Long distance dependency in wh-in situ questions: a corpus based approach.
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Introduction

Some questions or wh-pronouns stay in situ (i.e. in the argument position, henceforth wh-in situ) inside complement clauses, e.g. in French:

(1)   Tu penses/crois   que tu   vas le faire comment?
        you think/believe   that you will it do   how
        'How do you think will you do it?'

If we assume that every sentence contains some feature that expresses the sentence type of every sentence (e.g. declarative, interrogative, relative, imperative, etc.), we must assume that the sentence in (1) contains some Q-feature marking the sentence as interrogative:

(2)   Q Tu penses/crois   que tu   vas le faire comment?
        you think/believe   that you will it do   how
        'How do you think will you do it?'

If we futher assume that Q and the question pronoun undergo some agreement (i.e. the sentence type interrogative matches with the appearance of a question pronoun), we must assume that the agreement in (2) is non-local or distant (i.e. Q and the question pronoun are not in the same sentence).

The questions we will address in our talk are:

- Empirical question: can we find more data of the kind in (1)?

- Theoretical question: is non-local agreement a problem for every theory of question interpretation?

Our answers in a nutshell:

- Non-local agreement in (2) is a problem for syntactic constraints for wh-in situ interpretation (see Chomsky 2001).

- We will argue that non-local agreement in (2) does not pose any problem for wh-in situ interpretation in the theory of question interpretation of Kratzer & Shimoyama 2002 and Beck 2006, because the embedded sentence does not contain any other sentence type feature or operator that would stand in conflict with the question interpretation. As a consequence, the question is well-formed and interpreted without any problem.

Outline

Section 1 outlines why wh-in situ is a problem for certain syntactic approaches that

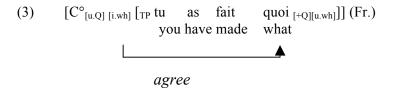assume agreement between Q-operator and wh-in situ (see Chomsky 2001).

Section 2 shows further corpus data of non-local agreement in Romance

Section 3 presents our analysis to deal with non-local agreement.

1. Theories that have problems with non-local agreement

Let us see why certain theories fail to interpret long-distant agreement of wh-in situ and Q-feature of the matrix clause in (2).
Within Chomsky's (2000) probe/goal approach and Chomsky's (2001) phase account, the wh-in situ must be checked syntactically against the next local complementizer. According to Chomsky's (2000) operation *agree*, the complementizer C° in (3) has an unterpretable sentence type feature $_{[u.Q]}$ and an interpretable wh-feature $_{[i.wh]}$ which probes against a wh-in situ with a reverse feature constellation $_{[i.Q]\ [u.wh]}$:

(3) $[C°_{[u.Q]\ [i.wh]}\ [_{TP}\ tu$ as   fait   quoi $_{[+Q][u.wh]}]]$ (Fr.)
                        you have made   what

         |_____▲
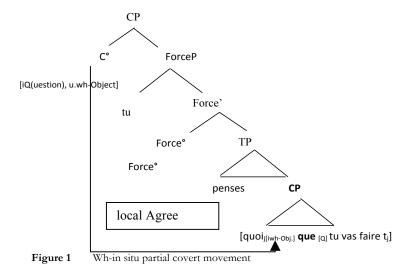
                    agree

However, the complementizer of a complementizer clause (Fr. *que* 'that' in (4)) does not have the same feature constellation of an interrogative complementizer as in (3). That is why the operation agree cannot take place in (4) and yet long distant wh-in situ is possible:

(4)   Tu penses $[C°$ que $[_{TP}$ tu   vas faire   quoi $_{[+Q][u.wh]}]]$ (Fr.)
         you think   that   you will make   what

              |_____▲

         No agree → prediction: ex. (4) should be ungrammatical

One possible solution to the non-local agreement of C° [iQ] and wh-in situ inside the complementizer clause is the idea that the wh-element moves to the edge of the embedded CP-clause, Spec,CP in figure 1 from where it could undergo agreement with the matrix C°[iQ] in a much local manner (see Kotek's 2016 on partial wh-movement):

Figure 1   Wh-in situ partial covert movement

This partial movement can even be motivated empirically as French spoken in Quebec shows structures with wh-element (*quoi, comment*) +complement clause (*que tu fais*):

(5)   Quoi que tu fais?

(6)   Comment que tu vas?

The problem of partial wh-movement is that it only applies to complement clauses not to other embedded clauses such as adverbial clauses (see section 2 on more data):

(7)   It. per fare cosa? 'in order to do what?'

Partial movement is not motivated in adverbial clauses because we never encounter a wh-element as a specifier of a prepositional adverbial (Fr.* quoi à faire ? It. *che cosa per fare?)

Another solution is to dispence with locality of the operation agree altogether. Indeed, some scholars argue in favour of non-local agree (see Boškovíc 2007).

2. Data from Romance

2.1 wh-in situ in root sentences

French interrogatives allow wh-in situ in root sentences (cf. Behnstedt 1973, Obenauer 1994:300, Mathieu 2004, among others). Wh-in situ in French can be uttered in out-of-the-blue contexts (i.e. they do not need to refer to some contextually salient utterance expressed previously in the discourse) (see Mathieu 2004, but see Cheng 1995 for a different view):

(8)   Tu fais quoi dans la vie?
        you do what in   the life
        'What do you do (for a living)?'

Other Romance Languages like Italian, Spanish and European Portuguese usually use the wh-ex situ strategy uttered by the person A in a question communication described above *What are you doing for living*?:

(9)   a. A: (Che) cosa fai nella vita? B: Studio. 'I'm studying'(It.)

        b. A: ¿Qué haces como trabajo? B: Soy medico. 'I'm a doctor.'(Sp.)

        c. A: O que é que faz na vida? B: Sou professor. 'I'm a teacher.' (EP.)

However, all Romance languages mentioned above can use wh-in situ in questions to ask to repeat some expressions uttered previously in the discourse, so called Echo Questions (EQs) (see Reis 1992):

(10)   A: Sto faccendo una pizza. B: Faccendo COSA?[1]   (It.)
        'A: I'm preparing a pizza? Preparing WHAT?'

(11)   FLO: ainda tínhamos uns mais fixes   (EP.)
        'We had even something much more cooler.'

        RAQ: até tinham O QUÊ?

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[1] Following the convention in the literature, we will represent the wh-element with an echo-interpretation with capital letters.

'You had WHAT?'

FLO: os efeites especiais do metro [CORAL pfamcv03]
'Special metro effects'

The observation described above (i.e. wh-ex situ question is a default question type in European Portuguese, Spanish and Italian and wh-in situ is primarily used in EQs in these languages) is confirmed by the frequency: the occurrence of wh-in situ is significantly lower in comparison to wh-ex-situ questions in written corpora of Spanish and Italian (around 5 % in Spanish and around 8% in Italian wh-interrogatives):[2]

	Wh-in situ	Wh-ex situ	Total
Sp. ESCOW2011	**63**	**1.904**	1967
It. CORIS	**71**	**450**	521
Total	134	2354	

Table 1 wh-in situ vs. wh-ex situ in root interrogatives in written corpora of Sp. and It.

To sum up: French wh-in situ root questions behave differently with respect to other Romance languages, because they can appear in an out-of-the-blue context. In other Romance languages, wh-in situ is usually used for EQs in root interrogatives.

2.2 Non local wh-in situ in corpora

The following examples illustrate different non-local agreement structures (also known as islands, see Ross 1967):

  - Adverbial clauses introduced by prepositions selecting an infinitive clause

(12)   Context: a political debate: [CORALimedts03] (It.)

A: Questi sono i   dati   da cui bisogna partire// per cercare che cosa?[3]
  We need to start from these data // to look for what

Di favorire una ricomposizione tra nord e sud (…)
'to favor a compensation between north and south.'

(13)   A: Quien hace la Guerra? Para conseguir qué? (Sp.) (ESCOW2011)
'Who is responsible for the war? To achieve what?'

  - If-clauses

(14)   Malaussene, se accetta. Se accetto cosa? [CORIS NARRATTrRo](It)
'A: If you accept. B: If I accept what?'

(15)   A: Le pregunté si habia oido eso. B: ¿Si habia oido qué? [ESCOW2011] (Sp.)
'A: I asked him if he has heard of it? B: If he has heard what?

A: Si habia oido que el otro día vinieron a preguntar por él.

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[2] We used the search query lemma=*hace*r 'do' + *qué* 'what' and *qué* 'what' + lemma=*hace*r 'do' in the Spanish corpus and the same search query in the Italian corpus.
[3] We omit the representation of EQs in capitals, because we still don't know if they are EQs. Instead, we underline the wh-word for the reader in order that he finds it very quickly.

'A: If he has heard that the other day someone came to ask for him.'

- Wh-sentences

(16)   A: Ben, dimmi come si fa. B: Come si fa <u>cosa</u>? A:Vaffanculo , sai benissimo
    'A: Ok, tell me how to do it. B: How to do what? A: Fuck you, you know well.'
                      [CORIS NARRATTrRo] (It)

(17)   A: e non piangere e fare delle scenate quando muore […] .   (It)
    do not cry and make a scene when he dies.

    B: Oh , ma che è ? ! Quando muore <u>chi</u>? [CORIS NARRATTrRo]   (It)
                when dies who
    'Oh, buy what is it? When who dies?'

(18)   ¿ por que lo diga   <u>quien</u> ? [ESCOW2011]   (Sp)
    for what it say[subj.]   who
    'Because WHO says it?'

- Complement clauses introduced by the complementizer *che/que* 'that'

(19)   A: Non dirai sul serio ...B: che continuiamo <u>cosa</u> ? A: Questo nostro tormentarci
    'A: Don't tell me sincerely..B: that we continue to do what? A: Our struggling'
                      [CORIS NARRATTrRo] (It)

(20)   Que no lo haces por coquetería. ¿ Que no lo hago por QUÉ? [ESCOW2011]
    'A:That you don't do it to flirt. B: That I don't do for WHAT?
    'that I don't do it why?'

(21)   Diz-se que está a fazer o quê? [CORAL pnatpe01] (EP)
    'They say that he does what?'

(22)   que pagamos <u>o   quê</u>? [CORAL pfamdl04] (EP)
    that pay-we   the   what
    'That we pay what?'

- Complex DPs/NPs (= relative clauses introduced by the complementizer *che/que*)

(23)   Quella che segue cosa ? chiese Varan. [CORIS_MON2001_04]   (It)
    'The one that followes WHAT? asked Varan'

(24)   ¿La madre   que parió a <u>quién</u> ? [ESCOW2011] (Sp)
    the mother that born a who
    'The mother that born WHO?'

The majority of non-local agreement structures are adverbial sentences such as (12) (introduced by ital. *per/a/di* 'for/to') (150 occ.(urences)), only less than 10 occ. are if-clauses and wh-clauses. The difference in the distribution of wh-in situ seems to suggest that a more fine grained description of non-local agreement structures.

Next step: Show that there are two different types of structures that can contain wh-in situ:

(25)   C° *che/que* 'that' [-Q]   wh-in situ in Type 1 => genuine question

(26)   wh C° (*se/si* 'if') [+Q]   wh-in situ in Type 2 => echo-question

2.3 Interpretation of wh-in situ inside non-local agreement structures

One common use of wh-in situ is to ask the addressee to repeat the utterance also known as Echo Questions (EQs) in the literature (see Reis 1992, Poschmann 2015, among many others) [4]:

(27)   A: Quando dico questo? B: Quando dici cosa? (It.) [CORIS NARRATTrRo]
         A: 'When do I say that? B: When do you say what?'

The following wh-in situ question in (28) are not EQs in a strict sense (i.e. questions that ask to repeat a previously mentioned sentence). The wh-in situ does not refer to some previously mentioned argument in the discourse in contrast to (27) (see also Pires and Taylor 2007, Biezma 2018, for this observation in Spanish wh-in situ). The speaker of this type of question asks to specify or clarify the implicit verbal argument or asks to give her further information about the statement mentioned previously in the discourse (henceforth Clarification Question or ClarifQ) (see Escandell 2010 for other possible readings of wh-in situ in Spanish and Fiengo 2007 for English):

(28)   B: Non lo so. Non sono stato io. (It.)
         'I don't know. It wasn't me.'

         A: Non sei stato tu a fare che?
         A: 'It wasn't you to do what?'

         B: A fare quello che lei…
         B: 'To do what she …'[CORIS NARRATTrRo]

There are discourse situations in which the speaker anticipates the question of the hearer. Thus, no asking for repetition is at stake here. This type of ClarifQs is often used in reports and it can be paraphrased as 'you might wonder….':

(29)   Context: political discussion   [CORAL imedts03]   (It.)
         A: Questi sono i   dati   da cui bisogna partire//
             These are the data of which must go
             'These are the data from which we must start//

              per cercare che cosa?
              'to   look for what (you might wonder)'

         Di favorire una ricomposizione tra nord e sud (…)
         'to favor une recompensation between North and South.'

We can thus summarize: wh-in situ inside non-local agreement structures are either used to ask the addressee to repeat her utterance (EQ) or to specify an argument which has not been uttered overtly in the previous discourse but is entailed in an implicit proposition derivable from what is said in the previous discourse (ClarifQ).

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[4] Note that EQs ask for repetitions, but they do not necessarily repeat the whole utterance, because pronoun features may change from first person to second person singular as in (24) (see Poschmann 2015 for this point).

2.4 EQs are island insensitive and Superiority violation does not apply to them

According to Reis (1992/2011), an EQ "always conveys an additional interpretive effect, which is that the speaker reopens a gap in a proposition that both speaker and hearer know has already been closed – the 'echo' effect." (Reis 2011):

    (30)   A: I live in Wadabudu. B: You live WHERE? (EQ)

EQs undergo very little restrictions, i.e. wh-in situ with echo-like interpretation can appear everywhere, in every sentence type (e.g. imperatives) and even in islands (i.e. they are sentence type and island insensitive) (cf. Reis 1992, Sudo 2007 and section 2):

    (31)   a. Erklär ihm WAS?(/)   German
            'Explain him WHAT?'

            b. Ob er WEM kündigt?(/)
              whether he who(dat) fires
              'if he fires WHO?'

EQs are not embeddable as complements under question predicates as ordinary questions are (cf. also Sudo 2007):

    (32)   A: Who ate my cake?

            B: # I don't know who ate WHAT. (EQ).[5]

            B': I don't know who ate it.

EQs are still used as questions because they ask the addressee for an answer. EQs are not marked as questions morpho-syntactically in the languages mentioned below, i.e. they do not appear with subject-verb-inversion, question particles *est-ce que* and *-li* in (33)-(35) (cf. also Reis 1992 for German, but see Artstein 2002, Sudo 2007, Sobin 2010, Chernova 2012 for apparently syntactic marking of EQs in Spanish and Japanese):

    (33)   As-tu fait cela/*QUOI?   French
            have-you made this/WHAT
            'Have you done it?'

    (34)   Est-ce que tu as fait cela/*quoi?   French
            est-ce que you have made it/*WHAT
            'Have you done it?'

    (35)   Ty -li kupil eto/*ČTO?   Russian
            you -li bought this/*WHAT
            'Have you bought it?'

EQs do not allow a pair list reading as answers that we find with multiple wh-elements in a non-echo question as shown by Italian examples:

    (36)   Chi ha fatto cosa?   (It.)   (Non echo question)

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[5] However, wh-in situ questions can appear with question predicates in a paratactic relation:
   i. "Great! Jesus Christ, we did it!" "Did what, may I ask?"
                      [URL: https://www.fanfiction.net/s/9934555/1/Highschool-Ambassador]
Note, that the question in i. is a ClarifQ, not a EQ. It asks for a specification of (pronominal) reference (Wachowicz 1974). I thank Radek Šimík for pointing this out to me.

'Who did what? Mary did this, Peter did that.'   (√ pair-list reading)

(37)   A: Chi ha fatto questo? B: Chi ha fatto COSA?   (echo question)
        'Who did WHAT? # Mary did this, Peter did that.'   (# pair-list reading)

The wh-in situ element must not preserve a certain order with respect to other wh-elements. If the subject wh-constituent *chi* 'who' follows the adverbial wh-element *come* 'how' as in (39), it can only be interpreted as an echo question there and cannot have a pair list reading in this structure (so called *Superiority violations*) in contrast to the wh-question in (38) where the subject wh-element precedes the adverbial wh-element:

(38)   Chi si   chiama come? Lei si chiama Maria. Lui si chiama Marco,…
        who refl.pro calls   how
        'Who is who? Her name is Maria, His name is Marco.'

(39)   A: Come si   chiama chi?
           how   refl.pro calls   who
           'Who is WHO?'

        B: who is Mario.

        B': # 'Who is who? Her name is Maria, His name is Marco.'

2.5 Differences between ClarifQs and EQs

EQ refer to a phonologically overt utterance presented earlier in the discourse:

(40)   A: Mary speaks Ugadugu. B: She speaks what?

ClarifQs do not refer to a phonologically overt utterance, but to a proposition that is entailed in the previous discourse. It refers to an implicit proposition which contains an existential quantifier (see Schwarzschild's 1999 definition of Givenness). B: you should tell her something. They have the function of a follow up question on the on-going discourse (see Biezma 2018):

(41)   A: Y qué quieres que haga? – B: Que hables con él. – A: Para decirle qué? (Sp.)
        'A: And what do you want me to do?
        B: That you speak with him. A: To tell her what?'

EQs appear in any kind of island, e.g. wh-island, if-clause, etc. and they are sentence type insensitive (see Sudo 2007), whereas ClarifQs are sentence type sensitive. They do not appear in wh-islands and do not allow superiority violations:

(42)   A: come si chiama il capo di Maria. B: Come si chiama   chi? (EQ, # ClarifQ)
            how   calls   the boss of Maria.   how calls   who?
            'What is the name of Maria's boss. What is whose name?'

EQs do not allow pair list readings, whereas ClarifQs are possible with pair list readings (see also Biezma 2018 for comparable examples in Spanish):

(43)   A: I saw my friends yesterday at the party. I regret I couldn't talk to them. B: you regret you couldn't say what to whom? (pair list reading: I regret I couldn't say a to Peter, b to Sandy)

Moreover, the distribution of the two types is different in corpora used for this study (see section 2). ClarifQs appear in different type of islands than EQs. There are 150 occurences of wh-in situ in complement clauses, relative clauses and adverbial clauses that are all interpreted as ClarifQs in contrast to 10 occurences of wh-in situ in if-islands and wh-islands that all correspond to EQs. This island distinction tantamounts to the distinction between complement clauses that contain a Q-morpheme or a comparable operator that marks the complement clause as a question (e.g. a wh-question, if-clause, etc.) and complement clauses that are of declarative type and do not contain any Q-morpheme or any operator that marks the complement clause as a question such as relative clauses, complement clauses introduced by the complementizer *que/che* 'that':

(44)   C° *che/que* 'that' [-Q]   wh-in situ with ClarifQ interpretation

(45)   wh C° (*se/si* 'if') [+Q]   wh-in situ with EQ interpretation

As we will see, a semantic account of islands à la Beck 2006 can account for this island distinction in (44) and (45).

2.6 Summary

	Pair list	Sentence type Insensitive	Superiority violations
Wh-in situ in EQs	-	+	+
Wh in situ in ClarifQs	+	-	-

Table 2_Summary

3 Syntactic and semantic analysis of wh-in situ

3.1 Metalinguistic account of EQs

In order to account for properties of EQs, we will assume Sudo's (2007) proposal. We don't reproduce Sudo's account of EQs in detail here (cf. Sudo 2007), but the crucial point of his account is that he assumes a new atomic semantic type *u*, the type of object language expressions, in addition to *e* and *t* (cf. Potts 2007). Just with ordinary wh-phrases, the background of echo focused items is always the identity function, but in this case it is the identity function over type *u* elements:

(46)   what $<\lambda X_u.\ X,\ D_u>$

According to Sudo, the insensitivity to sentence types can be captured by his account because EQs ask about all types of utterances such as imperatives, exclamatives, etc.

Sudo can account for the lack of intervention effects with focus operators in (47) because the alternatives are utterances and not semantic objects and are thus not interpretable by focus operators (see Beck 2006, Hamlaoui 2010:352):

(47)   a. A: I gave only flowers to George. B: You gave only flowers to WHOM?

        b. {"A gave only flowers to George", "A gave only flowers to Mary"}

We thus conclude that wh-in situ in islands with EQ interpretation can be accounted for without any problem in line with Sudo 2007.

3.2 The interpretation of wh-in situ in islands in ClarifQs

3.2.1 Islands are interveners of expanding alternatives (Beck 2006)

Beck (2006):

Each Logical Form α is associated with an ordinary semantic interpretation $[[\alpha]]^g$ and a focus semantic interpretation $[[\alpha]]^{g,h}$:

(48)   **a. $[[John_{F1}]]^g = john$**

        b. $[[John_{F1}]]^{g,h} = h(1)$ [6]

(49)   a. $[[John]]^g = john$ b. $[[John]]^{g,h} = john$

(50)   a. $[[left]]^g = [\lambda x.\lambda w.x \text{ left in } w]$ b. $[[left]]^{g,h} = [\lambda x.\lambda w.x \text{ left in } w]$

(51) below gives the relevant version of Function Application.

(51)   **Function Application:**

        If $X=[Y\ Z]$ then for any g,h: $[[X]]^g = [[Y]]^g([[Z]]^g)$ and $[[X]]^{g,h} = [[Y]]^{g,h}([[Z]]g,h)$

(52)   **a. $[[John_{F1}\ left]]^g = \lambda w.john \text{ left in } w$**

        b. $[[John_{F1}\ left]]^{g,h} = \lambda w.h(1) \text{ left in } w$

Wh-phrases use the same mechanism of distinguished variables. This reflects the fact that they introduce alternatives. In contrast to focus, they make no ordinary semantic contribution - introducing alternatives is their only semantic function.

(53)   **a. $[[who_1]]^g$ is undefined**

        b. $[[who_1]]^{g,h} = h(1)$ [7]

(54)   **a. $[[who_1\ left]]^g$ is undefined**

        b. $[[who_1\ left]]^{g,h} = \lambda w.h(1) \text{ left in } w$

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[6] More precisely: $[[John_{F1}]]^{g,h} = h(1)$ if $1\in dom(h)$, $=john$ otherwise.
[7] More precisely: $[[who_1]]^{g,h} = h(1)$ if $1\in dom(h)$, undefined otherwise.

Beck (2006) assumes that a wh-question like (55)a. has the Logical Form in (55)b.:

(55) a. Who left?

  b. [Q$_1$ [who$_1$ left]]

Beck specifies a notion of interpretability for the framework:

(56) **Principle of Interpretability:**

  An LF must have an ordinary semantic interpretation.

With this background, Beck (2006) can now derive Intervention Effects in (57):

(57) a. * Only JOHN saw who?

  b. [CP Q$_2$ [IP$_3$ only$_C$ [IP$_2$ ~C [$_{IP1}$John$_{F1}$ saw who$_2$]]]]]

Crucially, as the wh-phrase's ordinary meaning is undefined, none of the structure is defined at LF, neither [[IP]]^g nor [[CP]]^g. The structure in (57) is therefore uninterpretable, and hence ungrammatical.

(G) **Generalization: A wh-phrase may not have a ~ operator as its closest c-commanding potential binder.**

The crucial ingredients for this analysis are that both focus and wh-phrases are interpreted via the mechanism of distinguished variables; in contrast to focus, wh-phrases make no ordinary contribution, and can therefore only be evaluated by the question operator.

3.2.2 Wh-in situ in complement clauses without a Q-Morpheme

Under Beck's analysis the alternatives triggered by the wh-in situ grow up until they meet an operator that interprets them (see also Kratzer & Shimoyama 2002). This account straightforwdly accounts for wh-in situ inside complement or adverbial clauses without a Q-morpheme as in (2) or in (58), because alternatives can rise up via functional application until they meet the next Q-operator or any other operator that can interpret them.

The following examples of wh- insitu in the adverbial clause in (58) and the wh-in situ inside the relative clause in (59) do not pose any problem for the interpretation because adverbial clauses or relative clauses do not contain any Q-morpheme inside the complement clause or any operator that uses up alternatives triggered by the wh-in situ. In consequence, the alternatives triggered by wh-in situ element can reach the interrogative complementizer in the matrix clause as shown in (58)ii. and (59)ii.:

(58) Context: a political debate: [CORALimedts03] (It.)

  A: Questi sono i   dati   da cui bisogna partire// per cercare <u>che cosa</u>?

We need to start from these data // to look for what

Di favorire una ricomposizione tra nord e sud (…)
'to favor a compensation between north and south.'

i. [CP C°[Q$_j$] TP we need to start from these data [CP to look for what$_j$]] LF

ii. Question denotation= {we need to start frome these data to look for a, we need to start from these data to look for b, ….}

The same happens in the following question denotation of a wh-in situ inside a relative clause:

(59)   ¿La madre   que parió a quién ? [ESCOW2011] (Sp)
        the   mother that born a who
        'The mother that born WHO?'

        i. [CP C°[Q$_j$] it's [DP the mother that born who$_j$]] LF

        ii. Question denotation={it's the mother that born a, it's the mother that born b, ….}

Let us see how this account works to restrict the **non-Echo** or **ordinary** question interpretation of wh-in situ in if-or wh-clauses.
As the if-operator usually takes two alternatives with a positive and a negative value {p, non(p)}, the intervention effect in (60) can be explained by the fact that the wh-in situ does not give the right alternative set to the if-operator that selects for {p, non(p)} as the wh-in situ triggers a different set of alternatives than the one required by the if-operator, namely individual alternatives {I heard a, I heard b}. This is shown by the LF in (60) by the different index between Q$_k$ and wh-in situ$_i$. The result is that the wh-in situ cannot be interpreted as a standard question or ClarifQ:

(60)   A: Le preguntó si habia oido. B: ¿Si habia oido qué? [ESCOW2011] (Sp.) (EQ only)
        'A: I asked you if you have heard of it? B: If I have heard what?

        LF = *[CP if C° [Q$_k$] [TP I have heard what$_i$]]

The same explanation applies to wh-islands such as in (61). The wh-element *porqué* 'why' selects propositional alternatives that are interpreted as reasons for why the addressee has done something. The wh-in situ inside the wh-clause triggers another type of alternatives, namely individuals that are not interpreted as reasons. This mismatch is represented as false coindexation on LF in (61):

(61)   A: Le preguntó porqué habia hecho. B: ¿porqué habia hecho qué? [ESCOW2011]
        'A: I asked you why you have done it? B: why I have done what?

        LF= *[CP why C° [Q$_k$] [TP I have done what$_i$]]

Let us summarize this approach. According to our analysis, wh-insitu inside islands can be interpreted if the alternatives triggered by the wh-in situ can be interpreted by the matrix Q-operator. Such islands represent complement clauses, relative clauses or adjunct clauses without any Q-feature.
This approach accounts for the distribution of wh-in situ inside islands and their interpretations, i.e. echo-question interpretation is possible everywhere and genuine question interpretation (ClarifQ) is restcited to certain islands without Q-feature.

4. Conclusion and issues for future research

The basic issue that we have tried to address is the question of how the wh-in situ in islands can be accounted for in Romance languages. We have shown that it has a specific interpretation in the corpus data of Romance which is identical to the one that wh-in situ have in root sentences without islands. They have the function of EQs and of questions that ask to specify an implicit argument (ClarifQs). Wh-in situ in islands that are not interpreted as EQs show restrictions in their distribution. They are only possible in complement or adverbial clauses that do not contain any question morpheme that marks a sentence as a question.

We have proposed to analyse EQs in line with Sudo (2007) as questions that quantify over utterances of different type than propositions and therefore show special properties that standard questions do not show (e.g. insensitivity to islands and superiority effects, etc.). We analysed ClarifQs as standard questions due to their similarities with standard questions. In order to account for the restrictions of wh-in situ in ClarifQs, we assumed Hamblin's question semantics and Beck's analysis of intervention effects. According to this analysis, wh-in situ triggers alternatives that expand until they meet a question morpheme or operator that interprets these alternatives. Wh-in situ in complement clauses without a Q-morpheme can be interpreted without any problem because the alternatives can expand further until they reach the Q-morpheme in the matrix clause. That is why no intervention occurs in complement clauses introduced by *che/que* 'that'. Complement clauses that do contain a question morpheme or any other question operator such as if-clauses, use up alternatives triggered by the wh-in situ and no question interpretation by the matrix Q-operator is possible anymore.

What we need to do in future is to show how the semantic and pragmatic question interpretation work together and how it is possible that EQs come at a rescue and the derivation does not crash inside an island such as (60) and (61).

Corpora:

C-ORAL-ROM (CORAL) = Cresti, E. / Moneglia, M. (eds) (2005): *C-ORAL-ROM: Integrated Reference Corpora for Spoken Romance Languages*, Amsterdam/ Philadelphia.

CORIS = Corpus di italiano scritto. Centro Interfacoltà di linguistica teorica e applicata. Università di Bologna. 2001. (URL: http://corpus.cilta. unibo.it:8080/coris_ita.html).

ESCOW2011 = Web corpus of Spanish (URL: http://hpsg.fu-berlin.de/cow/colibri/).

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