Wh-in-situ optionality in Greek and related issues

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Abstract

The paper deals with the wh-in-situ optional questions in Greek, a so-far assumed obligatory wh-movement language. The data to be presented empirically establish the different nature of wh-in-situ questions from their wh-movement counterparts, both with respect to interpretation and syntax. The analysis proposed is an attempt to capture the phenomenon, somewhat simplifying the available theoretical tools, nevertheless preserving the fundamental minimalist intuitions. The assumptions lying behind the proposal naturally extend to French wh-in-situ optionality and interestingly touch on 'bare' wh-in-situ languages.

1 Prelude

1.1 The phenomenon

Greek, throughout the generative years, has been considered an obligatory wh-movement language as in (1a), where the wh-word is supposed to land to a left peripheral Focus prosition[1] (cf. Agouraki (1990); Tsimpli (1990, 1995, 1998)). However, after the work of Sinopoulou (2007), Greek has been shown to attest (1b) as a non-echo - hence, true information seeking - wh-question.

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[1] Under the assumptions of Brody (1990) and Rizzi (1997).

(1) a. Pjon pirovolise o astinomikos?
Whom.Acc shooted.3s the policeman.Nom

b. O astinomikos pirovolise pjon?
The policeman.Nom shooted.3s whom.Acc

intended for (a) and (b): 'Who did the policeman shoot?'

As Sinopoulou points out, (1b) is not an identical counterpart of (1a). One striking difference between the two derivations is the fact that (1b) is more presuppositional, in the sense that it cannot be expressed 'out of the blue'. Hence, generally, one could assume that (1b) carries 'heavier' discourse related properties[2]. The paper is organized as follows. In section 1.2, I forward some preliminary thinking that any approach on wh-in-situ optionality should include. In section 2, the data are presented with respect to both the interpretation and the syntactic behaviour of wh-in-situ in comparison with its wh-movement counterparts. In section 3.1, current assumptions about wh-movement are presented and the problems of three possible approaches are being discussed. In section 3.2, the proposal is put forward complying with the most basic minimalist expectations. Finally, in section 4 the present proposal is extended to 'bare' wh-in-situ languages and French wh-in-situ from a novel point of view.

1.2 Forwarding some thinking

The phenomenon raised here for Greek has been also discussed for a number of languages. If one attempts to summarize the proposed solutions that have been put forward to capture the problem, she may come up with the following:

> A grammar G, which obligatorily employs overt wh-movement to express interrogative constituency X_1, built on a numeration n (where $n = \{C, T, v, a, b, wh\}$) as in (2a), must resort to some other kind of mechanism (i.e. (remnant, covert or feature) movement, 'pure' Agree or '(unselective) Binding') if it is to express interrogative constituency X_2, built on an identical numeration n as in (2b) (cf. Aoun et al. (1981); Aoun and Choueiri (1999); Baunaz (2005); Boeckx (1999); Bošković (1997, 2000); Chang (1997); Cheng and Rooryck

[2]Difficult, though, to be nailed down. But it seems that the properties of (1b) cannot be exclusively captured under the assumptions of D-linking in Pesetsky's (1987) and (2000) terms.

(2000, 2002); Cole and Hermon (1998); Kristin (2000); Etxepare and Uribe-Etxebarria (2005); Kato (2004); Lassadi (2003); Mathieu (2004); Pires and Taylor (2007); Starke (2001); Sabel (2003); Uribe-Etxebarria (2002), among others):

(2) a. $\boxed{\text{Wh}}\ [_C \ldots [_T \ldots \textcircled{a} \ldots [_v \ldots \textcircled{b} \ldots \boxed{\text{wh}} \ldots]]] = X_1$

movement

b. $[_C \ldots [_T \ldots \textcircled{a} \ldots [_v \ldots \textcircled{b} \ldots \boxed{\text{wh}} \ldots]]] = X_2$

If the above summary reflects the way languages behave as regards 'optional' (interrogative) derivations, then there are two questions that naturally address themselves:

(3) a. If X_1 and X_2 are : a) built out of an identical numeration and b) identically interpreted at LF, why must G employ a different mechanism to derive X_2?

b. Is it worth integrating derivations such as (2b) into the core of our syntactic analysis (along with (2a)) instead of keeping them into the periphery?

As regards (3a), the answer to be established is that X_2 does not share with X_1 either the same syntactic (i.e. numeration) or semantic (i.e. interpretation) properties. With respect to (3b), a possible answer can be traced back as early as Chomsky's Syntactic Structures:

> "...the notion 'grammatical in English' cannot be identified in any way with the notion 'high order of statistical approximation to English'... Evidently, one's ability to produce and recognize grammatical utterances is not based on notions of statistical approximation and the like ...a structural analysis cannot be understood as a schematic summary developed by sharpening the blurred edges in the full statistical picture ..."[3].
>
> Chomsky (1957/1976, pp. 15-17)

[3]Not to mention the fact that the foundations of the current linguistic theory can be traced back to a grammatical, though, totally unacceptable sentence (poetics aside!):

% Colourless green ideas sleep furiously.

In other words, even if (1a) is more statistically frequent that (1b)[4], this does not mean that (1b) should be treated as a peripheral phenomenon, probably attributed to discourse related mechanisms (though, a non trivial consideration for any approach to the problem) beyond and above syntax proper (i.e. narrow syntax).

2 The data

This section compares wh-movement with wh-in-situ derivations in various environments both with respect to interpretation and syntax. The data are partly recast from Sinopoulou (2007) (as regards Islands) and Vlachos (2008) and partly novel. It will be shown that wh-in-situ items in Greek carry three properties: they are a) restrictive, in terms of interpretation, b) clause bound, in terms of scope and c) unmovable under three syntactic tests (i.e. Islands, resumption, weak crossover).

2.1 Reference set

It has long been observed (cf. Aoun et al. (1981)) that the French wh-adverb *comment* may remain in situ but at the cost of interpretation. The same observation holds for Greek as well. In (4a) movement of the wh-adverb 'pos' (how) may yield two possible answers, as in (4b). However, the in-situ counterpart (5a) makes the answer which describes the state in which Nick was while opening the door rather infelicitous (cf. (5b):

(4) a. Pos anikse tin porta o Nikos?
How opened.3s the door.Acc the Nick.Nom
'How did Nick open the door?'

b. Me to klidhi / Nevriasmenos
'With the key / With anger'

(5) a. O Nikos aniske tin porta pos?
The Nick.Nom opened.3s the door.Acc how
intended (non-echo): 'Nick opened the door how?'

b. Me to klidhi / #Nevriasmenos
'With the key / With anger'

[4]No Greek native speaker would say that they use (1b) as much as (1a).

2.2 Scope

In this section, a simple pattern is applied throughout; wh-items are compared both in matrix and embedded environments with respect to the way they interact with other parts of the derivation (i.e. predicates, overt and null pronouns).

2.2.1 Wh-object

In (6) and (7), the verbs share the same subcategorization frame; both may or may not take a prepositional phrase as an internal argument. In (6a), the moved wh-phrase can be construed with either the matrix or the embedded verb (cf. answers (6b) and (6c)). Though, in the in-situ case (7a) the wh-object cannot be construed with the matrix verb, as shown in (7b), but only with the embedded one (cf. (7c)).

(6) a. Se pjon anakinose o Janis oti i Maria
To whom announced.3s the John.Nom that the Mary.Nom
apokalipse to mistiko?
revealed.3s the secret.Acc

'To whom did John announce that Mary revealed the secret?'

b. To anakinose ston dhiefthindi tu.
It.cl announced.3s to-the senior manager his

'He announced it to his senior manager'

c. Anakinose oti i Maria to apokalispe ston
Announced.3s that the Mary.Nom it.cl revealed to-the
adaghonisti tis eterias.
competitor of-the company

'He announced that Mary revealed it to the competitor of the company'

(7) a. O Janis anakinose oti i Maria
The John.Nom announced.3s that the Mary.Nom
apokalipse to mistiko se pjon?
revealed.3s the secret.Acc to whom

intended (non-echo): 'John announced that Mary revealed the secret to whom?'

b. # To anakinose ston dhiefthidi tu.

c. Anakinose oti i Maria to apokalispe ston adaghonisti tis eterias.

2.2.2 Wh-object: interaction with overt pronouns (Resumption)

In (8a) the moved wh-phrase can be interpreted as the internal argument of both verbs, either by movement from the matrix object position or from the embedded one. Hence, both Resumptive Pronouns (henceforth, RP) are possible and can be coindexed with the wh-object[5]. The in-situ counterpart (8b) is ungrammatical. Obviously, one of the RPs is the offending one. If the embedded RP is omitted, as in (8c), the derivation becomes grammatical. Crucially, though, the matrix RP must take a different reference from the in-situ wh-phrase, taken as the object clitic of the matrix verb.

(8) a. Se pjus *piites*$_k$ *tus*$_k$ anakinosan t_k oti tha *tus*$_k$
To which poets them.cl announced.3pl that will them.cl
dhosun t_k to proto vravio?
give.3pl the first award.Acc
intended reading: 'To which poets did they announce that they will give them the first award?'

b. * *Tus*$_k$ anakinosan t_k oti tha *tus*$_k$ dhosun t_k
Them.cl announced.3pl that will them.cl give.3pl
to proto vravio se pjus *piites*$_k$?
the first award.Acc to which poets
intended (non-echo) reading: 'They announced that they will give the first award to which poets?'

c. *Tus*$_{j/*k}$ anakinosan t_j oti tha dhosun to proto
Them.cl announced.3pl that will give.3pl the first
vravio se pjus *piites*$_k$?
award.Acc to which poets
intended (non-echo) reading: 'They announced that they will give the first award to which poets?'

2.2.3 Wh-subject: interaction with null pronouns (pro drop)

Greek is a 'pro drop' language; *pro* is assumed to occupy Spec-TP in the absence of an overtly realized, preverbal subject. In (10a) the moved wh--subject can be interpreted as the subject of both matrix and embedded

[5]Without necessarily committing myself either to the assumption that resumption presupposes movement or not. The relevant point here concerns the coreference of the wh-object with c-commanded pronominals, irrespective of the mechanism that triggers it.

verb. However, in (10b) the in-situ wh-subject in the matrix clause must be connected to the matrix verb. While in (10c), the in-situ wh-subject in the embedded clause cannot be connected to the matrix verb[6].

(9) a. Pji $erghates_j$ $apofasisan_{j/k}$ oti tha $fighun_{j/k}$
Which workers.Nom decided.3pl that will leave.3pl
apo to erghostasio?
from the factory

reading a: 'Which workers decided to leave the factory?'

reading b: 'Which workers decided that they will leave the factory?'

reading c: 'Which workers did they decide will leave the factory?'

b. $Apofasisan_{j/*k}$ pji $erghates_j$ oti tha $fighun_{j/k}$
Decided.3pl which workers.Nom that will leave.3pl
apo to ergostasio?
from the factory

intended reading a: 'Which workers decided to leave the factory?'

intended reading b: 'Which workers decided that they will leave the factory?'

intended reading c: # 'Which workers did they decide will leave the factory?'

c. $Apofasisan_{k/*j}$ oti tha $fighun_j$ apo to ergostasio
Decided.3pl that will leave.3pl from the factory
pji $erghates_j$?
which workers.Nom

intended reading a: # 'Which workers decided to leave the factory?'

intended reading b: 'Which workers did they decide will leave the factory?'

[6]These observations can be verified by overtly realizing different subjects in the relevant positions. The matrix verb in (10a) can take a different subject. However, the matrix verb in (10b) cannot take a different subject, while the matrix verb in (10c) must take a different subject. Due to space limitations, the data have been excluded.

2.3 (Strong) Islands

Islands, though poorly understood[7], constitute a reliable test of movement. Wh-words, which are realized within a subject relative clause (cf. (10a)), an object relative clause (cf. (10b)), a clausal subject (cf. (10c)), an adjunct clause (cf. (10d)) and a coordinate structure (cf. (10e)), yield no ungrammatical derivations[8].

(10) a. O nearos [pu prokalese pjo atihima]
The young-man that caused.3s which accident.Acc
itan ksadherfos tu Jani?
was.3s cousin of John

intended: 'The young man x that caused which y, y an accident, was John's cousin?'

b. Kseris ton nearo [pu prokalese
Know.3s the young-man that caused.3s
pjo atihima]?
which accident.Acc

intended: 'You know the young man that caused which y, y an accident?'

c. [To na oloklirosume ti] ine aparetito ja na
The prt complete.3pl what is necessary for prt
perasume tis eksetsis?
pass the exams.Acc

intended: 'To complete which x, x something, is necessary for us to pass the exams?'

d. I Maria efije [protu jirisi pjos]?
The Mary.Nom left.3s before returns.3s who.Nom

intended: 'Mary left before which x, x someone, returns?'

e. O Nikos aghorase [vivlia ke ti allo]?
The Nick.Nom bought.3s books.Acc and what.Acc else

intended (non-echo): 'Nick bought books and what else?'

2.4 The No Crossover phenomenon

Falco (2007) (and references cited there) argues that weak crossover effects in English can be circumvented by specific wh-phrases; that is,

[7]See Szabolcsi and den Dikken (2002) for a State-of-the-Article.
[8]Intonational matters, though important, are left aside.

wh-phrases that yield a specific reading. This also holds for Greek, as shown in (13a), where the wh-phrase can be coindexed with the pronoun 'tu' (his). The crucial observation concerns the in-situ counterpart (13b); the wh-phrase cannot be construed with the same pronoun; hence, weak crossover effects cannot be circumvented by wh-in-situ words/phrases (specific or not). That is, there is no cross over.

(11) a. Pjon ithopio tu $theatru_k$ thamvase i mitera
Which actor.Acc of theatre admired.3s the mother.Nom
$tu_{k/j}$?
his

'Which theatrical actor did his (= the theatrical actor's / someone else's) mother admire?'

b. I mitera tu_j thavmase pjon ithopio tu $theatru_k$?
The mother his admired.3s which actor.Acc of theatre

'Which theatrical actor did his (= someone else's) mother admire?'

3 The analysis

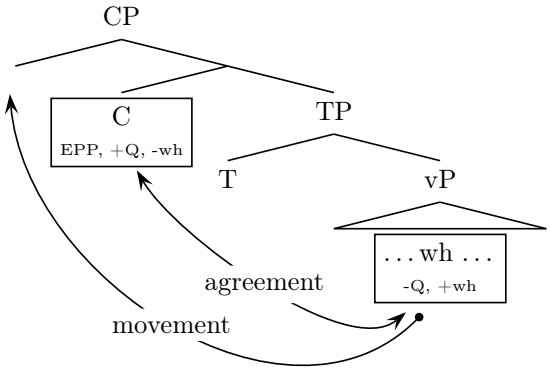
In this section, current assumptions on wh-movement are briefly put forward. Then, three possible approaches - some of them already suggested in the literature (see references in section 1.2) - that naturally derive from the above assumptions, are briefly examined. A different account of the problem follows.

3.1 The available 'tools'

As in (12), wh-movement is supposed to be triggered by an 'active' Probe C which agrees with an 'active' Goal (i.e. the wh-item). C contains three features. An EPP feature[9], an interpretable $Q_{[+F]}$ and an uninterpretable $wh_{[-F]}$. The wh-item contains a Q and a wh feature with opposite values; both C and the wh-item value their [-Fs], and the latter moves to Spec-C due to EPP.

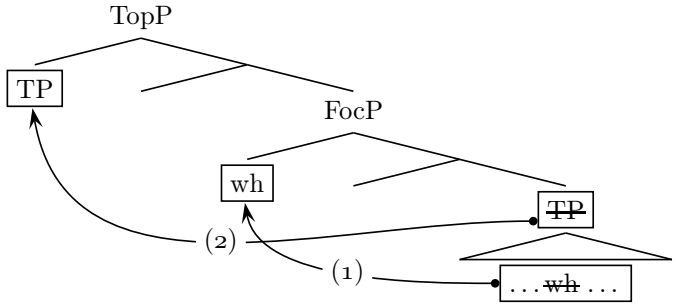
[9]OCC (Occurrence) in Chomsky (2001, 2004) or EF (Edge Feature) in Chomsky (2005).

(12)



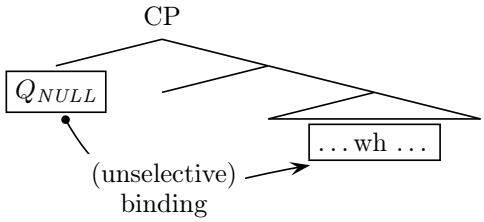
In line with (12), there are three possible ways to capture the wh-in-situ problem. One is through a version of movement; that is, remnant movement, as in (13):

(13)



However, this approach runs into two problems[10]: a) If the wh-element moves it should be interpreted rather high, contrary to evidence in sections (2.2.1) and (2.2.3) and b) the resumption (cf. section 2.2.2) and No Crossover (cf. section 2.4) phenomena couldn't be accounted for. The next two options are Beck-style (unselective) Binding, as in (14) or, comparing to (12), an agreement relation established between C and the wh-item without the EPP triggering movement[11], as in (15).

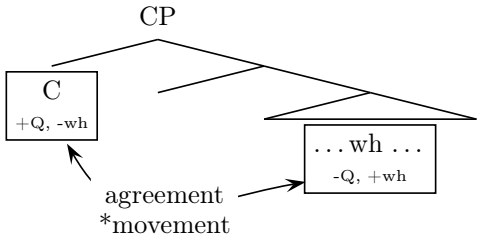
(14)



[10]Plus the problem of independently justifying the motivation for moving the 'remnant' (i.e. the TP). But see Etxepare and Uribe-Etxebarria (2005) for a possible justification.

[11]Under the availability of Agree, I dispense with LF movement as a fourth option.

(15)



Though, in these cases the resumption and the No Crossover data could be dealt with, there still remains the problem of interpretation. An operator in the left periphery binds the wh-item, yet the latter is interpreted rather low in the clause.

3.2 The proposal

Being empirically justified, the wh-in-situ word neither moves to the left periphery of the clause, nor does it establish any kind of relation with a relevant operator[12]. The proposed way to deal with the problem makes use of the basic intuitions lying behind the minimalist programme and dispenses with its 'non virtually, conceptually necessary assumptions'. For this, I abstract away from Vlachos's (2008) analysis[13]. Instead, I adopt two arguments from Sinopoulou (2007); that is, C does not have a Q feature in Greek wh-in-situ questions and Greek wh-words are intrinsically interrogative. Furthermore, I further argue in favour of (16) and (17) (which generalize on (wh) movement):

(16) Simplifying (12), C contains either: a) Q_F or b) wh_F or c) Neither (a) nor (b).

Hence, under (16)[14] C bears:

a. A Q_F, yielding: a) Yes / No question (matrix/embedded) or b) **obligatory wh-movement**; but not simultaneously (a and b).

b. A wh_F, yielding: a Relative Clause (Free, (non-) Restrictive).

c. Neither Q_F nor wh_F, yielding: a) a Declarative Clause or b) **obligatory wh-in-situ**; but not both (a) and (b).

[12]Either by binding, agreement or 'internal Search' (cf. Rizzi (2008)).

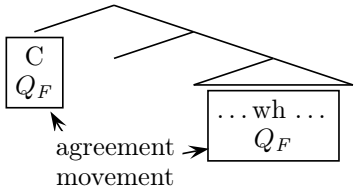
[13]The proposal there adopts Kato's (2004) approach, who deals with wh-in-situ in Brazilian Portuguese by assuming a low periphery above vP (hence, a Focus projection), a la Belletti (2001).

[14]Rephrasing Cable (2007), Hagstrom (1998) and Rizzi (2006, 2008).

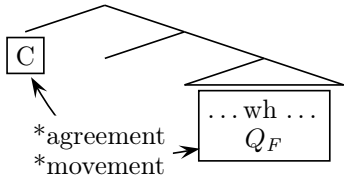
(17) Adopting the 'Principle of Full Interpretation in its strongest version: Features must be visible at LF and PF[15,16].

(17) predicts that as soon as a feature enters Numeration, it must become visible both at LF and PF. Hence, when C projects a Q_F (cf. (16a)) it carries information that must be 'readable' by the interfaces. The only way for this to take shape is for the interfaces to 'see' an element in the projection position of Q_F. Analogously, (touching on footnote (16)), the wh-item bears at least a Q_F in its feature bundle. But in this case, there are a number of features carrying 'readable' information; hence, under (17), the system generates a lexical item. Therefore, if C carries a Q_F, wh-movement takes place, as in (18); if it does not, wh-in-situ is produced, as in (19).

(18)



(19)



Furthermore, in the case of (19), the derivation produces a wh-question, since, in line with Sinopoulou (2007), wh-items in Greek are intrinsically interrogative; as shown in (20), enriching the morphology of the 'bare' wh-paradigm produces different items:

(20)

A	**B**	**C**
Pjos = Who	Ka-pjos = Someone	O o-pios = Who_{REL}
Ti = What	Ka-ti = Something	To o-pio = $Which_{REL}$
Pote = When	Ka-pote = Someday	
Pu = Where	Ka-pu = Somewhere	O-pu = $Where_{REL}$

3.3 The *cost* on interpretation and the *amount payable*

Diesing (1991) argues that derivational outputs of the computational domain are mapped onto representations of meaning. The in-situ wh-item

[15]Combining ideas from Brody (1995, 1997, 2005); Koopman (1996); Rizzi (2006); Roberts and Roussou (1999) and Starke (2001), among others. (17) also captures (or subsumes) the EPP in a more principled manner (with implications for various other phenomena left aside).

[16]An aside of (17), taken at face value, due to lack of space: a) If a Probe is a feature and a Goal is a feature bundle then the former is a subset of the latter, b) If (a) is correct then the system seems to provide us with features that can: (c) coexist with other features in feature bundles forming Goals and (d) exist independently forming Probes. It also seems that features of the (d) category (say, Q, R, Foc, Top) cannot be combined with each other to built up Goals; hence, they cannot be combined with each other to build up Probes.

in (19) neither acts as an operator binding its own variable, since it does not move, nor is it bound by a relevant operator in C. Thus, the wh-item provides only the variable which is bound by existential closure (i.e. $\exists$ operator) at the vP level, yielding the restrictive meaning. Hence, a general point that naturally stems from the above is that movement is syntactically constrained (cf. 'Islands'), but with a wider choice of interpretations; whereas, lack of movement yields no syntactic constraints, but bears restrictions on the interpretation.

4 Possible extensions

4.1 'Bare' wh-in-situ and the 'null' Q(uestion) particle

It has long been assumed that in wh-in-situ languages, such as Japanese, along with overt Q-particles used in wh-questions there are 'null' replicants, as in (21a) and (b), respectively:

(21) a. Hannako-ga pikunikku-ni nani-o mottekita no?
Hannako picnic-to what brought Q-part

b. Hannako-ga pikunikku-ni nani-o mottekita Q_{NULL}?
Hannako picnic-to what brought

"What did Hannako bring to the picnic?"

Examples from Miyagawa (2001, p. 312) and Miyagawa (pers. com.)

However, as Miyagawa (op.cit) points out, the use of a Q_{NULL} affects, at least, the interpretation of the question. Thus, in (21a) with an overt Q, the wh-indefinite carries an 'exhaustive' interpretation, whereas in (21b) the interpretation is 'non-exhaustive'.

There are some points to be considered. First, rephrasing the summary in section (1.2), a question that stems is why a language that has the 'ability' to use an overt Q, sometimes 'chooses' to use a null version of it. Definitely, the reason for doing this, if all participants in the two derivations are identical, is to affect, at least, the interpretation. Secondly, if there is indeed a Q_{NULL}, there should be no difference with respect to the interpretation, since LF could not care less. Only the PF cannot interpret the information sent by this feature. Thirdly, under the assumptions of (17), there should be no Q_{NULL} in (21b); by implication then, LF and PF interpret the information carried by the wh-indefinite, yielding the

relevant reading(s). Last but not least, as has been argued for, wh-in-situ derivations with a Q-particle resemble wh-movement. An additional, interesting correlation seems to hold between wh-in-situ derivations with no Q-particle and Greek wh-in-situ. A preliminary comparison between the two shows that there is a great resemblance in terms of interpretation.

A further argument in favour of the above points comes from Mandarin Chinese (henceforth, MC). In (22) the wh-indefinite is supposed to be bound by a Q_{NULL}, as in (21b).

(22) Quojing mei-you mai sheme
Guojing not-have buy what
reading a: 'Guojing didn't buy anything.'
reading b: 'What didn't Guojing buy?'
Example from Cheng (1991, p. 114)

Nevertheless, if C had a null Q the derivation should crash since it would violate the Bijection Principle (Koopman and Sportiche 1982); two quantifiers (i.e. negation and Q-particle) bind the same variable (i.e. indeterminate pronoun). On the contrary, not only does not the derivation crash but yields two readings, a wh-interrogative and a polarity one. If we assume that there is not a Q_{NULL}, the above readings are what we would expect. The LF interpretes the indeterminate pronoun in both ways: either the interrogative one (which is the default reading, according to Cheng (op.cit)) or the polarity reading under the scope of negation.

4.2 French wh-in-situ

Turning to French wh-in-situ, (23) has been assumed to empirically justify the relation between C and the wh-item; as argued by Bošković (1997, 2000); Chang (1997); Cheng and Rooryck (2000, 2002), the negation intervenes between this relationship.

(23) (*) Tu crois qu'elle a pas fait quoi?
You think that she has not done what
'What do you think that she hasn't done?'

Nevertheless, Starke (2001) and Baunaz (2008) argue that (23) is grammatical, at least in their variety[17]. Following the line of reasoning put forward throughout, let us capture (22) and (23) under (24):

[17]Some of the traditional observations with respect to French wh-in-situ, such as the inability to appear in embedded environments, have been seriously entertained (cf. Vlachos (2008) and related references).

(24) ...[...negation ...wh-object]

What (24) reveals is that the same derivation which yields one reading for French wh-in-situ (if we are to keep Starke's (op.cit.) and Baunaz's (op.cit) observations), yields two readings for MC. If what has been assumed so far is on the right track, this is what we should expect; MC bears indeterminate pronouns, which means that all possible readings are available at LF. French wh-words are not indeterminate pronouns. Only the interrogative reading is available. Hence, it seems reasonable to assume that (23) is a problem of **processing** and **not** of **intervention**.

5 Conclusion

Wh-in-situ questions in Greek carry a non-exhaustive interpretation, are clause bound, immune to Islands, do not license resumptive pronouns and do not cross over pronominals. This implies that the wh-item cannot establish any relationship with C, under any possible reasoning. Furthermore, C is supposed to carry only one feature in every derivation, which must be interpreted at the interfaces. In the case of wh-movement, the interpretation of Q in C is accomplished through the realization of the wh-item in C. In the case of wh-in-situ, C bears no Q. Nevertheless, the derivation is interpreted as a wh-question, since LF and PF interpret the inherent properties of the lexical item itself. In 'bare' wh-in-situ languages, 'null' Q-particles simply do not exist; hence, LF interpretes all the information available by the lexical items (e.g. polarity and/or interrogative reading). French wh-in-situ intervention effects seem to have been mistreated, giving more space to the validity of the above reasoning. An aside: Probes and Goals are built up from the same material.

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