió [**que** quién vino].
Paco repeated **QUE** who came
‘Paco repeated QUE who came’ ⇒ Paco repeated the **question**
- (2) a. Lucía dijo [si Juan había visto a Eduardo].
Lucia said whether Juan had seen A Eduardo
‘Lucia said whether Juan had seen E.’ ⇒ Lucia uttered the **answer**
b. Lucía dijo [**que** si Juan había visto a Eduardo].
Lucia said **QUE** whether Juan had seen A Eduardo
‘Lucia said QUE whether Juan had seen E.’ ⇒ Lucia uttered the **question**
- (3) a. Kofi escribió en un papel [si *pro* prefería red red o salsa palava].
Kofi wrote on a paper whether *pro* preferred red red or sauce palava
‘Kofi wrote down on a piece of paper whether s/he preferred red red or palava sauce.’ ⇒ Kofi wrote down the **answer**
b. Kofi escribió en un papel [**que** si *pro* prefería red red o salsa palava].
Kofi wrote on a paper **QUE** whether *pro* preferred red red or sauce palava
‘Kofi wrote down on a piece of paper QUE whether s/he preferred red red or palava sauce.’ ⇒ Kofi wrote down the **question**

■ Distribution of the alternation

As we will see in more detail in §2, the alternation between these two CP_{interr} strategies is possible under some attitude verbs, as in (1)-(3), but not under others, as in (4):

- (4) a. Ana explicó [cómo lo hizo].
Ana explained how it did.3sg
'Ana explained how s/he did it' ⇒ Ana produced the answer
- b. * Ana explicó [que cómo lo hizo].
Ana explained QUE how it did.3sg
'Ana explained QUE how s/he did it'

■ Goal of this talk:

To provide a semantic analysis of the QUE + CP_{interr} construction that derives:

- the interpretive differences in (1)-(3) as well as
- the distribution of the bare CP_{interr} / QUE + CP_{interr} alternation in (1)-(4) and in §2

■ To this end, three current strands of work in formal semantics will be combined:

- A. Uniform treatment of CP_{interr} and CP_{declar} as denoting a set of propositions (semantic type <st,t>) (Ciardelli & Roelofsen 2015, Uegaki 2015, Theiler, Roelofsen & Aloni 2018, a.o.).

⇒ uniform framework for the two interpretations

- B. Event-based modal semantics for attitude verbs (Kratzer 2006, Moulton 2009, Hacquard 2006, 2010, Demirock, Özyıldız & Ozturk 2020, a.o.)

⇒ the semantic contribution of the COMP(lementizer)

- C. So-called 'say'-complementation, where a form derived from the verb 'say' acts (seemingly) as complementizer (Baker 2015, Maier 2017, Özyıldız 2017, Bondarenko 2020, Major 2021, Özyıldız & Uegaki 2023, a.o.)

⇒ notion of linguistic production

■ Roadmap

- §2 Further empirical data on QUE + CP_{interr}
- §3 Theoretical background
- §4 Proposal
- §5 A potential extension
- §6 Outlook

2. FURTHER EMPIRICAL DATA ON QUE + CP_{INTERR}

■ This section provides data on:

- the distribution of the bare CP_{interr} / QUE+CP_{interr} alternation under attitude Vs ⇒ §2.1
- the syntactic status of the QUE + CP_{interr} constituent ⇒ §2.2

2.1. Distribution of the alternation

■ ROGATIVE verbs (= verbs that can combine with CP_{interrog} clauses but not with CP_{decl(arative)}): *preguntar* ‘ask’, *preguntarse* ‘wonder’, *inquirir* ‘inquire’, ...

- (5) a. Alex preguntó [quién había venido].
Alex asked who had come
‘Alex asked who came.’ ⇒ Alex uttered the **question**
- b. Alex preguntó [**que** quién había venido].
Alex asked QUE who had come ⇒ Alex uttered the **question**
‘Alex asked QUE who came.’ (+ semi-quotative feeling)

Under ROGATIVE Vs:	✓ CP _{interr}	✓ QUE + CP _{interr}
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■ ANTI-ROGATIVE verbs (= verbs that can combine with CP_{decl} but not with CP_{interrog}): *creer* ‘believe’, *parecer* ‘seem’, *ser cierto* ‘be true’, ...

- (6) a. * Bego cree [quién vino].
Bego believes who came
‘Bego believes who came’
- b. * Bego cree [**que** quién vino].
Bego believes QUE who came
‘Bego believes QUE who came’

Under ANTI-ROGATIVE Vs:	✗ CP _{interr}	✗ QUE + CP _{interr}
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■ RESPONSIVE verbs (=verbs that can combine with CP_{interrog} and with CP_{decl}):

- Cognitive Vs, including factive (e.g. *saber* ‘know’) and non-factive (*sospechar* ‘suspect’) do not allow for QUE+ CP_{interrog} –except *pensar*_{eventive} ‘think_{eventive}’!
- Emotive factives, e.g. *sorprenderse* ‘be surprised’, do not allow for QUE+ CP_{interrog}

- (7) a. Juan ✓sabe / ✓sospecha / ✓pensó / ✓se sorprendió de [quién vino].
Juan knows / suspects / thought / was surprise at [who came].
- b. Juan *sabe / *sospecha / ✓pensó / *se sorprendió de [**que** quién vino].
Juan knows / suspects / thought / was surprise at [QUE who came].

- Communication verbs:
 - Some allow for QUE+CP_{interrog}: *decir* ‘say’, *repetir* ‘repeat’ and *escribir* ‘write down’, *susurrar* ‘whisper’, ...
 - Some disallow QUE+CP_{interrog}: *explicar* ‘explain’, *contar* ‘≈tell’, *relatar* ‘report’...

- (8) a. Juan ✓dijo / ✓susurró / ✓contó / ✓relató [quién vino].
 Juan said / whispered / told / reported [who came].
 b. Juan ✓dijo / ✓susurró / *contó / *relató [**que** quién vino].
 Juan said / whispered / told / reported [QUE who came].

Under RESPONSIVE Vs: ✓ CP_{interr} ✓/✗ QUE + CP_{interr}

■ Plann’s (1982) empirical generalization:

- (9) An attitude V can combine with QUE+CP_{interr} iff the attitude V can introduce a (matrix) interrogative in direct speech. (Plann 1982)
- (10) ROGATIVE Vs:
 ✓ Alex asked: “Who came?”
- (11) ANTI-ROGATIVE Vs:
 * Bego believed: “Who came?”
- (12) RESPONSIVE Vs:
 a. John *knows / *suspects / ✓thought / *was surprised: “Who came?”
 b. John ✓said / ✓repeat / ✓whispered / *told / *reported: “Who came?”

UPSHOT OF §2.1

The QUE+CP_{interr} construction conveys that there was **linguistic production** –external or, in the case of *think*, internal– with (roughly) the **form** of the CP_{interr}.

This determines distribution of QUE+CP_{interr}:

Attitude verbs compatible with a CP_{interr} linguistic production can combine with QUE+CP_{interr}, while those incompatible with a CP_{interr} linguistic production cannot.

2.2. Syntactic function of QUE + CP_{interr}

■ ‘Say’-complementation:

Some languages have a (seeming) complementizer derived from the verb ‘say’: e.g. *diye* in Turkish, *dep* in Uyghur, *si* in Avatime; see also Japanese *to*, Korean *ko*.

These ‘say’-CPs often involve a sense of **linguistic production** (Major 2021, Özyıldız & Uegaki 2023), similar to our QUE + CP_{interr} construction.

Here we will focus on Turkish *diye*.

- (13) Ai [kar yağ.ıyor diye] şaşırdı. [Turkish]
Ai snow fall.PRES.3S DIYE was.surprised
‘Ai was surprised, thinking “It’s snowing”.’ (Özyıldız & Uegaki 2023)

■ Importantly, we argue that the Turkish construction and the Spanish construction differ in syntactic function.

■ A *diye*-CP functions as an **adjunct** of the matrix V (Özyıldız & Uegaki 2023):

- Test 1: A *diye*-CP can attach to an intransitive V, e.g. *look around*.

- (14) Taro [ses ne ol-abil-ir **diye**] arandı
Taro sound what be-MODAL-AOR.3S DIYE looked around
‘Taro looked around, saying/thinking “What sound could it be?”.’

- Test 2: To pronominalize a *diye*-CP, an adverbial pro-form rather than an argumental pro-form is used:

- (15) Taro [kim gel-ecek **diye**] şaşırdı. Jiro da {öyle / ??on-a} şaşırdı.
Taro who come.Fut DIYE was.surprised. Jiro too {so / that.Dat} was.surprised
‘Taro was surprised, thinking “Who will come?”. Jiro was surprised in that way too.’

■ QUE + CP_{interr} functions as a syntactic **argument** –the complement– of the attitude V:

- Test 1: QUE + CP_{interr} cannot attach to a (derived) intransitive V:

- (16) * Juan miró a su alrededor **que** quién había venido.
Juan looked at his surrounding QUE who had come
Intended: ‘Juan looked around, saying/thinking “Who has/had come?”.’

- Test 2: To pronominalize a QUE + CP_{interr}, an argumental pro-form *lo* ‘it’ is used, not the adverbial pro-form *así* ‘so’:

- (17) Juan repitió [**que** quién había venido]. Mira también {*así / lo} repitió.
Juan repeated QUE who had came. Mira too { so / it.Acc} repeated
‘Juan repeated QUE who came. Mira said it too’

UPSHOT OF §2.2

Syntactically, QUE + CP_{interr} functions as an **argument** of the attitude V.

3. THEORETICAL BACKGROUND

■ Three trends of work

- Uniform <st,t>-treatment of CP_{decl} and CP_{interr}
- Event-based modal semantics for attitude verbs
- More on 'say'-complementation: encoding linguistic production

3.1. Uniform treatment of CP_{interr} and CP_{declar} as denoting a set of propositions

(Theiler et al. 2018, simplified!)

■ Embbeded CPs denote sets of propositions (type <st,t>):

$$(18) \quad \llbracket [\text{CP}_{\text{decl}} \text{ that Ana came}] \rrbracket = \{ \text{the proposition 'Ana came'} \}$$

$$= \{ \lambda w'. \text{come}_{w'}(\text{ana}) \}$$

$$(19) \quad \llbracket [\text{CP}_{\text{interr}} \text{ who}_{\{a,b,c\}} \text{ came}] \rrbracket = \{ \text{the proposition 'Ana came'},$$

$$\text{the proposition 'Bego came'},$$

$$\text{the proposition 'Carmen came'} \}$$

$$= \{ \lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c) \}$$

■ Attitude verbs:

(20) Conversational backgrounds:

- a. Do_x(w) = {w': w' conforms to what x believes in w}
- b. Rpt_x(w) = {w': w' conforms to what x says/repeats in w}
- c. Bou_x(w) = {w': w' conforms to what x desires in w}

(21) Inquisitive state:

[very roughly!]

$$\text{Inq}_x(w) = \{ p_{\langle s,t \rangle}: p \text{ settles one way or another all the issues entertained by } x \text{ in } w \}$$

(22) Sample responsive V:

$$\llbracket \text{repeat} \rrbracket = \lambda T_{\langle st,t \rangle}. \lambda x_e. \lambda w_s. \exists p \in T [\text{Rpt}_x(w) \subseteq p]$$

x repeated some p in T...

(23) Sample rogative V:

$$\llbracket \text{ask} \rrbracket = \lambda T_{\langle st,t \rangle}. \lambda x_e. \lambda w_s. \neg \exists p \in T [\text{Do}_{x_x}(w) \subseteq p] \wedge \text{Inq}_x(w) \subseteq T^1$$

x is not certain
about any p in T...

... but wants to find
out the truth answer to T

■ Derived truth conditions for RESPONSIVE Vs:

- (24) a. John repeated [CP_{decl} that Ana came]. ⇒ Grammatical
- b. John repeated [CP_{interr} who_{a,b,c} came]. ⇒ Grammatical, meaning:
John produced the/an **answer**

(25) $\llbracket \text{John repeated [CP}_{\text{decl}} \text{ that Ana came}] \rrbracket$

$$= \lambda w. \exists p \in \{ \lambda w'. \text{come}_{w'}(\text{ana}) \} [\text{Rpt}_x(w) \subseteq p]$$

$$= \lambda w. \text{Rpt}_x(w) \subseteq \lambda w'. \text{come}_{w'}(\text{ana})$$

(26) $\llbracket \text{John repeated [CP}_{\text{interr}} \text{ who}_{\{a,b,c\}} \text{ came}] \rrbracket$

$$= \lambda w. \exists p \in \{ \lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c) \} [\text{Rpt}_x(w) \subseteq p]$$

⇒ John produced the/an **answer**

¹ Theiler et al. (2018) assume that sentence meanings are downward closed: If $p \in \llbracket \Phi \rrbracket$ and $p \subseteq q$, then $q \in \llbracket \Phi \rrbracket$.

■ IDEA 2: Specialized complementizers

Some complementizers may add more specific requirements about the kind of attitude event they are logophoric to (Kratzer 2006, Demirock, Özyıldız & Ozturk 2020)

(34) Distributional schema of complementizers NA and YA in Laz: (Demirock et al. 2020)

a. Bill said / told me / believes / knows [NA Ana came].

↓
CONTENT(e) = ...

b. Bill said / told me / *believes / *knows [YA Ana came].

↓
CONTENT(e) = ... ∧ Speech ∪ Thought(e) ...

3.3. More on ‘say’-complementation: encoding linguistic production

■ We have seen that Turkish *diye* introduces a sense of **linguistic production**, similar to our QUE + CP_{interr} construction:

(35) Ai [kar yağ.ıyor diye] şaşırđı. (=13)
Ai snow fall.PRES.3S DIYE was.surprised
‘Ai was surprised, thinking “It’s snowing”.’ [Turkish]

■ Semantic analysis by Özyıldız & Uegaki (2023): [Simplified!]
Next to the event e_1 introduced by the attitude V, *diye* adds a second attitude event e_2 .
The CP introduced by *diye* specifies the **linguistic form** of this second e_2 .
A free pronoun –*pro*₅ in (16)– serves as semantic argument of e_1 .
[$e_1 \sim e_2$ roughly means “ e_1 and e_2 are contextually related”]

(36) [[Ai was surprised (at *pro*₅) [DIYE the snow is falling]]] =
 $\lambda e_2. \text{uttering}(e_2) \wedge \text{LINGFORM}(e_2) = \text{“The snow is falling”} \wedge$
 $\exists e_1 [\text{being-surprised}(e_1) \wedge \text{CONTENT}(e_1) = g(5) \wedge e_1 \sim e_2]$

■ For a more detail analysis of how close FORM(e_2) and the relevant clause (here, “The snow is falling”) are generally required to be, see Özyıldız, Major & Maier (2019) for Turkish, Major (2021) on Uyghur (and further refs therein).

UPSHOTS OF §3

1. CP_{decl} and CP_{interr} denote a set of propositions (uniform type <st,t>).
2. COMP introduces the modal component via CONTENT(e) and possibly adds further restrictions on the event described by the attitude V.
3. The feeling of linguistic production will be modelled using LINGFORM(e).

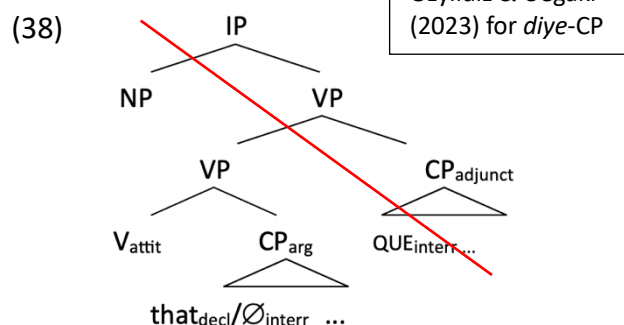
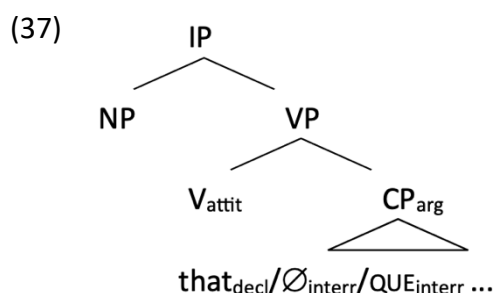
4. PROPOSAL

- Recall the upshot of §2.2 on the syntactic function of QUE + CP_{interr}:

UPSHOT OF §2.2
 Syntactically, QUE + CP_{interr} functions as an **argument** of the attitude V.

- Syntactic structure

Given this upshot, we assume structure (37) rather than (38).



- Semantics: Lexical entries and Predicate Modification over events

(39) Attitude verbs:

- $\llbracket \text{repeat} \rrbracket = \lambda e. \text{repeat}(e)$
- $\llbracket \text{ask} \rrbracket = \lambda e. \text{ask}(e)$

(40) Complementizers:

- $\llbracket \text{that}_{\text{decl}} \rrbracket = \llbracket \text{que}_{\text{decl}} \rrbracket = \lambda T_{\langle st, t \rangle}. \lambda e. \text{CONTENT}(e)=T$
- $\llbracket \emptyset_{\text{interr}} \rrbracket = \lambda T_{\langle st, t \rangle}. \lambda e. \text{CONTENT}(e)=T$
- $\llbracket \text{QUE}_{\text{INTERR}} \rrbracket = \lambda \langle T_{\langle st, t \rangle}, \text{CP} \rangle. \lambda e. \text{CONTENT}(e)=T \wedge \text{LINGFORM}(e)=\text{CP}$

(41) Predicate Modification over events:

If α has the syntactic form $[\alpha \ \beta \ \gamma]$, and β and γ are both of type $\langle v, t \rangle$,
 then $\llbracket \alpha \rrbracket^{w, g} = [\lambda e_v. (\llbracket \beta \rrbracket^{w, g}(e) \wedge \llbracket \gamma \rrbracket^{w, g}(x))]$

- Recall the upshot of §2.1 based on Plann's (1982) matrix quotation test:

UPSHOT OF §2.1
 Attitude verbs compatible with a CP_{interr} linguistic production can combine with QUE+CP_{interr}, while those incompatible with a CP_{interr} linguistic production cannot.

- Let us examine CONTENT(e) –which we saw encapsulates the modal component (§3.2)– and LINGFORM(e) in the light of Plann's (1982) matrix quotation test.

- CLASS 1:
Some attitude verbs describe (internal or external) **linguistic production events** leaving open whether the event is **inquisitive or non-inquisitive**: *repeat, say, whisper, ...*

- (42) a. Ali repeated / said / whispered / thought: “Ana came.”
b. Ali repeated / said / whispered / thought: “Who came?”

- (43) a. If repeat(e) and e is non-inquisitive, then
 $\text{CONTENT}(e)=T \text{ iff } \exists p \in T [\text{Rpt}_{\text{author}(e)}(w) \subseteq p]$ \Leftrightarrow Default option

x repeated some p in T...

- b. If repeat(e) and e is inquisitive, then
 $\text{CONTENT}(e)=T \text{ iff } \neg \exists p \in T [\text{Dox}_x(w) \subseteq p] \wedge \text{Inq}_x(w) \subseteq T \wedge \dots$

x is not certain about any of the p in T...

... but wants to find out the truth answer to T

- CLASS 2:
Other attitude verbs describe (internal or external) **linguistic production events** that are mandatorily **inquisitive**: *ask, wonder, ...*

- (44) a. * Ali asked / wondered: “Ana came.”
b. Ali asked / wondered: “Who came?”

- (45) a. ~~If ask(e) and e is non-inquisitive, then~~
 ~~$\text{CONTENT}(e)=T \text{ iff } \exists p \in T [\text{Rpt}_{\text{author}(e)}(w) \subseteq p]$~~
 b. If ask(e) and e is inquisitive, then
 $\text{CONTENT}(e)=T \text{ iff } \neg \exists p \in T [\text{Dox}_x(w) \subseteq p] \wedge \text{Inq}_x(w) \subseteq T$

- CLASS 3:
Yet other attitude verbs describe (internal or external) **linguistic production events** that are mandatorily **non-inquisitive**: *explicar ‘explain’, relatar ‘report’, contar ‘≈tell’, ...*

- (46) a. Ali explained / reported (Sp. *relató*) / told (Sp. *contó*): “Ana came.”
b. * Ali explained / reported (Sp. *relató*) / told (Sp. *contó*): “Who came?”

- (47) a. If explain(e) and e is non-inquisitive, then
 $\text{CONTENT}(e)=T \text{ iff } \exists p \in T [\text{Rpt}_{\text{author}(e)}(w) \subseteq p]$
 b. ~~If explain(e) and e is inquisitive, then~~
 ~~$\text{CONTENT}(e)=T \text{ iff } \neg \exists p \in T [\text{Dox}_x(w) \subseteq p] \wedge \text{Inq}_x(w) \subseteq T$~~

- CLASS 4:
Finally, there are attitude verbs that describe events(/states) that are **not linguistic production events**: *know, find out, be surprised, regret, ...*

- (48) a. * Ali knows / is surprised: “Ana came.”
b. * Ali knows / is surprised: “Who came?”

- (49) If know(e), then there is no linguistic production ϕ such that $\text{LINGFORM}(e)=\phi$.

- In the following, we apply the proposed analysis to each of the four V classes in order to derive the (un)grammaticality and interpretation of the constructions.

- Application to CLASS 1:

- ✓ V + QUE+CP_{interr}
- Different truth conditions for bare CP_{interr} vs. QUE+CP_{interr}

- (50) a. Paco repitió [∅_{interr} quién vino]. (=**1**)
 Paco repeated ∅_{interr} who came
 'Paco repeated who came' ⇒ Paco repeated the/an **answer**
- b. Paco repitió [**que** quién vino].
 Paco repeated **que** who came
 'Paco repeated QUE who came' ⇒ Paco repeated the **question**

- (51) [[Paco repeated ∅_{interr} who came]]
 = λe. repeat(e) ∧ AUTHOR(e)=paco ∧
 CONTENT(e) = {λw'.come_{w'}(a), λw'.come_{w'}(b), λw'.come_{w'}(c)}
- [As per the **default (40a):**]
- = λe. repeat(e) ∧ AUTHOR(e)=paco ∧
 ∃p∈{λw'.come_{w'}(a), λw'.come_{w'}(b), λw'.come_{w'}(c)} [Rpt_{author(e)}(w) ⊆ p]
- ⇒ Paco repeated the/an **answer** 😊

- (52) [[Paco repeated **que** who came]]
 = λe. repeat(e) ∧ AUTHOR(e)=paco ∧ LINGFORM(e)="Who came?" ∧
 CONTENT(e) = {λw'.come_{w'}(a), λw'.come_{w'}(b), λw'.come_{w'}(c)}
- [As per **(40b):**]
- = λe. repeat(e) ∧ AUTHOR(e)=paco ∧ LINGFORM(e)="Who came?" ∧
 ¬∃p∈{λw'.come_{w'}(a), λw'.come_{w'}(b), λw'.come_{w'}(c)} [Dox_{author(e)}(w) ⊆ p] ∧
 Inq_{author(e)}(w) ⊆ {λw'.come_{w'}(a), λw'.come_{w'}(b), λw'.come_{w'}(c)}
- ⇒ Paco repeated the **question** 😊

■ Application to CLASS 2:

- ✓ V + QUE+CP_{interr}
- Same truth conditions for bare CP_{interr} vs. QUE+CP_{interr}

- (53) a. Paco preguntó [\emptyset _{interr} quién vino]. (≈5)
 Alex asked who came
 'Alex asked who came.' ⇒ Alex uttered the question
- b. Paco preguntó [que quién vino].
 Alex asked QUE who came ⇒ Alex uttered the question
 'Alex asked QUE who came.' (+ semi-quotative feeling)


- (54) [[Paco asked \emptyset _{interr} who came]]
 = $\lambda e. \text{ask}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge$
 $\text{CONTENT}(e)=\{\lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c)\}$
- [As per (40b):]
 = $\lambda e. \text{ask}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge$
 $\neg \exists p \in \{\lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c)\} [\text{DOX}_{\text{author}(e)}(w) \subseteq p] \wedge$
 $\text{Inq}_{\text{author}(e)}(w) \subseteq \{\lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c)\}$
- ⇒ Paco formulated the question 😊


- (55) [[Paco asked que who came]]
 = $\lambda e. \text{ask}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge \text{LINGFORM}(e)=\text{"Who came?"} \wedge$
 $\text{CONTENT}(e)=\{\lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c)\}$
- [As per (40b):]
 = $\lambda e. \text{ask}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge \text{LINGFORM}(e)=\text{"Who came?"} \wedge$
 $\neg \exists p \in \{\lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c)\} [\text{DOX}_{\text{author}(e)}(w) \subseteq p] \wedge$
 $\text{Inq}_{\text{author}(e)}(w) \subseteq \{\lambda w'. \text{come}_{w'}(a), \lambda w'. \text{come}_{w'}(b), \lambda w'. \text{come}_{w'}(c)\}$
- ⇒ Paco formulated the question 😊

■ Application to CLASS 3:

- * V + QUE+CP_{interr}


- (56) a. Paco explicó [$\emptyset_{\text{interr}}$ cómo lo hizo] / [$\emptyset_{\text{interr}}$ quién vino].
 Paco explained $\emptyset_{\text{interr}}$ how it did / $\emptyset_{\text{interr}}$ who came
 ‘Paco explained how he did it / who came’ \Rightarrow Paco reported the/an answer
- b. * Paco explicó [que cómo lo hizo] / [que quién vino].
 Paco explained QUE how it did / QUE who came
 ‘Paco explained QUE who came’


- (57) [[Paco explained $\emptyset_{\text{interr}}$ who came]]
 = $\lambda e. \text{explain}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge$
 $\text{CONTENT}(e)=\{\lambda w'.\text{come}_{w'}(a), \lambda w'.\text{come}_{w'}(b), \lambda w'.\text{come}_{w'}(c)\}$
 = $\lambda e. \text{explain}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge$
 $\exists p \in \{\lambda w'.\text{come}_{w'}(a), \lambda w'.\text{come}_{w'}(b), \lambda w'.\text{come}_{w'}(c)\} [\text{Rpt}_{\text{author}(e)}(w) \subseteq p]$
 \Rightarrow Paco reported the/an answer 

- (58) [[Paco explained QUE who came]]
 = $\lambda e. \text{explain}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge \text{LINGFORM}(e)=\text{“Who came?”} \wedge$ 
 $\text{CONTENT}(e)=\{\lambda w'.\text{come}_{w'}(a), \lambda w'.\text{come}_{w'}(b), \lambda w'.\text{come}_{w'}(c)\}$

■ Application to CLASS 4:

- * V + QUE+CP_{interr}

- (59) [[Paco knows $\emptyset_{\text{interr}}$ who came]]
 = $\lambda e. \text{know}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge$
 $\text{CONTENT}(e)=\{\lambda w'.\text{come}_{w'}(a), \lambda w'.\text{come}_{w'}(b), \lambda w'.\text{come}_{w'}(c)\}$
 = $\lambda e. \text{know}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge$
 $\exists p \in \{\lambda w'.\text{come}_{w'}(a), \lambda w'.\text{come}_{w'}(b), \lambda w'.\text{come}_{w'}(c)\} [\text{Rpt}_{\text{author}(e)}(w) \subseteq p]$
 \Rightarrow Paco knows the answer 

- (60) [[Paco knows QUE who came]]
 = $\lambda e. \text{know}(e) \wedge \text{AUTHOR}(e)=\text{paco} \wedge \text{LINGFORM}(e)=\text{“Who came?”} \wedge$ 
 $\text{CONTENT}(e)=\{\lambda w'.\text{come}_{w'}(a), \lambda w'.\text{come}_{w'}(b), \lambda w'.\text{come}_{w'}(c)\}$

5. A POTENTIAL EXTENSION: SPANISH MATRIX QUE

- Interestingly, an additional *que* QUE can also accompany matrix interrogatives (Etxepare 2010, Demonte & Fernández Soriano 2014, Disselkamp et al. 2018, Biezma 2023):

(61) [Hi Martha. I'm curious about yesterday's meeting...]

- a. ✓ Quién vino?
Who came
'Who came?'
- b. # **Que** quién vino.
QUE who came
Lit. 'That who came.'

(62) A: Who came?

B: [Silence]

A: **Que** quién vino.

REPEATQ

QUE who came

Lit. 'That who came'

(63) A: Who came?

A: **Que** quién vino?

ECHOQ

QUE who came

(64) (The party was a success...) **Que** quién vino? (Everybody! Reggie, Mira, Agata,...)

QUE who came

ANTICIPATORY Q

- The intuition behind these examples is that the speaker is referring to a previous – external or internal– linguistic production of the relevant interrogative.

- This intuition nicely follows from our analysis of QUE:

(65) $\lambda e. \text{CONTENT}(e) = \{\lambda w'. \text{come}_w(a), \lambda w'. \text{come}_w(b), \lambda w'. \text{come}_w(c)\} \wedge$
 $\text{LINGFORM}(e) = \text{"Who came?"}$

6. OUTLOOK

- Combining insights from three different strands of work and building most directly on insights from Plann (1978) and Özyıldız & Uegaki (2023), we have developed an analysis of Spanish $QUE+CP_{interr}$ whereby QUE semantically contributes not just the modal component but also a further $LINGFORM$ constraint:

$$(66) \quad \llbracket QUE_{INTERR} \rrbracket = \lambda \langle T_{\langle st, t \rangle}, CP \rangle. \lambda e. \text{CONTENT}(e)=T \wedge \text{LINGFORM}(e)=CP \quad (=40c)$$

- This analysis derives: (i) the correct distribution of $QUE+CP_{interr}$ under different attitude Vs (ii) different/same interpretations of bare CP_{interr} and $QUE+CP_{interr}$ depending of the V, while at the same time maintaining an argumental syntactic status for $QUE+CP_{interr}$.

- Open issues left for future research include:

- Why do we not have a parallel embedded $QUE+CP_{decl}$ structure for declaratives? In fact, the matrix $QUE+CP_{decl}$ structure is possible:

(67) A: Ana came.
 B: [Silence –no reaction whatsoever]
 A: **Que** Ana vino. RepeatDecl
 QUE Ana came
 Lit. ‘That Ana came.’

- How strong is the similarity requirement posited by $LINGFORM(e)=CP$ in Spanish? Several indexical shifting operations have been argued to be available for Turkish and Uyghur. What about Spanish?

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