WH-IN-SITU INQUIRIES IN A WH-MOVEMENT LANGUAGE: THE CASE OF GREEK*

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Abstract

In this paper I discuss the interpretational, scope and syntactic properties of non-echo wh-in-situ in Greek. The comparison with the corresponding wh-movement constructions leads to the conclusion that Greek wh-in-situ questions are not "optional" derivatives of wh-movement ones. In-situ wh-elements are clause bound, carry a non-exhaustive reading and appear not to obey strong islands. I adopt Kato's (2004) approach who discusses Brazilian Portuguese wh-in-situ. Specifically, I argue in favor of a Focus projection above vP and below TP which hosts the wh-word in its specifier. As a result, a wh-element stays within the clause yielding a restrictive meaning and scope as well as immunization to strong islandhood.

1. The Phenomenon: Greek wh-in-situ.

Natural languages are typologically divided into those that have obligatory wh-movement (e.g. English), those that exhibit "pure" wh-in-situ (e.g. Chinese) and those that have what looks like optional wh-movement (e.g. French). In English-type languages, the wh-word carries its phonological content up to a position in the C-domain, dedicated to the interpretation of question words. Both the semantics (quantifier) of the question and the phonological content of the wh-word are realized in the left periphery, whereas its θ-role (for arguments) or generalized θ-role (for adjuncts) is realized in the position of its first merge, namely below C (v-domain). In Chinese-type languages exactly the reverse pattern is attested. The semantics of the question are construed in the left periphery of the clause, whereas the phonological content of the wh-word is realized in the position of its first merge. In this case, the C-domain is supposed to be filled by an operator like element (cf. Cheng 1991, Hagstrom 1998, Huang 1982, Richards 1997, Tsai 1994)[1]. Finally, in French-type languages movement of the wh-word to the left periphery of a constituent question seems to be optional (cf. Boeckx 1999, Boškovic´ 1997, 2000, Chang 1997, Cheng and Rooryck not-dated ms), 2000, Mathieu 2004, Pesetsky 1987, 2000, Starke 2001, Zubizarreta 2002).

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[1]But cf. Bruening (2007) for a different view on the correlation of the Chinese wh-in-situ with question particles and wh-indefinites.

Greek has been argued to exhibit obligatory wh-movement. In constituent questions, the wh-word moves to the left periphery and lands in a position, usually identified as the Focus position[2] (cf. Agouraki 1990, Tsimpli 1990, 1995, 1998):

1. Pjo   vivlio   dhjavase o Janis?
   Which book-ACC   read-3SG the John-NOM
   "Which book did John read?"

2. Ti   nomizis oti   dhjavase o   Janis?
   What-ACC think-2SG that   read-1SG the John-NOM
   "What do you think that John read?"

On the assumption that wh-movement is obligatory, any instances of in-situ wh-constructions have been treated as echo questions:

3. Speaker A: O   Nikos   perase   to mathima   tis Sintaksis.
                 The Nick-NOM passed-3SG the course-ACC of Syntax-GEN.
                  "Nick passed the course of Syntax".

   Speaker B: O   Nikos   perase   TI?
                 The Nick-NOM passed-3SG WHAT-ACC
                 " Nick passed WHAT?"

In (3), speaker B asks for a repetition of the information, which has already been provided by speaker A. As argued by Tsimpli (1998), in echo questions the wh-word is an emphatic repetition of a previously given information. According to Mathieu (2004): "echo questions are responses from an utterance that takes the form of a question seeking confirmation of some part, in effect repeating that utterance. They do not involve quantification (cf. Rochemont & Hendrick 1988; May 1985: 61-62)".

However, Greek instantiates wh-in-situ constructions that are clearly questions seeking information and not simple echo questions as shown in (4)-(5) (see also Sinopoulou 2007):

4. a) Speaker A: Fevgho   simera.   (Sinopoulou 2007: 2)
                   Leave-1SG today
                   "I am leaving today".

   b) Speaker B: Ke   epistrefis pote[3]?
                   And return-2SG when
                   "And when do you return?"

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[2] Cf. also Brody (1990) and Rizzi (1997).

[3] The word "pote" is stressed on "o" and means "when?". It is discriminated from the negative word "pote" which is stressed on "e" and means "never".

5. O   Janis   dhjavase pjo   vivlio?
   The John-NOM read-3SG   which book-ACC
   "Which book did John read?"

In (4b) and (5), the speaker raises a question seeking for an answer. What discriminates the in-situ constituent questions from echo questions in Greek (3) is both the different intonation of the two constructions and the nature of their presuppositionality. Specifically, wh-in-situ questions display a falling intonation whereas echo questions a rising one:

6. O astinomikos   pirovolise pjon?   (wh-in-situ: falling intonation)
   The policeman-NOM shooted-3SG whom-ACC
   "Who did the policeman shoot?"

7. O astinomikos   pirovolise PJON?   (echo question: rising intonation)

The wh-in-situ question is an information seeking one, which presupposes a relevant set of answers or a discourse environment. Note that the question in (6) cannot be expressed as an "out of the blue" question. Instead, it presupposes that the speaker has knowledge of a shooting event, during which a police officer was involved, and asks a specific question concerning the exact nature of the entity affected. On the other hand, an echo question does not only presuppose but crucially repeats, as an emphatic confirmation, an already expressed utterance; this is a prerequisite, without which an echo question cannot be construed:

8. Speaker A: O   Nikos   perase   tis eksetasis.
              The Nick-NOM passed-3SG the exams-ACC
              "Nick passed the exams".

   Speaker B: (O   Nikos)   perase   pja   mathimata?   (wh-in-situ question /
              The Nick-NOM passed-3SG which courses-ACC   *echo question)
              "Nick passed which courses?"

In (8), the echo question of speaker B is infelicitous as a question seeking confirmation for the utterance of speaker A, since the wh-word that is used in echo questions needs an exact correlate in order to be construed. On the contrary, the use of a wh-in-situ question is felicitous, since, as in other types of questions, its interpretation can be construed from the explicit statement of speaker A; that is, "Nick - about whom both speaker A and speaker B know that he is a student - has passed his exams". The same common knowledge or the "Common Ground" (cf. Stalnaker 1978, 2002, Pires and Taylor 2007), though active, does not seem to rescue the echo question.
       The theoretical problem that surfaces does not seem to arise between wh-in-situ and echo questions but between wh-in-situ and wh-movement ones, in case the latter two constructions prove to be true optional derivatives of the same Numeration. Syntactic operations in the computational domain for Human Language (the I-language, Chomsky 1986) are supposed to be the optimal (or differently stated "unique") solutions for the interface conditions, imposed by the

performance systems (cf. Chomsky 1995, 2000). An I-grammar should permit wh-in-situ along with wh-movement derivations, if and only if the two derivations do not meet the same conditions. Otherwise there is redundancy and one of the two derivations must be abandoned by the system.

The purpose of this paper is to address the Greek problem of the apparent optionality between wh-in-situ and wh-movement constructions, by recognizing crucial differences with respect to both the interpretation and the syntax of the two constructions. In what follows, I will present the data of Greek wh-in-situ questions, building also on recent work by Sinopoulou (2007). Furthermore, I will briefly summarize proposals concerning the wh-in-situ optionality in French (Boškovic´ 1997, Cheng and Rooryck 2000) and in Spanish (Etxepare and Uribe-Etxebarria 2005), with the aim to show that the aforementioned approaches fail to predict the Greek pattern. In the last part of the paper, a proposal will be pursued along the lines of Kato (2004), who provides an analysis of wh-in-situ questions in Brazilian Portuguese, building on the work of Belletti (2001, 2004) and Miyagawa (2001).

2. The properties of wh-in-situ.

2.1. Presuppositionality and Scope.

In order to account for the properties of the wh-in-situ in Greek, I will first examine the interpretation of the in-situ in comparison with the displaced wh-words in terms of their presuppositionality. Then, I will compare the scope that the in-situ and displaced wh-words take over propositions[4].

Sinopoulou (2007) argues that in-situ wh-elements in Greek are presuppositional. They can be uttered only if there is an eligible discourse environment and a common knowledge that the speakers share. Assuming this to be on the right track let us elaborate this idea further. Imagine a situation where two colleagues, working in the same company, are discussing that their senior manager announced in the last meeting that a top secret concerning a product of the company was revealed by two employees. Rumors have spread quickly and two of the employees are the main suspects: Mary and John. The important thing now is to find the people that the secret has been revealed to and reorganize the company's strategy as far as this product is concerned. So, Bill, one of the colleagues, is saying that Mary revealed the secret to the senior secretary of ABH, their main competitor company. At that point, Anna, the second colleague, interrupts him by asking:

9. a) Anna: Ke se pjon apokalipse o Janis   to mistiko?
          And to whom revealed-3SG the John-NOM the secret-ACC;
          "And to whom did John reveal the secret"?

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[4] No Semantic formulas will be adopted, in the sense that we will care about the meaning of the propositions without reference to any semantic equations.

Bill: Ston dhiefthindi tis AVX, apo oti ksero   / se kanenan
       "To the senior manager of AVX, from what I know-1SG / to nobody".

b) Anna: Ke o Janis apokalipse to mistiko se pjon?
   Bill: Ston dhiefthindi tis AVX, apo oti ksero   / se kanenan
          "To the senior manager of AVX, from what I know-1SG / to nobody"

In the above scenario, there is a presupposition that both the displaced and the in-situ constructions share; the revelation of the company's secret. Both questions seem to be presuppositional and imply a common knowledge between the speakers. Interestingly enough, the truth of both utterances can be denied by "nobody" (cf. Starke 2001 and Mathieu 2004, for similar ideas concerning French wh-in-situ)[5].

      As Sinopoulou (2007: 5) correctly points out, the acceptability or not of negative answers is not a safe criterion of comparison between wh-in-situ and wh-movement constituent questions in Greek. Thus, it would be accurate to say that the presupposition requirement with respect to the truth of the in-situ utterance is not what is at stake. In other words, to quote from Pires & Taylor (2007, p. 8): "the problem is that wh-questions in general have a presupposition of their own, independent of showing wh-in-situ". What seems to be at stake is a property that should be added to the presuppositional nature of the in-situ wh-word; descriptively stated, this property concerns the width of the reference set that wh-in-situ elements denote and could be tentatively called "restrictiveness"[6]. Consider (10):

10. α) Speaker A: Pos   anikse   tin porta   o   Nikos?
                  How opened-3SG the door-ACC   the Nick-NOM
                  "How did Nick open the door open?"

       Speaker B: Me to klidhi / nevriasmenos
                  "With the key / with anger"

    b) Speaker A: O Nikos anikse tin porta pos?

       Speaker B: Me to klidhi / ≠ nevriasmenos.
                  "With the key /   with anger"

In (10), the use of the adjunct "how" in the in-situ case (cf. (10b)) seems to lose part of its flavor. Dominique Sportiche in Aoun *et al* (1981), discussing the respective French adjunct "comment" (how), reports that it may remain in-situ, but "only at the cost of a restricted interpretation" (cf. also Bayer 2006, p. 15). It is an important observation that in the Greek case also, the adjunct cannot be left in-situ without any cost in the interpretation; the cost being the

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[5] Different observations have been put forward for French (Boeckx 1999, Chang 1997, Obenauer 1994) and Spanish (Uribe-Etxebarria 2002, Etxepare and Uribe-Etxebarria 2005).

[6] I will make this property more explicit in section (3.2.).

restriction in the meaning of the in-situ construction in comparison with the displaced counterpart. In (10b) the participle does not seem felicitous as a possible answer of Speaker B to the in-situ question. Speaker A seems to force an answer that has to do only with the "instrument" that Nick used in order to open the door and not a property of the subject. In other words only the vP-manner meaning is available. On the other hand, the displaced wh-word in the left periphery of the clause seems to retain all its force, rescuing both answer patterns of Speaker B. This is not to imply, though, that the "instrument" answer that the in-situ wh-word entails is more restrictive, but that the reference set of the in-situ wh-word is apparently more confined than that of its displaced counterpart; it is a different thing to examine the reason why this restriction favors the "instrument" answer. Furthermore, the idea that in (9a,b) we are dealing with identical constructions is misleading. The in-situ construction carries a strong implication that Anna expects a subset of the set of the company's employees as a possible answer. The displaced construction carries the implication that Anna may expect an answer drawn from the whole set of the company's employees. In other words, if the whole set of the company's employees is the presupposition requirement, a subset of this set of people is the particular interpretation of the in-situ element, which delimits the set of possible answers that the speaker may draw from. There is an apparent contradiction with respect to the restrictive interpretation of the wh-in-situ and the possible negative answer of (9b). However, the idea is that if a speaker makes an in-situ question entailing something more particular than in the case of a moved counterpart, this does not mean that the hearer cannot deny the truth of the question. Still, the question retains its interpretational properties.

Let us next turn to the scope properties of wh-in-situ and wh-movement constructions as a further test of comparison. In Berman's (1991) terms, constituent questions are quantifications that consist of three parts necessary for the interpretation of the question: the interrogative operator (Q) based in C (or in F, with respect to Greek constituent questions), the nuclear scope (IP/TP) and the restrictive clause (Wh-word/phrase). The interrogative operator assigns scope to the variable produced after movement of the restrictive clause to the former's domain. In wh-movement constructions such as (1) - (2), the wh-word, in Spec-F, takes scope over the TP (the nuclear domain, which provides the propositional function). The question is wether wh-in-situ has the same scope as its moved counterpart. Consider (9b) above, repeated as (11):

11. Ke o Janis apokalipse to mistiko se pjon?

The construction in (11) is a constituent question satisfying at least one out of the three quantificational prerequisites in Berman's terms; the restrictive clause which is the in-situ wh-phrase introduced by the preposition "se" (to). The questions that remain to be answered with respect to (11) are whether the (abstract) Q-feature requirement is satisfied and what the nuclear scope domain is.

Sinopoulou (2007) names wh-in-situ as "Declarative Questions". Her term is justified to the point that the "wh-in-situ questions in Greek are not introduced by a question complementizer, as the displaced questions are" (p. 1). Under the lack of a Q-feature the clause behaves as if it bears properties of declarative sentences. However, the presence of the wh-element forces a question-like reading. Contrary to Sinopoulou's approach and in line with the

argumentation presented so far, I suggest that by uttering (11), the speaker seeks for specific information (intonation respected). Hence, there is an (abstract) Q-feature which types the clause as a question. As such, the wh-element provides a variable which is bound by a wh-operator. Hence, the sentence in (11) bears scope properties as any other constituent question.

To examine the scope of wh-in-situ, we will compare their scope properties with these of their wh-movement counterparts. As a first approximation, the in-situ wh-word in (11) seems to have wide scope over the proposition, in the same way that the displaced wh-word has (cf. (9a)). However, there is indeed, a difference with respect to the scope properties of the two constructions. This can be revealed only under the presentation of more complex cases:

12. a) Speaker A: <u>Se pjon</u>   anakinose   o   Janis   oti i   Maria
                     To whom announced-3SG the John-NOM that the Mary-NOM
                     apokalipse   to   mistiko?
                     revealed-3SG the secret-ACC
                     "To whom did John announce that Mary revealed the secret?"

    b) Speaker B: (O   Janis)   to   anakinose   <u>ston   dhiefthidi   tu</u>.
                   The John-NOM it-cl announced-3SG to-the senior manager his-Poss.Pron.
                   "John announced it to his senior manager".

    b´) Speaker B: (O   Janis)   anakinose   oti i   Maria   to
                   The John-NOM announced-3SG that the Mary-NOM   it-cl
                   apokalipse   <u>ston   adaghonisti</u>.
                   revealed-3SG to-the competitor
                   "John announced that Mary revealed it to the competitor".

13. α) Speaker A: O   Janis   anakinose   oti i   Maria   apokalipse   to
                  The John-NOM announced-3SG that the Mary-NOM revealed-3SG the
                  mistiko <u>se pjon</u>?
                  secret-ACC to whom

    b) Speaker B: ≠ (O Janis) to anakinose <u>ston dhiefthidi tu</u>.

    b´) Speaker B: (O Janis) anakinose oti i Maria to apokalipse <u>ston adaghonisti</u>.

14. a) Speaker A: <u>Pos</u> thimate   o   Nikos   oti ton   koitakse
                  How remember-3SG the Nick-NOM that him-cl looked-3SG
                  i   Maria?
                  the Mary-NOM
                  "How does Nick remember that Mary looked at him?"

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b) Speaker B: (O   Nikos)   to   thimate   me   veveotita.
    The Nick-NOM it-cl remember-3SG:PRES with certainty
    "Nick remembers it with certainty".

b´) Speaker B: (O   Nikos)   thimate   oti   ton   kitakse   i   Maria
    The Nick-NOM remember-3SG that him-cl looked-3SG the Mary-NOM
    me   apathia.
    with apathy
    "Nick remembers that Mary looked at him with apathy".

15. a) Speaker A: O   Nikos   thimate   oti ton   kitakse
    The Nick-NOM remeber-3SG that him-cl looked-3SG
    i   Maria   pos?
    the Mary-NOM how

b) Speaker B: ≠ (O Nikos) to thimate <u>me veveotita</u>.

b´) Speaker B: (O Nikos) thimate oti ton kitakse i Maria <u>me apathia</u>.

The constituent questions in (12a) – (15a) consist of a matrix and an embedded clause. In (12a) and (14a) the wh-word, which is an internal argument and a modifier respectively, has moved to the left periphery of the clause. The constructions in (13a) and (15a) are the in-situ counterparts of (12a) and (14a). The (b) and (b´) cases are the possible answers that a speaker may give to the questions in the (a) cases.

Let us compare the utterances with respect to the scope of wh-words. The matrix and the embedded verbs, in the constituent question (12a) bear the same properties as far as their subcategorization frame is concerned; both may or may not take a prepositional phrase as an indirect object. The construction in (12a) is an ambiguous question: the displaced wh-word can be taken as the argument either of the embedded or of the matrix verb. In line with the general theoretical assumptions concerning wh-movement, the scope of the wh-word can be established over either proposition (matrix or embedded). Contrary to the above, the in-situ counterpart in (13a) can only be established as an argument of the embedded verb. Its scope properties are reflected in the possible answers of Speaker B; (13b) is infelicitous since it implies that the in-situ word is the internal argument of the matrix verb, whereas answer (13b´) is acceptable.

The same pattern is attested in (14) and (15) with a wh-adverbial. The construction with wh-movement in (14a) is ambiguous: the wh-word can modify either the matrix or the embedded predicate, as in (14b) and (14b´) respectively. However, and in line with (13a), the in-situ wh-word in (15a) can only modify the embedded predicate, as in (15b´), and not the matrix one (cf. 15b).

Consider next (16):

16. a) Speaker A: <u>Jati</u>   na fiji   o   Janis?
                         Why prt leave-3SG the John-NOM
                         "Why should John leave?"

    b) Speaker B: (Ke)   pjos   na fiji?
                         (And) who-NOM prt leave-3SG
                         "(And) who should leave?"

    c) Speaker A: Na fiji   o   Nikos.
                         prt leave-3SG the Nick-NOM
                         "Nick should be the one to leave".

(16) represents a familiar question-answer "game" to Greek native speakers. Suppose that some friends are trying to decide who should vacate the room since there is not enough space for all of them. One of them (speaker A) asks "why should John be the one to go", literally showing his/her preference for John to stay. Speaker B, asks "who should be the one to go if not for John". Then, Speaker A replies: "Nick should be the one to go". This question-answer pair can go on endlessly if Speaker B repeats Speaker's A question (replacing John for Nick) showing his/her desire for Nick to stay, etc. Traditionally, this question-answer pair is called the "pumpkin game", so let us refer to (16) as "pumpkin questions".

     Relevant for our discussion is the scope of the wh-adverb "jati" (why) over the proposition. Generally, (16a) as a wh-movement construction, independent of the "pumpkin questions game", is ambiguous. It can mean either:

17. a) "why should John be the one to go instead of someone else?" or

    b) "why should John go? He hasn't done anything wrong".

As is the case for (10a,b), the wh-adverb in (17) can be construed either with the properties of the clausal subject (TP-domain) or the predicate (vP-domain). Thus, (17b) is better with the interpretation "for what reason". Nevertheless, when (16a) becomes part of the "pumpkin questions" it is interpreted as in (17a). "Pumpkin questions" seem to favor a more general, presuppositional reading of the wh-word, which requires that the wh-phrases involved express properties of the TP-domain. Consider now the in situ counterparts in the same "game":

18. a) Speaker A: Na fiji o Janis <u>jati</u>?

    b) Speaker B: i) ≠Ke na fiji pjos
                       ii) ≠Ke pjos na fiji

In (18), Speaker A makes an in-situ wh-question. However, the "pumpkin game" is impossible either with a wh-movement question (cf (18i)) or with an in-situ one (cf. (18ii)). The question

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(18a) is interpreted as in (17b) and not as in (17a). Evidently, the in-situ wh-adverb takes narrower scope than that of its wh-movement counterpart.

According to the empirical evidence presented so far, we can conclude that wh-in-situ not only favors a restrictive reading but also it must have scope inside its clause[7]. Let us continue with the examination of some syntactic phenomena.

2.2. Island Effects

As is well-known, wh-movement is subject to locality constraints, an observation that goes back to Ross (1967). Locality takes the form of either "strong islands" or "weak islands". In the former case, no wh-word can escape them without a cost on its "life" (the "semantic and syntactic life"). In the latter case, the "life" of the wh-word is extended beyond a constituent (cf. Cinque 1990, Rizzi 1990, Manzini 1992), by paying a relevant price: the sentence yields a degraded acceptability[8]. For what follows, I will refer to strong islands leaving aside weak islands since their examination would lead us too far afield.

Turning to the Greek wh-in-situ constituent questions[9], let us consider the following pairs:

17. a) *Pjo   atihima   [DP o nearos   [CP pu prokalese   ~~pjo atihima~~]]
       Which accident-ACC the young man-NOM   that caused-3SG
       itan   ksadherfos tu Jani?
       be-3SG cousin   of John
       "*For which y, y an accident, x, a young man and John's cousin, x caused y?".

    b) O   nearos   [pu prokalese pjo atihima]   itan   ksadherfos
       The young man-NOM   that caused-3SG which accident-ACC be-3SG cousin
       tu Jani?
       of John

In (17a) the wh-phrase is extracted from a subject relative clause and the result is ungrammatical. In (17b), the wh-phrase remains inside the relative clause and the result is grammatical. The same results are attested with extraction of a wh-phrase out of an object relative clause:

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[7] In this respect, wh-in-situ seems to behave like reflexive pronouns (Anna Roussou, personal communication).

[8] Weak islands, in more current terms, appear to fall within the "intervention effect" cases (cf. Beck 1996a,b, Beck & Kim 1996, Pesetsky 2000, Starke 2001), in the sense that certain constituents intervene between the dependent relationship of a displaced wh-word and its base generating position, yielding a degraded acceptability or alternation in meaning. Thus, there is not any clear-cut distinction between Weak islands and Intervention Effect elements. Also, cf. Roberts (1997) for a general presentation of islands within the GB theory and Szabolcsi & den Dikken (2002) for a State-of-the-Article of the various approaches on islands.

[9] Kotzoglou (2005) and Manzini (1992) observe that wh-questions in Greek follow the typical islandhood pattern.

18. a) *Pjo   atihima   kseris   [DP ton nearo   [CP pu prokalese
        Which accident-ACC know-2SG   the young man-ACC   that caused-3SG
        ~~pjo   atihima~~]];
        "*For which y, y an accident, you know x, x a young man and x caused y?".

    b) Kseris   [ton nearo   pu prokalese pjo   atihima]?
        Know-2SG the young man-ACC that caused-3SG which accident-ACC

In (18a), the wh-phrase cannot move outside the relative clause, similarly to (17a). In parallel to (17b), (18b) is grammatical with the wh-in-situ.

  Another instance of strong island is the Subject Island, according to which no element can vacate a subject if the latter is a clause:

19. a) *Ti   [CP to   na   oloklirosume ~~ti~~] ine   aparetito ja na   perasume
        What-ACC   the to-prt. complete-3PL   be-3SG necessary for to-prt.pass-3PL
        tis eksetasis?
        the exams-ACC
        "*For which x, x a thing, if we complete x, we will pass the exams?".

    b) [To na   oloklirosume ti]   ine   aparetito ja na   perasume
        The to-prt. complete-3PL what-ACC   be-3SG necessary for to-prt. pass-3PL
        tis eksetasis?
        the exams-ACC

In (19a) the wh-word cannot be extracted out of the subject of the clause. On the other hand, in (19b) the wh-word stays in-situ and the result is grammatical[10].

  Similar results are observed with respect to the Adjunct Island:

20. a) *Pjos   efije   i Maria   [AdP protu jirisi   ~~pjos~~]?
        Who-NOM left-3SG the Mary-NOM   before return-3SG
        "*For which x, x a person, Mary left home, before x returns?".

    b) I Maria   efije   [protu jirisi   pjos]?
        The Mary-NOM left-3SG   before return-3SG who

In (20a), movement of the wh-word outside the adjunct clause leads to ungrammaticality. While in line with (17b), (18b) and (19b), the in-situ version is grammatical.

  A final, strong island to consider is (20):

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[10] The sentence in (19b) bears a falling intonation with a short pause between the wh-word an the rest of the proposition.

21. a) *Ti   allo aghorase o Nikos vivlia kai ~~ti~~ ?

   What-ACC else bought-3SG the Nick-NOM books-ACC and

   "*For which x, x a thing, Nick bought books and x?"

  b) O Nikos aghorase vivlia kai ti   allo?

   The Nick-NOM bought-3SG books-ACC and what-ACC else

The Coordinate Structure Constraint (henceforth, CSC), first observed by Ross (1967: 158), is a poorly understood topic. For present purposes it suffices to say that in (21a) the wh-word cannot be extracted out of the coordinate structure. The in-situ counterpart (21b), on the other hand is grammatical. According to Ross, if the same element is moved out of both conjuncts in a coordinate structure, then the effects of CSC are voided. Consider (22a):

22. a) Pjon   misouse i Maria [pjon] ke simpathouse i Eleni

   Who-ACC hated-3SG the Mary-NOM   and liked-3SG the Helen-NOM

   [pjon]?

   "Who did Mary hate and Helen liked?"

(22a) is an Across-The-Board (henceforth, ATB) construction (in Ross's terms). As shown in the English translation, "pjon" must be related to the verbs of both conjuncts. It moves out of the conjuncts to a left peripheral position and takes scope over both propositions by binding an identical gap with respect to both verbs[11]. We can test this by putting a different DP in the purported positions of the wh-element:

22. b) *Pjon   misouse i Maria <u>ton Vasili</u> ke simpathouse

   Who-ACC hated-3SG the Mary-NOM the Bill-ACC and liked-3SG

   i Eleni [pjon]?

   the Helen-i NOM

(22b) is ungrammatical, which means that the wh-word is related to the verb of the first conjunct. The same is true for the second conjunct:

22. c) *Pjon   misouse i Maria [pjon] ke simpathouse i Eleni

   Who-ACC hated-3SG the Mary-NOM   and liked-3SG the Helen-NOM

   <u>ton Vasili</u> ?

   the Bill-ACC

Now, consider (23a), the in-situ counterpart of (22a):

23. a) *i Maria misouse ke i Eleni simpathouse pjon?

   The Mary-NOM hated-3SG and the Helen-NOM liked-3SG who-ACC

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[11] Compare with (12) - (15), as well.

The picture is reversed. In (23a) the wh-word cannot be related to both verbs. The ungrammaticality of the sentence implies that the in-situ wh-word cannot be construed with the verb of the first conjunct, but only with that of the second one. In order for the sentence to become grammatical, the verb of the first conjunct needs to be construed with a different DP, which has different reference from "pjos" (as opposed to (22c)):

23. b) i   Maria   misouse   ton Vasili   kai i   Eleni   simpathouse pjon?
        The Mary-NOM hated-3SG the Bill-ACC and the Helen-NOM liked-3SG   who-ACC
        "Mary hated Bill and for which x, x a person, Helen liked x?"

Sinopoulou (2007) argues that the behavior of wh-in-situ with respect to strong islands disfavors any movement approach. Nevertheless, anticipating the syntactic proposal in section (3.2), I suggest that the interpretational, scope and syntactic evidence presented conflict with any approach that involves the association of the left periphery of the clause with the in-situ wh-word. Clearly, the wh-element does not move out of its clause, but this does not entail that a "shorter" kind of movement is not possible.

Having presented the empirical data regarding wh-in-situ in Greek, I will next consider current approaches on the matter and suggest an alternative analysis.

3. Towards an account of wh-in-situ

3.1. Previous analyses.

Current syntactic approaches cover the full range of possible explanations of the phenomenon under discussion[12]. Although a detailed presentation would lead us too far afield, I will briefly discuss three of these approaches, namely Cheng and Rooryck (2000), Boskovic (1997) and Etxepare and Uribe-Etxebarria (2005) that I take as representatives of LF feature movement and remnant movement. In what follows, I will show that the assumptions put forward are not adequate to explain the Greek data and propose an analysis along the lines of Kato (2004), who discusses Brazilian Portuguese wh-in-situ.

For Cheng and Rooryck (2000) (see also Cheng and Rooryck, not-dated ms) French yes/ no and wh-in-situ questions share a common property; they bear a rising intonation. On the basis of this property, the authors propose that wh-in-situ in French is licensed through an intonational morpheme Q, similar to the one that licenses yes/no questions. Following Scobbie's (1991) Attribute-Value Phonology, they assume that there is a Q-morpheme in the lexicon (probably

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[12] There are semantically oriented approaches such as Baunaz (2005), Mathieu (2004), Pires and Taylor (2007), Pesetsky (1987), Reinhart (1998) and Zubizarreta (2002), phonologically oriented approaches such as Cheng and Rooryck (2000, not-dated ms) and Reglero (2005), syntactically oriented approaches such as Boeckx (1999), Boskovic (1997, 2000), Chang (1997), Denham (2000), Etxepare and Uribe-Etxebarria (2005), Kato (2004), Lassadi (2003), Uribe-Etxebarria (2002) and Starke (2001) and morphologically oriented approaches such as Cole and Hermon (1998) and Zavitnevich-Beaulac (2005).

recognizing it as a functional element) in the form of an attribute that takes unary values: [Q:yes/no] or [Q:wh]. The Q-morpheme can be specified or underspecified. In languages such as Chinese, with the yes/no particle "-ma" or Navajo with the wh-particle "-la" the Q-morpheme is specified. However in languages such as French, the Q morpheme is underspecified and must take a value. There are two ways to do that. Either by a default operation that "types" the sentence as a yes/no question or by LF movement of a wh-feature that types the sentence as a wh-in-situ question. Consider (24)[13]:

24. a) [C [Q:yes/no] Jean a   achete un livre]?
          Jean has bought a   book
          "Has Jean bought a book?"

    b) [C [Q:wh] Jean a   achete quoi]?
          Jean has bought what
          "What has Jean bought?"

In both (24a) and (24b) the Q-morpheme is inserted in C underspecified and checks the latter's Q-feature. In the yes/no question (24a), the intonational morpheme is the only licenser of the question since inversion hasn't taken place. A default operation, then, applies and the Q-morpheme takes the value [Q:yes/no]. The authors argue that this operation cannot apply in the in-situ question (24b). Specifically, the clause will be interpreted by default as a yes/no question leaving the interpretation of the wh-element unresolved. The Q-morpheme checks the Q-feature of C and the wh-feature moves at LF, under the assumptions of the Move F Hypothesis (Chomsky 1995). Crucially, wh-feature movement takes place for "typing" (Cheng 1991) purposes and the Q-morpheme takes the value [Q:wh]. The phonological component interprets both (24a) and (24b) with a rising intonation and the semantic one interprets them in accordance with the value of the Q-morpheme.

The above mechanism is supposed to explain the fact that French wh-in-situ is both restricted in matrix clauses and exhibits island effects[14]. From what we have seen in (12) - (15) and (17) - (20), Greek wh-in-situ is accepted both in embedded clauses and in islands. A more theoretically oriented problem has to do with the assumptions deriving the Q-morpheme. Specifically, the initial reason for adopting such a morpheme is the intonational properties it exhibits. This implies that phonology plays a major role in the syntactic arrangement of the elements in a clause. The previous is probably in line with current thoughts on linearization that take the Kenyan Linear Correspondence Axiom (or similar linearization mechanisms) to be part of the phonological component. However, in Cheng and Rooryck's approach, the "rearrangement" takes place in the computational component. Additionally, there seems to be a

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[13] The examples are taken from Cheng and Rooryck.

[14] However, Adli (2006), Mathieu (2004) and Starke (2001) challenge the acceptability and grammaticality judgments of Boškovic′ (1997), Chang (1997) and Cheng and Rooryck (2000) with respect to French wh-in-situ. Probably, as Cheng and Rooryck (not-dated ms) note, there are two different varieties of French with distinct properties with respect to wh-in-situ questions.

problem with the assumptions concerning the "clause typing" by the wh-feature. To be more specific, the authors maintain that the Q-morpheme checks the Q-feature of C but in (24b) the clause is not "typed" until the LF movement of the wh-feature. Nevertheless, according to Cheng (1991) "clause typing" is a "feature checking" operation of the computational component (hence, overt) and not of the LF. Literally, in wh-questions, a Q-particle (in Chinese-type) or a wh-element (in English-type) checks the Q-feature of C. By this operation (and the binding of the wh-indefinite as far as Chinese is concerned) the clause is typed as a wh-question. In (24b), however, the Q-morpheme checks the Q-feature of C but the "clause typing" operation is cancelled. The "type" of the clause is not assigned in the computational domain but in the LF under wh-feature movement. Obviously, some additional assumptions are essential with regards to the deviation from the "clause typing" hypothesis.

　　　　Boškovic´ (1997) (also 2000), discussing examples such as (24b) within the framework of Chomsky (1995), maintains that French wh-in-situ is triggered in LF by a null C with strong F. Consider (25):

25. a) [$_C$ Tu　as　　vu　　qui]?　　　LF C-insertion
　　　　You have seen　whom

　　b) [$_C$ Qui　　as　tu　vu　]?　　Overt Syntax C-insertion
　　　　Whom have you seen
　　　　"Whom have you seen?"

Let us take (25b) first. C is introduced in overt syntax with a strong feature. According to Chomsky (1995) strong features must be checked immediately upon insertion, thus the wh-element overtly moves to the left periphery of the clause. Crucially, in (25a) C with a strong feature is not inserted in the overt syntax but at LF. Boskovic argues that if an element does not carry phonological information, it can be inserted at LF. Hence, in line with the Move F Hypothesis (Chomsky 1995), the wh-feature moves at LF to check the strong feature of C. Furthermore, LF insertion is both clause bounded contrary to insertion in overt syntax and susceptible to island effects. This is why French wh-in-situ is illegitimate in embedded questions and islands.

　　　　The same argument against Cheng & Rooryck's approach applies here as well. Greek wh-in-situ, though clause bound, is grammatical in both embedded questions and islands. From a more theoretical point of view, Boškovic´'s approach seems to run into some problems. His proposal is within the framework of Chomsky (1995) where "strong" features are discriminated from "weak" ones on the basis that the former need to be checked in the "overt" component since they cannot be interpreted at LF. As such, they drive "overt" syntactic operations. However, Boškovic´ seems to allow for the fact that "strong" features are not only interpreted but also independently introduced at LF. Suppose that this is possible. Then, we have to assume that after the completion of the overt syntactic computations, LF can return to the lexicon and "select" an element with no phonological content. However, such an operation stands against the notion of computational economy. Specifically, the computational system cannot further access the lexicon once selection of lexical items is completed. The derivation does not work in parallel with the

lexicon but with the interfaces through the Spell-out. This entails that "this huge beast [the lexicon]" (Chomsky 2000: 100) is an additional burden for the computational system. Under Boškovic´'s account, the lexicon must be available for LF operations. By implication then, the lexicon should be available for overt syntactic operations as well. Otherwise, additional assumptions are necessary to explain why the lexicon "closes off" after the initial "selection" of lexical items and "re-opens" for LF purposes.

The final approach to consider is that of Etxepare and Uribe-Etxebarria (2005) (henceforth, E&U) (see also Uribe-Etxebarria 2000). E&U's proposal is within the remnant movement account ("masked movement" in their terms). The authors discuss Spanish wh-in-situ and argue that the wh-element is not really "in situ" but moves to the left periphery of the clause. In addition, the "remnant" IP/TP moves to a Topic position above the position of the wh-element c-commanding the latter. E&U base their argument for remnant movement on the "sentence final requiremnt" (henceforth, SFR) (Uribe-Etxebarria 2002) of wh-in-situ. Litteraly, the "SFR" predicts that wh-in-situ is the final element in the rerpresentation of a clause. Consider (26):

26. a) Sergio llego   el matres en bicicleta?
       Sergio arrived Tuesday   by bicycle
       "Sergio arrived on Tuesday by bicycle".

(26a) shows the unmarked position of the temporal adverb "el matres" which is before the instrumental adverb "en bicicleta". However, once the temporal adverb is questioned in an in-situ construction (cf. 26b,c)), it must follow the instrumental adverb:

26. b) *Sergio llego   cuando en bicicleta?
       Sergio arrived when   by bicycle

    c) Sergio llego   en bicicleta cuando?
       "When did Sergio arrive by bicycle?"

Furthermore, E&U compare contrastively focused yes/no questions, which leave the focused element in-situ, with wh-in-situ. For our purposes here it suffices to say that the authors show that both constructions share the same interpretational and syntactic restrictions and conclude that in-situ wh-phrases are instances of contrastive focus. On the interpretational side, both constructions seem to require a restrictive set of answers; on the syntactic side, contrastively focused elements seem to abide by the "SFR".

Spanish and Greek wh-in-situ have some striking similarities. In Greek, the wh-phrase appears at the right end of the clause. Nevertheless, this is not obligatory as opposed to Spanish. Bearing the previous in mind, in section (3.2.), I will propose that this property is not a requirement that should be met but a side effect which stems from a more articulated clause structure[15]. What is more, although I have shown in section (2.1.) that wh-in-situ denotes a more restrictive set of answers than that of wh-movement phrases, I will maintain in line with current
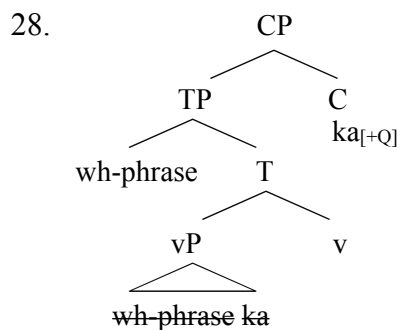
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[15] Although word order considerations are at stake, I will not take up this matter here.

literature, that due to the position that wh-in-situ occupies in the structure, it yields an information focus reading. Furthermore, I will argue, contra Cheng and Rooryck (2000), Boškovic (1997) and E&U (2005), that the interpretational, scope and syntactic properties of Greek wh-in-situ discussed in (12) - (23), can be accounted only if we assume that the wh-element does not reach the C-domain of the clause either overtly or covertly.

Let us turn to Kato's (2004)[16] proposal. Kato, argues that Brazilian Portuguese (henceforth, BP) falls under the French-type with respect to wh-questions. Under certain circumstances wh-in-situ is a possible question formation:

27. Você disse que Jogho viu   quem?   ((9) in Kato 2004)
    You   said that Jogho show who
    "Who did you say that Jogho saw?"

In (27) the wh-object remains in situ and the clause has a falling intonation, same as in Greek. Kato's approach combines two current proposals, one from Miyagawa (2001) concerning wh-movement in Japanese and the other from Belletti (2001, 2004) who proposes a more articulated internal clause structure. Miyagawa (2001), following Hagstrom (1998), argues that Japanese Q-particles[17] are base generated with the wh-words, similarly to Tsai's (1994) proposal concerning English wh-words. Then, the Q-particle moves to C for "clause typing" purposes. Furthermore, and in line with Richards (1997) and Takahashi (1993), Miyagawa maintains that Japanese wh-phrases are not in situ but move as in wh-movement languages. However, based on evidence from scrambling phenomena in Japanese, he proposes that the wh-feature occurs in T and not C. Hence, wh-movement does not exhibit A-bar movement to Spec-C but A movement to Spec-T[18]. T agrees with the wh-phrase and the latter moves to Spec-T to satisfy EPP as illustrated in (28) ((47) in Miyagawa 2001).

28.

```
              CP
             /  \
           TP     C
          /  \    ka[+Q]
  wh-phrase   T
            /  \
          vP     v
         /  \
   wh-phrase ka
```

---

[16] There is limited reference to BP wh-in-situ and no interpretational judgments, since my knowledge about Kato's proposal is based on a handout she has distributed online.

[17] "Ka" and "no" are the two Q-particles of Japanese

[18] To be taken only descriptively, since in current terms the A/A-bar distinction does not seem sustainable under the generalized use of EPP.

Kato, argues that the null Q-particle and the wh-phrase in BP wh-in-situ exhibit a Japanese-like behavior. The null Q-particle moves from a position within the projection of the wh-element[19] to C due to EPP[20]. However, she proposes that the wh-feature is instantiated neither on C nor on T, but on a clause internal Focus projection above vP. Her proposal is in the spirit of the "Cartographic" approach, which maintains that "syntactic structures contain dedicated positions. Thus, (aspects of) semantic/pragmatic/discourse related and phonetic/prosodic interpretations can be directly read off the syntactic configuration" (Belletti 2006: 1). In line with Belletti (2001, 2004), Kato assumes that there is a clause internal periphery expanding above vP[21], containing Topic and Focus projections:

29.
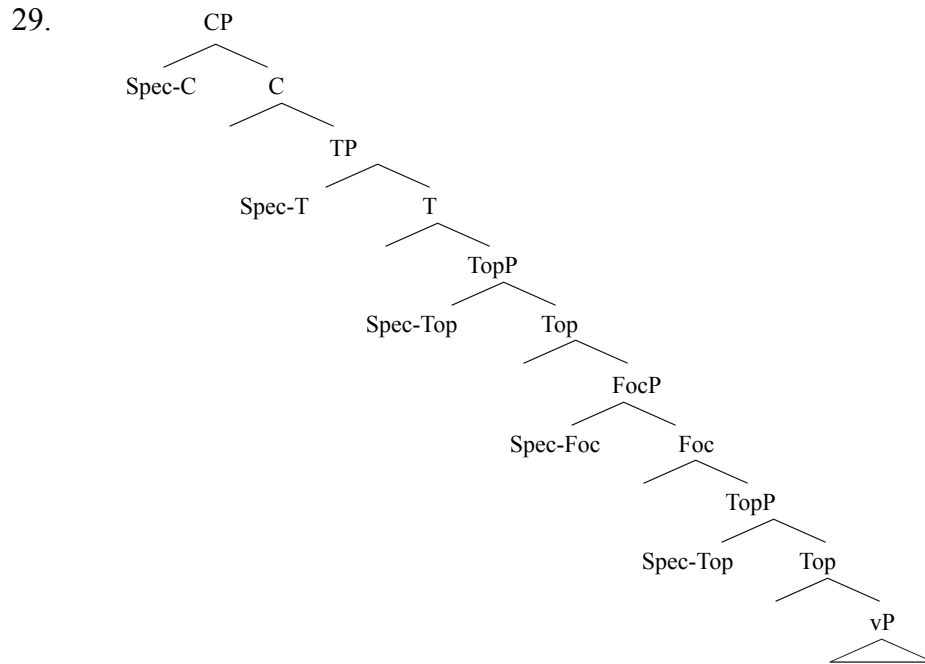
In (29) the low Focus head is "selected" in the Numeration (Chosmky 2000). Given (29), (27) is analyzed as follows:

30. [C [null Q] [TP Você disse [CP que [TP Jogho viu [FocP quem [+wh] [vP ~~Jogho viu quem~~]]]]]].

---

[19] See Cable (2007), Cheng (1991), Hagstrom (1998), Richards (1997) and Tsai (1994) for various approaches concerning the nature and the structural representation of the Q-feature and the predictions that each approach claims to make. Here, it suffices to assume that the Q-feature is not base generated in C but in a position c-commanding or c-commanded by the projection of the wh-word.

[20] OCC (Occurrence) in Chomsky (2001, 2004) or EF (Edge Feature) in Chomsky (2005). The development of an independent feature to account for the property of core functional categories (C, v) to allow for extra specifiers (see also Chomsky (2005) for further properties of the EF) is discriminated from the traditional Extended Projection Principle (EPP), which requires a subject to project in Spec-T.

[21] On independent grounds from Belletti, Ndayiragije (1999) (see also references cited there for the adoption of a low Focus position in other languages) proposes that in Kirundi (a Bantu language) a Focus head projects avobe VP/vP and hosts postverbal subjects in its specifier. Furthermore, Sabel & Zeller (2006) maintain that a Focus position above vP is responsible for wh-movement in Nguni, an optional wh-movement language of the Zulu family.

In (30) the null Q-particle moves from the base generated position of the wh-element to C due to EPP. A low Focus head bears the wh-feature which agrees with that of the wh-phrase. Presumably, as is the case for other functional categories, the low Focus bears an EPP feature which needs to be satisfied. In Belletti's approach this EPP is satisfied by subject movement, when the latter appears postverbally and carries a certain interpretation. Kato argues that low Spec-Foc can host a wh-phrase of in-situ constructions, as well. Evidence for the Topic positions come from the free word order of double object constructions:

31. a) Pedro tinha restitundo [$_{FocP}$ <u>que livro</u> [$_{TopP}$ para Maria [$_{vP}$...]]]?
        Peter had   given back   which book   to   Mary

    b) Pedro tinha restitundo [$_{TopP}$ [~~Pedro restitundo~~ para Maria] [$_{FocP}$ que livro [$_{vP}$...]?
       "Which book had Peter given back to Mary"?

(31) consists of a direct wh-object and an indirect prepositional object. In (31a) the wh-object moves to low Spec-Foc and the prepositional object occupies Spec-Top which projects below Focus. The rest of the constituents are derived as expected. In (31b) the whole vP moves to Spec-Top above Focus and both the subject and the verb continue until they reach the TP-domain.

3.2. The proposal for Greek

For what follows I will apply Kato's proposal to Greek wh-in-situ clarifying further the interpretational properties of the low Focus head. Zubizarreta (2002) and Vergnaud and Zubizarreta (2005), following a model of analysis based on prosody, argue that French wh-in-situ is licensed by a non-exhaustive information Focus (and not contrastive Focus contrary to Cheng and Rooryck 2000). To be more specific, Vergnaud & Zubizarreta assume that there are two Focus readings that are prosodically distinguished. One is the presuppositional, strongly exhaustive reading and the other the presuppositional, non-exhaustive one. They call the former "contrastive Focus" and the latter "information Focus". I will assume for the purposes of the current discussion, that the information Focus proposed by Zubizarreta (2002) and Vergnaud and Zubizarreta (2005) corresponds to Kato's / Belletti's low Focus head.
    Bearing the above clarification in mind, I would like to connect the "restrictive" interpretation of Greek wh-in-situ discussed in section (2.1.) with the non-exhaustive interpretation carried by the information Focus. Specifically, I assume that a non-exhaustive reading entails a restrictive one in the sense that if the interpretation of a wh-element does not "exhaust" all the possible referents it can have, its reference set is restrictive. Consider (6) repeated as (32)[22]:

_____

[22] For ease of exposition, I will exhibit only the parts of derivation under discussion. Hence, the use of indexed traces instead of deleted copies. Also, I will refer to the low Topic positions when necessary.

32. [$_{CP}$ [$_{TP}$ O astinomikos$_j$ pirovolise$_i$ [$_{FocP}$ pjon$_k$ [$_{vP}$ t$_j$ t$_i$ t$_k$]]]?

In (32) a low Focus head is "selected" in the numeration. Following current assumptions (Chomsky 2000, 2001) a Probe agrees with a Goal. In order for both participants to agree, they must be active provided that they carry uninterpretable features, which are valued in situ; that is, no movement takes place. If the Probe has an EPP feature (see fn. (20)), the Goal moves to the specifier of the Probe. Bearing the previous in mind, the low Focus head can be taken as a Probe bearing an EPP feature along with an uninterpretable wh-feature and an interpretable F(ocus) feature. The wh-element, which is a Goal, carries an interpretable wh-feature and an uninterpretable Op(erator) or F(focus) feature. At this point, I deviate from Kato's proposal and assume that C is not the Probe in the derivation. C carries only a Q-feature, interpretable at LF anyway. This also entails that the wh-element does not carry an uninterpretable Q-feature that moves to the left periphery of the clause, since C and the wh-in-situ do not associate. The low Focus head agrees with the wh-element, both value their features and the latter moves to low Spec-Foc in order to satisfy EPP[23]. At LF, the wh-element binds its variable produced in its Th-position (vP-domain) and the interpretation is non-exhaustive. As such, the reference set of the wh-word includes only a restrictive set of possible referents that the speaker may draw from[24]; that is, the referents associated only with the vP-domain. This is better illustrated through the derivation of wh-adverbs. Consider (10b) repeated as (33):

33. [$_{CP}$ [$_{TP}$ O Nikos anikse tin porta [$_{FocP}$ pos [$_{vP}$ ...]]]]?

In (33) the wh-adverb agrees with the low Focus, both value their features and the former moves to Spec-Foc due to EPP. As we have discussed in section (2.1.), the answer to (33) entails a non-exhaustive reading of the wh-adverb. Literally, the speaker needs to know "in what manner did Nick open the door" and not "in what condition was Nick while opening the door". This is predicted from the fact that the wh-adverb moves to the low Focus position modifying only the vP-domain. We can assume that any adverb which is generated within the vP-domain can be in-situ yielding the relevant reading. Hence, by implication, TP-adverbs cannot.

Note that a further question raises at this point, regarding the left periphery of wh-in-situ constructions. In line with familiar assumptions (see, for instance, Brody 1990, Horvath 1995 and Tsimpli 1995), multiple manifestations of Focus within the same clause produce an ungrammatical result as in (34a):

34. a) *TON NIKO   ida   STIN ATHINA?
       The Nick-ACC saw-1SG in Athens
       "*NICK I saw IN ATHENS?"

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[23] I leave Case considerations aside since they are not relevant for present purposes.

[24] Note also the lack of subject verb inversion in (32) due to the "low movement" of the wh-element.

b) *[CP TON NIKO   ides   [FocP pote]]?
     The Nick-ACC saw-2SG   when
      "*NICK when did you see?"

In (34a), both the object DP and the prepositional phrase carry a focus feature. In the in-situ wh-question (34b) a low Focus head is selected in the numeration and agrees with the wh-adverb but not with the object DP which is contrastively focused. As such, the same constraint that applies to (34a) which bans multiple instantiations of Focus, applies to (34b) as well. To be more specific, I argue that the selection of the low Focus head prohibits C from projecting a Focus position. Hence, the object DP cannot value its features yielding an ungrammatical derivation.

    Moreover, the present proposal predicts the ungrammaticality of questions where a matrix verb selects a wh-complement clause:

35. *Anarotjunde [CP [TP pije   [FocP pu   [vP ...]]]]?
    Wonder-3PL   went-3SG   where
    "They wonder where did he/she go".

In (35) the matrix verb "anarotjnude" selects an interrogative complement. However, the in-situ wh-question cannot be the complement of such a verb since the wh-word does not move to the left periphery of the embedded clause. (35) can be grammatical if an interrogative complementizer is overtly realized in the intermediate CP:

36. Anarotjunde [CP an [TP pije   [FocP pu   [vP ...]]]]?
    Wonder-2SG   if   went-3SG   where
    "For which x, x a place, they wonder if y, y a person, went to x"?

In (36), the matrix verb selects an interrogative complement. The embedded complementizer "an", which is the counterpart of English "if", is overtly realized in the intermediate CP. Hence, selectional requirements of the matrix verb are satisfied. The low Focus head agrees with the wh-element and the latter moves to Spec-Foc due to EPP.

    Consider next subject questions, as in (36):

37. [CP [TP Efije   [FocP pjos   [vP...]]]]?
       Left-3SG   who-NOM
       "Who left"?

In (37), the low Focus head agrees with the wh-subject, both value their features and the latter moves to Spec-Foc due to EPP. Interestingly, Cheng and Rooryck (not-dated ms), discussing the various licensing environments of wh-in-situ, propose that in European Portuguese (henceforth, EP) an "underspecified" Q-morpheme licenses embedded wh-in-situ, while intonational Focus licenses matrix wh-in-situ. Their approach is in the spirit of Cheng and Rooryck (2000) who argue that an intonational Q-morpheme licenses French wh-in-situ (cf. section (3.1) above).

EP and Greek wh-in-situ have some striking similarities. They allow wh-in-situ both in matrix and embedded clauses and inside islands. What is more, in both languages the wh-subject is allowed only in a postverbal position (the EP examples from Cheng and Rooryck):

38. a) *Joao pensa que quem viu a Maria?
         Joao think that who   saw Maria

    b) Joao pensa que viu quem a Maria?

    c) Joao pensa que viu a Maria quem?
       "Who does Joao think that saw Maria"?

39. a) *O Nikos   nimizi   oti pjos   idhe   tin Maria?
         The Nick-NOM think-3SG that who-NOM saw-3SG the Mary-ACC

    b) O Nikos nomizi oti idhe pjos tin Maria?

    c) O Nikos nomizi oti idhe tin Maria pjos?
       "Who does Nick think that saw Mary"?

In (38a) and (39a) the wh-subject cannot immediately follow the complementizers "que" and "oti"[25], but it has to be in a position either after the embedded verb, as in (38b) and (39b) or the direct object, as in (38c) and (39c). I propose that the ungrammaticality of (38a) and (39a) follows naturally within the current proposal. Consider (38a-c) repeated as (40a-c):

40. a) * O Nikos nomizi [$_{CP}$ oti [$_{TP}$ pjos idhe tin Maria [$_{FocP}$ $\varnothing$ [$_{vP}$...]]]]?

    b) O Nikos nomizi [$_{CP}$ oti [$_{TP}$ idhe [$_{FocP}$ pjos [$_{TopP}$ tin Maria [$_{vP}$...]]]]]?

    c) O Nikos nomizi [$_{CP}$ oti [$_{TP}$ idhe$_j$ [$_{TopP}$ t$_j$ tin Maria [$_{FocP}$ pjos [$_{vP}$...]]]]]?

In (40a) the wh-subject appears to be in a non canonical position according to the assumptions we have put forward so far. On the one hand, TP appears to host the wh-subject but T does not bear any wh-feature to agree with the latter. On the other, the low Spec-Foc which is supposed to host the wh-in-situ subject, is vacant. I assume then that such a derivation is impossible since it spells out unvalued features. Note that according to the "Earliness Principle" (Pesetsky's 1989), restated in Minimalist terms as "Maximizing Matching Effects" (Chomsky 2001), "feature-valuation" under Agree takes place immediately after the introduction of syntactic objects in the derivation. Hence, as soon as the low Focus projects, it probes for an appropriate goal which is the wh-subject. What is more, if all the features of the probe and the goal are valued under

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[25] Note, however, that the preference for a postverbal subject in Greek embedded clauses is independent of wh-in-situ constructions.

agreement, they both become "dormant" for further derivations; or, in Rizzi's (2006) terms, the specifier of a head serves as a "Criterial" position where an element with all its features valued "freezes", unable to move further. In this sense, the low Spec-Foc is a "Criterial" position. This predicts that in (40a), we cannot assume that the wh-subject first moves to low Spec-Foc and next to a higher position in the clause. In (40b) and (40c) (cf. also (30a,b)), the subject is in Spec-Foc and the direct object moves to a low TopP either preceding or following the Focus one. Note also that in some cases (cf. (36), (37) and (39c)) the "SFR" discussed in Etxeparre and Uribe-Etxebarria (2005), is a side effect which derives from the more articulated structure proposed.

Consider next scope ambiguities[26], as discussed in section (2.1.). (13) is repeated as (41)[27]:

41. a) O Janis anakinose [$_{CP}$ oti [$_{TP}$ i Maria apokalipse$_j$ [$_{TopP}$ t$_j$ to mistiko [$_{FocP}$ se pjon [$_{vP}$...]]]]?

   b) [CP Se pjon$_{i/k}$ anakinose o Janis [vP ...t$_i$...[CP t$_k$ oti [TP i Maria apokalipse to mistiko [vP ...t$_k$...]]]]]?

In (41) the indirect wh-object agrees with low Focus and moves to Spec-Foc under EPP. The matrix verb "anakinose" cannot be construed with the wh-object in the embedded clause since the latter does not move to the left periphery of the matrix clause, as is the case with the wh-moved counterpart (cf. (12a), repeated as (41b)). In (41b), the indirect wh-object can be taken to have moved either from the embedded vP or from the matrix one.

Finally, let us turn to strong islands discussed in section (2.2.). Consider ((17b), (18b), (19b), (20b), (21b) and (23a)) repeated as (42a-f) respectively:

42. a) [$_{CP}$ [$_{TP}$ [$_{DP}$ O nearos [$_{CP}$ pu [$_{TP}$ prokalese [$_{FocP}$ pjo atihima [$_{vP}$ ...]]]]] [$_{TP}$ itan ksadherfos tu Jani]]]?

   b) [$_{CP}$ [$_{TP}$ Kseris [$_{vP}$ ...[$_{DP}$ ton nearo [$_{CP}$ pu [$_{TP}$ prokalese [$_{FocP}$ pjo atihima [$_{vP}$ ...]]]]]]]]?

   c) [[$_{CP}$ To na [$_{TP}$ oloklirosume [$_{FocP}$ ti [$_{vP}$...]]]] [$_{TP}$ ine aparetito ja na perasume tis eksetasis]]?

   d) [$_{CP}$ [$_{TP}$ i Maria efije [$_{AdP}$ protu jirisi [$_{FocP}$ pjos [$_{vP}$...]]]?

   e) [$_{CP}$ [$_{TP}$ O Nikos aghorase [vivlia [$_{CP}$ kai [$_{FocP}$ ti allo [$_{vP}$ ...]]]?

   f) *[$_{CP}$ [$_{TP}$ i Maria misouse _____ [$_{CP}$ ke [$_{TP}$ i Eleni simpathouse [$_{FocP}$ pjon]]]?

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[26] Cheng and Rooryck argue that EP wh-in-situ takes matrix scope. However, I am not sure about this judgment since the cases discussed are not the same as the ones discussed here for Greek.

[27] For simplicity, I refer only to one of the examples.

In all the above cases, the wh-in-situ question escapes islandhood, since the derivation takes place within the island. In (42a) the in-situ question appears within a subject relative clause while in (42b) it appears inside an object relative clause. In both cases the wh-element agrees with and moves to the low Focus within the relative clause. In (42c) the in-situ question is within a clausal subject, while in (42d) within an Adjunct clause. Similarly, a low Focus head projects and the wh-element moves to the former's specifier due to EPP. In (42e) and the ungrammatical (42f) the wh-in-situ is the second conjunct of a Conjunction clause (descriptively glossed as CP). In (42e), the wh-element agrees with low Focus and moves to Spec-Foc. (42f) is an ATB construction. Recall that in ATB, as discussed in section (2.2.), the wh-element which moves to the left periphery of the construction must be construed with both the matrix and the embedded verb. However, in (42f) the wh-element moves to the low Spec-Foc. From this position it cannot be construed with the matrix verb. Hence, unless a different DP is realized as a direct object of the matrix verb, the derivation yields an ungrammatical result.

5. Some interesting correlations

In this final section, I will briefly discuss three interesting correlations that seem to derive naturally from the present proposal.

The first one concerns the prediction we made regarding the ungrammaticality of the TP-domain wh-adverbs in in-situ questions, as discussed in (33). Since this argument seems too strong to derive from (33), I will provide some further evidence. Consider (43):

43. a) *Which woman <u>the hell</u> does John like?

    b) *<u>The hell</u> what did John say?

    c) *What did <u>the hell</u> John say?

    d) What <u>the hell</u> did John say?

(43) is a case of an "aggressively non D-linked phrase" (henceforth, ANDL-phrase). ANDL-phrases, first discussed in Pesetsky (1989), must be c-commanded by an adjacent non d-linked wh-element, with which they appear to form a constituent. In (43a) the d-linked wh-phrase is incompatible with ANDL, since in Pesetsky's (1989) terms ANDL-phrases express surprise and "the appropriate answer is presumed not to figure in previous discourse" (p. 111). Hence, such phrases are incompatible with d-linked phrases that get a strongly presuppositional reading. (43b) and (43c) show that non d-linked wh-elements must locally c-command ANDL. The only possible construction is illustrated in (43d).

The same pattern is attested in Greek, as shown in (44a-c) and (44d) respectively:

44. a) *Pja   jineka   sto kalo simpathi o   Janis?
         Which woman-ACC the hell like-3SG the John-NOM
       "Which woman (*the hell) does John like"?

    b) *Sto kalo ti   ipe   o   Janis?
         The hell what-ACC said-3SG the John
        "What the hell did John say"?

    c) *Ti ipe sto kalo o Janis?

    d) Ti sto kalo ipe o Janis?

Following Huang and Ochi (2004), who discuss relevant data from English, (Mandarine) Chinese and Japanese, ANDL-phrases are adjunct-like elements of the TP-domain. The authors maintain that a head ("attributive" head) qualifying for checking the relevant features of ANDL-phrases projects, c-commanding TP. The constituent wh-ANDL phrase, at least in English, must move to the specifier of that head and from there to the left periphery of the clause. If this is the case with Greek ANDL-phrases, one expects, under the present proposal, that these will be incompatible with wh-in-situ. This is borne out:

45. *[CP [TP O Janis ipe [FocP ti sto kalo [vP...]]]]?

The ungrammaticality of (45) derives as follows. ANDL-phrases cannot exist independently in a clause[28] but must form an inseparable constituent with a wh-element. As such, the former cannot move to the left periphery of the clause without the latter. Hence, the ANDL-phrase in (45) does not value its features (whatever they maybe) as an adverb of the TP- domain and the derivation crashes. What is more, our assumptions concerning the interpretational properties of wh-in-situ seem to correlate with those of Pesetsky's concerning ANDL-phrases. To be more specific, wh-in-situ yields a presuppositional, non-exhaustive reading. This is incompatible with the reading that ANDL-phrases have. To restate what we mentioned above, ANDL-questions do not seem to be a part of the common ground requirement.

The second correlation, that I would like to draw, takes as a point of departure the interpretational properties of wh-in-situ raised for Greek and investigates its possible manifestations in English.

English seems to exhibit non-echo wh-in-situ questions, as well. Consider (46), (47) and (48) ((6), (7) and (9) in Pires and Taylor 2007, respectively):

46. a) Speaker A: I was driving along Andrews Avenue
    b) Speaker B: And you were driving which direction?

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[28] In this respect they resemble polarity items. See den Dikken and Giannakidou (2002) for an approach towards this direction.

47. a) Speaker A: I made many different kinds of desserts.
    b) Speaker B: So, you made how many cookies?

48. You're reading what?

According to Pires and Taylor (2007), (46b), (47b) and (48) are non-echo, strongly presuppositional questions and cannot be expressed "out-of-the blue". As discussed in section (1) of the present paper, echo-questions presuppose an exact correlate in order to be construed as opposed to wh-in-situ ones. (46b) (47b) and (48) are impossible as echo-questions as shown in (49), (50) and (51) respectively, since there is not any correlate available:

49. *You were driving WHICH DIRECTION!

50. *You made HOW MANY COOKIES!

51. *You're reading WHAT!

The explicit statement that speaker A "was heading to a specific direction" in (46a) and "made some cookies" in (47a) satisfies a "Common Ground" (in the sense of Stanlaker 1978, 2002) or a discourse requirement. In (48) the "Common Ground" requirement is not part of an explicit statement. Nevertheless, it is inferred from the extra linguistic environment. It is a possible question under the imaginary scenario that someone enters the room and sees his/her friend reading something in a newspaper or a magazine.

Important for our discussion are the interpretational properties that wh-in-situ carries. Pires and Taylor argue that wh-in-situ questions are possible when: a) further questioning for new information is expected, as in legal questioning (cf. (46)), b) they are requests for specific information (cf. (47)) and c) there is an extra linguistic context which makes the question felicitous (cf. (48))[29]. The above properties seem to reduce to the non-exhaustive presuppositional reading of Greek wh-in-situ. In (46) and (47), Speaker A expects a restrictive set of answers with respect to Speaker's B statement. Similarly, in (48) the possible set of answers is limited to the articles of the paper or the magazine.

Finally, I would like to stress an interesting correlation between the interpretation of Greek wh-in-situ and Japanese, a "pure" wh-in-situ language. In this language the wh-element stays in-situ anyway. It gets wide scope and an interpretation that resembles that of questions with overt wh-movement. Naturally, then, one may assume that Japanese does not attest the same kind of interpretational differences as the ones attested in Greek wh-in-situ, since the wh-element is already in-situ. However, the assumption is not borne out. In Japanese, wh-questions are formed by the combination of a wh-indefinite and a Q-particle. The Q-particle types the clause[30]

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[29] There is also a referential reading of wh-in-situ which is taken by the authors as a special kind of echo-questions.

[30] Although there are various approaches on the matter (Cheng 1991, Tsai 1994, Richards 1997, Hagstrom 1998, Cable 2007), all of them converge to the point that Q-particles serve as a special clause typing mechanism.

and as an operator existentially binds the variable that the indefinite[31] (the wh-phrase) provides (see Berman 1991, Karttunen 1977, among others). Furthermore, it has been observed that the overt realization of the Q-particle is not always attested. Although, this observation may be characterized as an "optionality", it has been taken at phase value under the hypothesis that a non-overt Q-particle exists as well. Nevertheless, according to Miyagawa (2001), there is indeed an interpretational difference between wh-questions with an overtly realized Q-particle (cf. (52a)) and those with a non-overt one (cf. (52b)) ((40) in Miyagawa 2001):

52. a) Hanako-ga   pikunikku-ni <u>nani-o</u>   mottekita <u>no</u>?
       Hannako-NOM picnic-to   what-ACC brought   Q-prt.

    b) Hanako-ga pikunikku-ni <u>nani-o</u> mottekita?
       "What did Hannako bring to the picnic"?

In (52a) the Q-particle "no" is realized and the clause has an exhaustive interpretation. The speaker refers to all the items that Hanako brought to the picnic. On the other hand, in (52b) there is not any (at least overt) Q-particle. Crucially, the wh-word has a non-exhaustive reading. To quote from Miyagawa: "Without it [the Q-particle] there is no presupposition that the answer needs to list everything that Hanako brought; listing just one item will satisfy the question, even if it is understood that Hanako brought more than one thing" (2001: 312). It is possible then that "pure" wh-in-situ languages have an alternative mechanism to exhibit the different readings attested in Greek.

The correlations explored above reflect a somewhat more general implication. Specifically, so far we tend to examine wh-in-situ questions in various wh-movement languages as an "optional" property. This entails that wh-in-situ is taken as a peripheral phenomenon of the syntactic nucleus; an entailment which in turn derives from the classification of languages as obligatory wh-movement and "pure" wh-in-situ ones. Nevertheless, as we saw, obligatory wh-movement languages such as Greek, and as it appears English, seem to exhibit wh-in-situ questions with specific properties. A "pure" wh-in-situ language, such as Japanese, seems to exhibit similar properties as well, possibly by the implementation of a mechanism which respects the syntactic choices of this language. Under these considerations, the borders between the classification of languages with respect to wh-movement seem somewhat vague. Suppose, then, that wh-in-situ is approached as an independent type of question with specific syntactic and semantic properties. Considered as such, wh-in-situ may turn out to be not so peripheral a phenomenon as we apparently think it is, yielding probably interesting results with respect to the derivation of wh-questions in general.

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[31] Kuroda (1965) was the first to propose the possibility that wh-phrases in Japanese are indefinites. See also Nishigauchi (1990).

6. Conclusion

In the present paper I have argued that Greek exhibits non-echo, wh-in-situ which is not the optional counterpart of wh-movement constructions. The former seem to be clause bound elements with a more restrictive reading and show no (strong) island effects. I suggested that the restrictive interpretation corresponds to the non-exhaustive, information Focus reading proposed in the literature. Following the cartographic model, I took the non-exhaustive Focus to be an independent, low functional head projecting below TP and above vP. Once this head is selected in the numeration, the computation generates an in-situ wh-question. Scope ambiguities and ishlanhood derive naturally, since in both cases the wh-in-situ does not move out of its clause. Furthermore, the proposed structural representation predicts the ungrammaticality of wh-in-situ adverbs of the TP-domain. Finally, I explored some interesting correlations that raised a general question concerning the so far assumed as "marginal" nature of wh-in-situ across various language-types.

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