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## Revisiting unselected embedded questions in the light of Classical Greek *wh*-clauses

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**Abstract:** This paper addresses the issue of the questions embedded under predicates normally selecting for propositions like *know* (unselected embedded questions UEQ). This problem was handled in Adger and Quer (Adger, David & Josep Quer. 2001. The syntax and semantics of unselected embedded questions. *Language* 77. 107–133) and Öhl (Öhl, Peter. 2007. Unselected embedded interrogatives in German and English : S-selection as dependency formation. *Linguistische Berichte* 212. 403–438). Both articles notice a difference between *yes/no*- and *wh*-questions. The distribution of the latter seems to be less restricted. However data from Classical Greek shed new light on the matter. Classical Greek uses two sets of *wh*-items in what looks like embedded questions (*h*- and *t*-). It is shown that *h*-clauses do not denote questions but propositions. The selection mismatch arises with *t*-clauses. They denote questions and have the same distribution as *yes/no*-questions. Moreover Classical Greek provides new evidence in favor of 1) the sensitivity of the UEQ to the polarity of the environment, building on Giannakidou's (Giannakidou, Anastasia. 1998. *Polarity sensitivity as (non) veridical dependency*. Amsterdam & Philadelphia: John Benjamins) definition of nonveridicality; 2) the presence of a determiner on top of the UEQ as proposed in Adger and Quer (2001). The article argues nevertheless that the sensitivity is not due to the determiner, but to an operator going along with UEQs. It is shown that the determiner is a type-shifter turning the question into a proposition and thus repairing the apparent selection mismatch.

**Keywords:** *wh*-clauses, unselected embedded questions, left periphery, type-shifting, resolute predicates, Classical Greek

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# 1 Introduction

Predicates like *clear* or *know* in English, *dêlos* ‘clear’ or *oîda* ‘know’ in Classical Greek<sup>1</sup> normally select for *that/hôti*-clauses (1),<sup>2</sup> consensually denoting propositions (see Uegaki 2011, though).

- (1) ***Dêlon hôti pântes kêrdous hênek’ adikouîsin.***  
 Clear that all gain for they-do-wrong  
 ‘It is **self-evident that** it is always for the sake of gain that men do wrong.’  
 (Is.21.6)

However, we also find these predicates in examples like (2),<sup>3</sup> where they are associated with *wh*-clauses, possibly denoting questions. Given their properties in (1), this association should result in a syntactic and semantic mismatch. They are however perfectly acceptable. Note that Classical Greek, contrary to English, has two different *wh*-paradigms in (a) and (b), an alternation which will be a key to the solution to the issue.<sup>4</sup>

- (2) a. ***Prîn dêlon ênai tí poiêsousin hoi álloi stratiôtai,***  
 before clear be *wh*-ACC.N.SG do the other soldiers  
*sunélexe tò hautôû stráteuma.*  
 he-gathered the own army  
 ‘Before it was **clear what** the rest of the soldiers would do, he gathered together his own troops.’  
 (X.A.1.4.13)

**1** I will consider as Classical Greek Attic Greek spoken in the fifth and fourth Centuries BCE. This study was run on a corpus made of Plato’s *Respublica*, *Protagoras*, and *Gorgias*, Xenophon’s *Cyropaedia* and *Anabasis*, and Demosthenes’ first 21 speeches. Other authors have also been considered: Aeschylus, Sophocles, Euripides, Aristophanes, Menandrus, Isocrates, Lysias and Aristotle. Works are abbreviated as in Liddell et al. (1996).

**2** When necessary, I gloss the examples according to the Leipzig glossing rules. Here are the glosses specific to Greek: AOR = aoriste (a past tense), OPT = optative (a mood). Unless mentioned, translations are taken from the Perseus website <http://www.perseus.tufts.edu>. Finally, I adopt the transliteration system of Giannakis (2014).

**3** In the examples, the relevant operators are underlined, the predicates and the interrogative-introducing terms are in bold.

**4** This alternation has been known for a long time (see the reference grammar Kühner and Gerth [1904: 438]).

- b. *Kaì tóte délon egéneto hoû héneka hoi Thrâkes*  
 and then clear became *wh*-GEN.N.SG for the Thracians  
*tàs alôpekàs epì taîs kefalaîs foroûsi.*  
 the fox-skin-cap on the head wear  
 ‘lit. Then it became **clear to what end** the Thracians wear fox-skin caps  
 on their heads.’ (Perseus modified)  
 (X.A.7.4.4)

This mismatch is actually reminiscent of what we find in the literature about sentences like (3a), where the mismatch is between the resolute<sup>5</sup> predicate *know* and the *if*-clause, denoting a question. In contrast, this mismatch does not arise with interrogative verbs like *ask*, which selects for interrogative clauses be it a *wh*- or a *yes/no*-question as in (3b). This mismatch is known as the “Unselected Embedded Question” (henceforth UEQ) issue (with respect to “Selected Embedded Questions” SEQ, Adger and Quer [2001]).<sup>6</sup>

- (3) a. *I don't know if Vyasa wrote the Mahabharata.*  
 b. *He **asked me if** Vyasa wrote the Mahabharata.*

In the present paper, I shall show that the UEQ issue not only arises for *yes/no*-questions (as previously argued), but also for *wh*-questions, on the basis of Classical Greek and its several *wh*-paradigms. I adduce new evidence for a two-layered CP domain in UEQs (as in Adger and Quer [2001]), but I show that the lower, not the higher layer is responsible for the (nonveridical) sensitivity, thus confirming Giannakidou's (1999) finding on the Modern Greek complementizer system, and highlighting how the system is robust diachronically, through its different avatars. The higher layer is present both in *yes/no*- and in *wh*-questions and contains a type-shifter that turns them into propositions, thus solving the mismatch.

The article is organized as follows: In Section 2, I present more deeply the UEQ issue and the Classical Greek data. I prove that Classical Greek possesses the same alternation due to (non)veridicality as English between *if*- and *that*-clauses

<sup>5</sup> *Know/óida* are taken here as representatives of a larger class of predicates, which are in relation with the proposition that is the answer to the question, rather than with the question itself. That is why these predicates are dubbed by Ginzburg (1995) ‘resolute’ (a terminology I shall adopt here), and by Lahiri (2002) ‘responsive’ predicates. They are opposed to interrogative predicates like *ask*, which are in relation with a question.

<sup>6</sup> Recently, “UEQ” was used to designate another type of embedded questions, whose hallmark is apparently the absence of embedding term in Japanese and Korean (Kim and Tomioka 2014). It is not related to the data we are concerned with here.

not only between *ei* ‘if-’ and *hóti* ‘that’-clauses but also, crucially, between two types of *wh*-clauses (*tís* and *hós*). In Section 3, I show that we need both Öhl’s (2007) idea that UEQs do not always show up with an interrogative (Q) operator, and Adger and Quer’s (2001) additional operator  $\Delta$  on top of the structure. However, we have to change the semantics of the latter and give up the Quantifier Raising idea to uniformly explain *wh*- and *yes/no*-UEQs. In Section 4, I proceed to an examination of the syntax of *wh*-UEQs in Classical Greek. The idiosyncratic diagnostics of *Prolepsis* and extraction properties point towards the presence of an operator on top of *wh*-UEQs (as well as on top of *yes/no*-UEQs). Section 5 focuses on the semantics of this operator. It is propositional and veridical in nature. It turns the question into a (true) proposition, thus solving the UEQ puzzle. Section 6 draws some conclusions from the study.

## 2 *Wh*- vs. *yes/no*-unselected embedded questions

### 2.1 Apparent asymmetry

At first sight, as argued by Adger and Quer (2001) and Öhl (2007), *wh*- and *yes/no*-UEQs are licensed in different contexts. In English, we notice the contrast in (4a) vs. b-c.

- (4) a. ?*Rama knows if Sita has been kidnapped.*  
 b. *Rama does not know if Sita has been kidnapped.*  
 c. Does Rama know if Sita has been kidnapped?

A *yes/no*-embedded question is clumsy after *know* in a positive declarative sentence (4a), but it is natural when the sentence is negated or questioned (4b-c). This suggests that resolute verbs require special conditions in order to embed questions, contrary to interrogative verbs: (5a) with *ask* contrasts with (4a) in being perfectly acceptable.

- (5) a. *Rama asked Dasharatha if Sita had been kidnapped.*  
 b. *Rama did not ask Dasharatha if Sita had been kidnapped.*  
 c. Did Rama ask Dasharatha if Sita had been kidnapped?

These special conditions, argue Adger and Quer (2001), building on Giannakidou’s (1998) definition of Nonveridicality, are the same as those of

Negative Polarity Items (NPI)<sup>7</sup> licensing, as proved by the extension of the licensing to other contexts such as antecedents of conditionals.<sup>8,9</sup> Besides, *that*-clauses do not display such a behavior and are not sensitive to the polarity of the environment (see [6]), perhaps because the proposition ‘Vyasa did not write the Ramayana’ is presupposed and the clause that denotes it therefore escapes the scope of the negation.

- (6) a. *He **knows that** Vyasa did not write the Ramayana.*  
 b. *He **doesn't know that** Vyasa did not write the Ramayana.*

Here we also assume with Giannakidou (1998, 1999) that NPIs are licensed in nonveridical environments, because the operators we will meet form a subset of her list. A simplified version of (non)veridicality is given in (7).

- (7) (Relativized) (non)veridicality  
 Let  $c$  be a context  
 (i) A propositional operator  $Op$  is veridical iff it holds that:  
 $\llbracket Op p \rrbracket_c = 1 \rightarrow \llbracket p \rrbracket = 1$  in some individual's epistemic model  $M(x) \in c$ ;  
 Otherwise,  $Op$  is nonveridical  
 (ii) Epistemic models are: belief models  $M_B(x)$ , dream models  $M_D(x)$ , models of reported conversation  $M_{RC}(x)$ , and nothing else.

*A priori* nothing prevents the contrast between *know* and *ask* in *yes/no*-question embedding from carrying over to *wh*-question embedding. A *wh*-UEQ is acceptable

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7 Polarity items are items sensitive to the positive or negative orientation of the environment where they show up. They need to be “licensed.” More on this below.

8 For example the NPI *ever* is licensed only when in the scope of such operators in (i) through (iii), but not outside (iv) and (v):

- (i) *We **didn't** ever go to London.*  
 (Adger and Quer 2001: ex. 18)  
 (ii) ***Did** we ever go to London?*  
 (iii) ***If** you ever went to London, you might have enjoyed it.*  
 (iv) *\*We ever went to London.*  
 (Adger and Quer 2001: ex. 19)  
 (v) *\*We ever **didn't** go to London.*  
 (Adger and Quer 2001: ex. 20)

9 The *if*-clause in (4a) sounds more acceptable than *ever* in (iv) in fn. 8. According to my informants, this seems to be due to a “rescue” process that consists in de-accenting the *if*-clause, i. e. in focalizing the matrix verb. This option is apparently not available to *ever*. For reasons of space, we cannot delve into this matter here.

in negative and interrogative contexts (8b-c), as expected, but surprisingly, in positive declarative contexts, too: (8a) is acceptable along with sentences displaying *ask* in (9).

- (8) a. Rama **knew who** had kidnapped Sita.  
 b. Rama did not **know who** had kidnapped Sita.  
 c. Did Rama **know who** had kidnapped Sita?
- (9) a. Rama **asked who** had kidnapped Sita.  
 b. Rama did not **ask who** had kidnapped Sita.  
 c. Did Rama **ask who** had kidnapped Sita?.

In the next section, we shall see that Classical Greek partially functions like English in limiting the environments where *ei* 'if'-clauses can appear to nonveridical ones, while it allows for *wh*-clauses to show up in veridical environments. However, Classical Greek differs from English in that only one of its two *wh*-paradigms is licit in these environments.

## 2.2 Data: UEQ licensing in Classical Greek

Classical Greek provides us with data different from what the previous accounts usually give. In this section, we shall have a look at what the Classical Greek data look like in a lot of detail. We must first investigate if nonveridicality is the relevant criterion for the usage of *yes/no*-UEQs in Classical Greek, before examining the distribution of the two *wh*-items *tís* and *hós* in *wh*-questions.

### 2.2.1 *Yes/no*-questions

In the corpus, *ei* 'if'-clauses with resolutive predicates show up in the scope of the following operators: Negation (10); interrogation (Pl. *Grg.* 492e); possibility modal (Pl. *R.* 463b); future (11); imperative (Pl. *Grg.* 515e).

- (10) *Ouk oîd'* *ei pópote hésthēn* *houtōs hōsper nuní.*  
 not I-know if ever I-had-enjoyed thus like now  
 'I doubt [lit. don't know] if there has ever been a conversation that gave me such delight as this present one.'  
 (Pl.*Grg.* 458d)

- (11) *Ei kai pâsin éreske taûta*  
 If even to.all pleased that  
*toîs állois présbesin, autik' eísesthe.*  
 to.the other ambassadors right.away you.will.know  
 'You will learn [lit. know] presently whether his conduct was agreeable to his colleagues.'  
 (D. 19.157)

Along with *that*-clauses, *hóti* 'that'-clauses<sup>10</sup> do not encounter such restrictions. They appear in veridical (12) as well as in nonveridical contexts, in the very specific cases where they scope over the nonveridical operator, that is when the proposition they denote is presupposed by the speaker ([13], D. 18.195).<sup>11</sup>

- (12) *Oída hóti hépsontai polloi tôn néôn.*  
 I.know that will.follow numerous of.the young  
 'I know that many of the young men will follow.'  
 (X.A.4.1.27)

- (13) *Ouk oístha hóti esthíō mèn kai pínō kai katheúdō*  
 not you-know that I-eat ptc and I-drink and I-sleep  
*oud' hotiōun nūn hédion è tóte hóte pénēs ên.*  
 not-even whatever now more.pleasant than then when poor I-was  
 'You are not aware [lit. you don't know] that it gives me not one whit more pleasure to eat and drink and sleep now than it did when I was poor.'  
 (X.C.8.3.40)

All this is confirmed by the figures found in the corpus defined in fn. 2 and presented in Tables 1, 2 and 3.

Table 1 gives the figures and the distribution among contexts for *ei*-clauses, Table 2 for *hóti*-clauses. We ran a Fisher's exact test on the basis of Table 3. The

<sup>10</sup> Here I consider only *hóti*-clauses. There are other types that I leave aside but that behave the same way as *hóti*-clauses with respect to the issue under discussion: Participial and *hōs*-clauses (Kühner and Gerth 1904: § 481, 482, remark1; § 550). *Óti* still exists in Modern Greek. Although its span is a little larger, it retains most of its properties (see Giannakidou 2009, among many of her works).

<sup>11</sup> I shall not elaborate on this type of pragmatic presupposition with respect to semantic presupposition. The reader is referred to Sæbø (2007) for further clarification.



**Table 1:** Number of *ei*-clauses with respect to the context where they appear.

	Contexts	Number of <i>ei</i> -clauses	Example
Nonveridical	<i>prín</i> ‘before’ <sup>12</sup>	0	
	<i>ísōs</i> ‘maybe’	0	
	Antecedent of conditional	1	D.19.4
	Focalization	4	Pl.R.498c
	Future	2	(11)
	Imperative	18	X.C.5.5.21
	Interrogation	3	Pl.R.492e
	Modality	6	D.19.30
	Negation	18	(10)
	Total nonveridical contexts		
Veridical		1 (2 %)	<p>σύμφατι ἢ ἀπειπε hína kai toúto <b>safésteron ídōmen ei</b> éstin hoíon manteúomai.  ‘either concur or dissent, in order that here too we <b>see more clearly whether</b> my surmise is right.’  (Perseus modified) (Pl.R.523a)</p>
Total			53 (100 %)

difference in distribution that we observe turns out to be highly significant ( $p < 0.0001$ ), showing that each type of subordinate clause does not distribute independently of the veridical status of the context. In particular, there is a strong link between *ei*-clauses and nonveridical contexts.

At first glance, this is surprising. The question denotation of *ei*-clauses should prevent them from appearing under resolute predicates, but should not constrain the polarity of the environment in which they appear. This means that they have an additional property that makes them fit for nonveridical, but not for veridical environments.

As said above, nonveridical environments are contexts where NPIs are licensed. Furthermore *ei*-clauses license NPIs, too: See (10), where *pópotē* ‘ever’ is an NPI (as well as *ever* in the translation). This comes as no surprise

<sup>12</sup> For an account for why *prín/before* should count as nonveridical, see Sánchez Valencia et al. (1993).

**Table 2:** Number of *hóti*-clauses with respect to the context where they appear.

	Contexts	Number of <i>hóti</i> -clauses	Example
Nonveridical	<i>prín</i> 'before'	0	
	<i>ísós</i> 'maybe'	5	D.20.75
	Antecedent of conditional	53	X.A.7.7.14
	Focalization	1	D.1.16
	Future	78	Pl.Prt.359b
	Imperative	113	Pl.Grg.453a
	Interrogation	35	D.18.195
	Modality	138	X.C.8.1.5
	Negation	62	(13)
	Total nonveridical contexts	485 (28,5%)	
Veridical		1216 (71,5%)	(12)
Total		1701 (100%)	

**Table 3:** The distribution of *hóti*- and *ei*-clauses according to the veridicality of the context.

	<i>hóti</i> -clauses	<i>ei</i> -clauses	Total
Veridical contexts	1216	1	1217
Nonveridical contexts	485	52	537
Total	1701	53	1754

since *ei*-clauses denote *yes/no*-questions, which are famously known for licensing NPIs due to their unfixed truth value. There is a large consensus on this point in the literature on polarity items, although the reason why it is so is explained by quite different means, be it by acquaintance with negation, implicature, nonveridicality (Klima 1964; Ladusaw 1979: chap. VIII; Giannakidou 1998: 130–31, among many others). But our account only hinges upon *yes/no*-questions being NPI-licenser, not on the analysis given to this phenomenon.

Note however that not every direct *yes/no*-question licenses NPIs. For a *yes/no*-question to license NPIs it has to be endowed with a Q(uestion) operator. This is evident from the following examples from Progovac (1994: 76–77), the (a) examples

featuring subject-auxiliary inversion, whereas the (b) examples<sup>13</sup> have the same order as declarative sentences:

- (14) a. Did he complain about his salary?  
 b. He complained about his salary?
- (15) a. Did he complain about anything?  
 b. ?\*He complained about anything?

Both questions in (14) qualify as *yes/no*-questions, since both can be answered with *yes* or *no*. However, they do not entertain the same relation with these answers. While (14a) is an information-seeking question, with an interrogative illocutionary force, (14b) is rather a confirmation question and strongly implies that the answer is *yes*. Answering *no* would be felt as a correction to a presupposition. This suggests that *yes/no*-questions without subject-auxiliary inversion have a positive assertive illocutionary force, and therefore are veridical contexts (see already Ladusaw [1979: 152]). This can be verified by inserting an NPI as in the examples under (15). *Anything* is only acceptable in the interrogative/subject-auxiliary inversion question (a).

We can assume that this type of questions involves a Q(uestion) operator (Grimshaw 1977; Weerman 1989; Öhl 2007) or a specific Operator Op (Progovac 1994) that is responsible for both the subject-auxiliary inversion and the interrogative illocutionary force. If this proposal is on the right track, Q or Op is what gives an unfixed truth value to the question and therefore licenses NPIs.

Recall now that *ei-* (and *if-*) interrogative clauses are also NPI-licensors (ex. 10). Because of this property I claim that they are the embedded reflexes of direct questions of type (a) in (14) and (15), and not of type (b).<sup>14</sup> Hence they involve a Q operator that needs to be activated, be it through selection by an interrogative verb,<sup>15</sup> or licensing by a nonveridical operator. This kind of licensing is reminiscent of the following contrast noted in Progovac (1994: 20):

<sup>13</sup> They require a specific intonation to be acceptable according to Progovac (1994).

<sup>14</sup> The reason why the (b) type does not seem to be able to be embedded remains obscure to me. This is a matter for future research.

<sup>15</sup> Here is an example of an NPI (*pou* ‘anywhere’) in an *ei*-clause embedded under an interrogative verb:

*erôtâ autoùs eí pou ésthéntai álou strateúmatos óntos Hellēnikoù*  
 he.asks them if anywhere they.feel another army to.be Greek

‘He asked them whether they had heard of another army anywhere, a Greek army.’  
 (X.A.6.310)

- (16) a. \*I **forgot** anything.  
 b. I **forgot** [CP Op that anyone dropped by].

Both sentences display *forget* and an NPI, but in the first (agrammatical) case it is the direct object of the verb, while in the second (grammatical) case it is in a subordinate clause that is the object of the verb. She takes it to mean that *forget* is not an NPI-licenser *per se*. The licensor is rather an operator in the CP domain of the embedded clause. However this Op does not have a free distribution. It has to be licensed/selected itself. This is the role that *forget* plays, much like *ouk*, which licenses the *ei*-clause, which in turn licenses the NPI *pōpote* in (10).

To sum up, this overview of the Classical Greek data presents us with the same distribution as in English. The relevant criterion for *yes/no*-question embedding under Classical Greek resolute predicates is therefore nonveridicality. Importantly this distinction is due to the Q(uestion) operator of the *yes/no*-interrogative. Let us now turn to *wh*-clauses.

### 2.2.2 Classical Greek *wh*-clauses embedded by resolute predicates and their licensing

Classical Greek is interesting in that, contrary to English, it displays pairs of examples with *wh*-items that seem to mimic the *that/if*; *hōti/ei* alternation in (4) vs. (6); (10) and (11) vs. (12) and (13). This is illustrated by (2a-b) and (17a-b).

- (17) a. *Ísōs*    *oúpō*    *oístha*    *tí*                    *légō*  
 maybe not.yet you-know *wh*-ACC.N.SG I-mean  
 ‘You may not **know** yet **what** I mean.’  
 (Pl. Grg. 500a)
- b. *Eí tis*            *humôn*            *eis Pheràs* *afiktai*,  
 if someone among-you to Pherae has-come  
*oíde*            *hò*                    *légō*.  
 he-knows *wh*-ACC.N.SG I-mean  
 ‘Any of you who have been to Pherae **knows what** I mean.’  
 (Perseus modified)  
 (D.19.158)

The two items translated as ‘what’ belong to two different paradigms: *h*- and *t*-. In (2b) and (17b), *hò* belongs to the paradigm of the *wh*-item *hós*, henceforth *h*-paradigm. In (2a) and (17a), *tí* belongs to the paradigm of the *wh*-item *tís*, henceforth *t*-paradigm. Note that the morpheme *t(i)*- has an allomorph, *p(o)*-,

as in ‘how’ *pōs* (cf. the English allomorphy: the morpheme ‘wh’ mostly takes the form *wh-*, but *h-* in *how*). Diachronically, *t-*, *p-*, *wh-* and *h-* are all cognate.

Interestingly, the distribution of *t-* and *h-* is not random. Indeed, in (2a) the predicate *dēlon* ‘(it is) clear’ is under the scope of *prîn* ‘before’, in (17a), the matrix verb *oīstha* ‘you know’ is under the scope of a negation and a modal adverb *ísōs* ‘maybe’. The acquaintance of *t-* with negative contexts is already noted in Kühner and Gerth (1904: 439). Interestingly, Wakker (1999) extends it to interrogative and modal contexts. Note that, on the contrary, *dēlon* and *oīde* in (2b) and (17b) are free from such environments. Such a contrast is worth examining since it is reminiscent of the licensing of *if-* and *ei-* clauses by non-veridical operators, in opposition to *that-* and *hōti-* clauses. A closer look at the corpus defined in fn. 1 provides us with further pairs like (18). In (18a), *tīs* is in an intensional (modal) context, in (18b), *hōs* is in a positive context. The verb introducing the subordinate clause is itself in the scope of *epithumō* ‘desire’, a variant of ‘want.’

- (18) a. *epithumō akoūsai tī éstin hekáteron.*  
 I-desire hear wh-NOM.N.SG is each  
 ‘I desire to hear what each of them (justice and injustice) is.’  
 (Pl. R. 358b)
- b. *Hò egō fēmi tēn rētorikēn eīnai akékoas.*  
 wh-ACC.N.SG I I-say the rhetoric be you-have-heard  
 ‘Well now, you have heard what I state rhetoric to be.’  
 (Pl. Grg. 465d)

Along with negation and intensional modal operators, the other contexts where *tīs*-clauses show up are provided in Table 4. All these contexts are nonveridical, Except for focalization, of which (19) is an example: *mē mónon ... allà kai* ‘not only ... but also’) focalizes on the *wh*-clauses.

- (19) *hōs mē tou̐to mónon ennoōntai tī peísontai*  
 so.that not this only they.think-SUBJ wh-ACC.N.SG they.will.suffer  
*allà kai tī poiēsousi*  
 but also wh-ACC.N.SG they.will.do  
 ‘so that they shall be thinking, not merely of what they are to suffer, but likewise of what they are going to do,’  
 (X.A.3.1.41)

I leave to future research the question of why focalization licenses UEQs in Classical Greek and what its relation to nonveridicality is. An anonymous

**Table 4:** Number of *tís*-clauses with respect to the context where they appear.

	Contexts	Number of <i>tís</i> -clauses	Example
Nonveridical	<i>prín</i> ‘before’	2	(2a)
	<i>ísōs</i> ‘maybe’	5	X.C.4.3.8, (17a)
	Antecedent of conditional	24	(40)
	Focalization	19	(19)
	Future	24	D.18.73
	Imperative	82	X. C. 5.5.15
	Interrogation	17	Pl.Prt.349e8
	Modality	55	(18a)
	Negation	137	(17a)
	Total nonveridical contexts		365 (97 %)
Veridical		13 (3 %)	<b>oída hópē</b> <sup>16</sup> oíkhontai I-know where they-go ‘I know in what direction they have gone.’ (X.A.1.4.8)
Total		378 (100 %)	

reviewer suggests that “Focalization brings in alternatives, and the focused alternative is true while the non-focused ones are not (by implicature), hence a nonveridical structure is created.”

Table 5 gives the distribution of *hós*-clauses in the same corpus.

If we compare Tables 4 and 5 with Tables 1 and 2, we can see that *tís* and *hós* have the same distribution as *ei* and *hóti*, respectively. We ran a Fisher’s exact test of significance on the basis of Table 6. The difference in distribution that we observe turns out to be highly significant ( $p < 0.0001$ ), showing that each type of subordinate clause does not distribute independently of the veridical status of the context. In particular, there is a strong link between *tís*-clauses and nonveridical contexts.

We have independent evidence for this necessity for *tís*-clauses to show up in nonveridical environments (if not selected). The first piece of evidence comes

<sup>16</sup> *Hópē* belongs to the *hóstis*-paradigm (see below and fn. 18). Over thirteen exceptions, only two present the *t*-paradigm. Moreover, the exceptions are all cases of ‘how’ and ‘where’ questions. We leave this matter to future research.

**Table 5:** Number of *hós*-clauses with respect to the context where they appear.

	Contexts	Number of <i>hós</i> - clauses	Example
Nonveridical	<i>prín</i> ‘before’	2	Pl.R.532b1
	<i>ísós</i> ‘maybe’	1	X.A.5.1.11
	Antecedent of conditional	7	Pl.Prt.342b5
	Focalization	0	0
	Future	26	X.C.3.3.36
	Imperative	18	X.A.7.3.25
	Interrogation	10	Pl.Prt.312b7
	Modality	21	D.21.24
	Negation	7	Pl.Grg.479b3
	Total nonveridical contexts		92 (43 %)
Veridical		123 (57 %)	(2b), (17b), (18b)
Total			215 (100 %)

**Table 6:** The distribution of *hós*- and *tís*-clauses according to the veridicality of the context.

	<i>hós</i> -clauses	<i>tís</i> -clauses	Total
Veridical contexts	123	13	136
Nonveridical contexts	92	365	457
Total	215	378	593

from *hóstis*.<sup>17</sup> *Hóstis* is a term that heads either free relatives of the *wh-ever* type, or headed relatives, but in the latter case only in nonveridical environments (Faure 2015), as illustrated in (20) where *hótou* (*hóstis* in the genitive) is in the scope of *oud’* ‘not’.

(20) *Oud’ ésti súmmakhos*  
not there.is ally

<sup>17</sup> Morphologically, *hóstis* is composed of *hós* and the indefinite *tis*, but the morpheme *h-* is not active in this item (the reason for that will not be explored here for space reasons), maybe under the influence of the indefinite.

*meth' hótou tis iôn epì tèn tô dikaíō boétheian sózoit' án.*  
 with whom one going against the the justice help save ptc  
 'There is no ally with whose aid the champion of justice could escape  
 destruction.'  
 (Pl.R.496d)

Put otherwise *hóstis*-clauses display the features of both Free Choice Items (FCIs) and NPIs, much like *any* in English.<sup>18</sup> Most interestingly, as an embedded-interrogative-heading term, *tís* can freely be substituted for *hóstis* (Faure 2010, 2014b). Due to the properties of the latter we have just pointed out, this is only possible if the context can host *hóstis*, i. e. is nonveridical, which is borne out. The other option would be that embedded interrogatives are FCI, which they are not, since they do not have universal quantificational force, but rather existential, if any (Karttunen 1977).

Another piece of evidence comes from cross-linguistic data. In a (2007) paper, Guerzoni and Sharvit point out the following contrast between (21) and (22) displaying sentences with an embedded interrogative and the NPI *any*:

- (21) a. Claire **wonders which students** have any books on Negative Polarity.  
 b. Claire does not know which students have any books on Negative Polarity.
- (22) % Claire **knows which students** have any books on Negative Polarity.

The point is the conditions under which *any* can be licensed in an embedded (*wh*-) interrogative. We see that as in Classical Greek interrogatives embedded under *know* in a nonveridical context (21b) with negation pattern with those embedded under an interrogative verb like *wonder* (21a), while embedding under *know* in veridical contexts poses problems of acceptability for a part of the community of speakers (signaled by %). Consequently the distribution of *wh*-interrogatives that can host an NPI in English is the same as that we observed for *tís*-clauses in Classical Greek.

Hence we may hypothesize that *tís*-clauses are limited to nonveridical environments for the same reason as *ei*-clauses: They are endowed with an Op/Q operator that requires selection or licensing and can in turn license NPIs. This is confirmed by examples like (23). This sentence features an NPI in the embedded clause, “intensive” *pote*,<sup>19</sup> whose licensing must be validated

<sup>18</sup> The question whether these two usages can be reconciled, as proposed for *any* in Kadmon and Landman (1993) is addressed in Faure (2015).

<sup>19</sup> Liddell et al. (1996: s.u.), here translated as *really*. It literally means ‘at any time’/‘ever’. *Ou ... pote* (negation + *pote*) means *never*.



from the outside by the licensing of Op/Q, much like what we saw for *ei*-clause in Section 2.2.1. The external licenser is here the imperative mood of *eipè* ‘tell’.

- (23) *Eipè tís poth’ hē dúnamis estin.*  
 tell what NPI-ptc the function is  
 ‘Tell us what really is the function (of rhetoric).’  
 (Pl.Grg.460a)

As pointed out by an anonymous reviewer, this behavior of *tís*-clauses may be due to *tís* being a dependent variable in the sense of Giannakidou and Quer (2013) (for a recent version): *Tís* cannot introduce a discourse referent nor get a value from the context. “Its distribution will be constrained in contexts where there is an operator it can be bound by, and be in the scope of” (p. 127). In our case the nonveridical operator could be responsible at the same time for the quantifier binding of *tís* and of its licensing. That *wh*-items in questions can be bound from the outside is well-known since Berman (1994). Be that as it may, the dependent variable hypothesis will have to be confirmed by further research on *tís*.

To sum up, *tís*-clauses are sensitive to the same environments as *yes/no*-indirect questions (*ei*-clauses), i. e. are found after interrogative verbs or resolutive predicates in nonveridical contexts, and the *t-wh*-paradigm is found elsewhere only in direct questions. This means that they are questions like *ei*-clauses. Recall that this denotation is at odds with the selection property of the resolutive verbs and that this mismatch is the focus of this paper. The situation of *hós*-clauses is quite different as we will see in the next section.

### 2.2.3 *Hós*-clauses

Crucially, *hós*-clauses are insensitive to the veridical status of their environment; the *h-wh*-paradigm is not used in direct questions, but it appears in relative clauses; *hós*-clauses never appear with interrogative verbs in my corpus, but are limited to resolutive predicates. The latter point is crucial in that it ensures us that the distribution of *hós*-clauses exactly mirrors that of *hóti*-clauses.

A reviewer suggest an alternative solution. Let us assume that interrogative predicates could simply not select for DPs. Since *hós*-clauses are free relatives, they could be DPs, which would prevent them from appearing with interrogative predicates. But I shall not retain this suggestion, since some interrogative verbs do select for DPs along with CPs as shown by example (24), where the DP *tàs toútou dóxas* ‘his opinions,’ arguably a concealed question, is the direct object of

*anerōtō* ‘ask.’ Still, (*an*)*erōtō* excludes *hōs*-clauses. This exclusion is then not due to the c-selection of interrogative verbs.

- (24) *mē tās toutou dōxas anerōtōnta*  
 not the of.him opinions asking  
 lit. ‘not asking his opinions.’  
 ‘instead of questioning him on his opinions.’  
 (Pl.Men.84d)

All these elements show that *hōs*-clauses are not interrogative in nature and cannot denote questions.<sup>20</sup> This conclusion is very important, since it means that the question of the association of *hōs*-clauses with resolute predicates is independent from the UEQ issue that is the topic of this paper. As we shall see in Section 4.1, *hōs*-clauses are endowed with a veridical feature, which prevents them from occurring with interrogative predicates.

### 2.3 Intermediate summary

To sum up, we saw a clear relation between the appearance of *tīs*-clauses and nonveridical contexts, while *hōs*-clauses escape such a restriction. On one hand *that*-, *hōti*- and *hōs*-clauses have the same distribution. *Hōs*-clauses are not questions. On the other hand, *if*-, *ei*- and *tīs*-clauses pattern together. They have two properties: They behave like NPIs and they are questions. As we saw, the latter explains the former. They share a [+ Q(uestion)] complementizer that is licensed in nonveridical contexts (more on this in Section 4).<sup>21</sup>

Consequently, only *if*-, *ei*- and *tīs*-clauses, and not *hōs*-clauses are UEQs, when appearing with resolute predicates. The parallel between *if*-, *ei*- and *tīs*-clauses suggests that the same solution should be proposed for both *yes/no*- and *wh*-UEQs in Classical Greek, building on the fact that the interaction between nonveridicality and the Q operator responsible for their question-denotation is cause of the restrictions on their distribution. In the next section we will try to explain the behavior of Classical Greek UEQs in the light of Adger and Quer

<sup>20</sup> As already noticed in reference grammars, as in Smyth (1956: 601, § 2668).

<sup>21</sup> Elsewhere (i. e. outside UEQ contexts), I assume that the nonveridical environment necessary for interrogative-clauses is provided by the interrogative force. It is hosted in Force, above the interrogative C in direct questions and contributed by the embedding verb in selected embedded questions. Another view would be that they do not need licensing when they are selected.

(2001) and Öhl (2007). We shall see that we need to amend their proposal to capture all the data.

### 3 Previous approaches to *wh*-UEQs

Two kinds of approaches have been put forth to account for the UEQ issue. The first one seeks an explanation on the side of the subordinate clause (Adger and Quer 2001), the second one suggests that the solution is rather on the side of the embedding predicate, in cooperation with the nonveridical operator (Öhl 2007). We will examine each in turn and see whether they can account for Classical Greek data, in the light of the previous results, namely that *yes/no(ei)*- and *wh* (*tís*)-clauses call for a uniform explanation.

#### 3.1 Adger and Quer (2001)

Let us first review Adger and Quer's (2001) analysis and see how it could be extended to Classical Greek data. We shall see that there are many objections to this extension.

Adger and Quer's (2001) approach is twofold. They address the polarity sensitivity of UEQs before handling the type-mismatch. To treat the first part of the problem, they start from the data under (25). They point out that extraction out of a question embedded under an interrogative verb (b) is way better than with a resolute predicate (a).

- (25) a. \**What did no one admit if John had stolen?*  
 b. ?*What did no one ask if John had stolen?*

From this opposition, they drew the conclusion that extraction is made difficult in the latter case because the clause is preceded by an article-like operator, which they note  $\Delta$ . They take  $\Delta$  to be a polar determiner, and then sensitive to nonveridical operators. That is why, according to them, UEQs are only used in NPI-licensing environments. I shall come back to this claim in Section 4.5, retaining the idea of an operator albeit endowed with other properties.

Second, they propose that *if*-UEQs are interpreted through a mechanism of Quantifier Raising (QR) solving the type-mismatch. Crucially, *if*-UEQs must remain in the scope of the nonveridical operator that licenses the  $\Delta$  operator

that is on top on them. They then assume that they are adjoined to vP and not to IP, and cannot be topicalized, either.

The authors do not mean to extend this account to *wh*-UEQs. They only make a few remarks on *whether*, which behaves differently from *if* as shown by the following examples:

- (26) a. *#If there's life on Mars, no one admits.*  
 b. *Whether there's life on Mars, no one admits.*

Contrary to the *if*-clause, the *whether*-clause can be fronted and can escape the scope of the negation, which means that it need not be in the scope of the negation (*no one*), i. e. need not be licensed, and is then not polar. This is because “*wh*-elements are not restricted in the same way as FCIs with respect to their distribution” (p. 120). These remarks suggest that *wh*-UEQs might have to receive an explanation different from that proposed for *yes/no*-UEQs,<sup>22</sup> but we are not in a position to assess what it could be since it was not the authors' goal to account for *wh*-UEQs in the first place.

Let us see now how Adger and Quer's analysis could account for Classical Greek (both *yes/no*- and *wh*-)UEQs. We shall see that there are elements preventing this account from applying to them straightforwardly. First we saw that *ei*- and *tís*-clauses behave exactly the same, and then call for the same explanation. That would preclude extractions from *tís*-clauses, because of a  $\Delta$  operator on top of them, as in the English example (25b). However, we do have examples of extractions out of subordinate interrogatives, as in (27), where the *wh*-term *hósa* is the object of *egígnōsken* ‘he knew’ and is extracted out of the *wh*-UEQ *hópōs egígnōsken* (more on this in Section 4.6).

- (27) [*hósa*                      *mē faneròs ên* [*hópōs egígnōsken hósα*]]  
 whatever-ACC.N.PL not visible was how he.knew  
*oudèn thaumastòn hupèr toutōn perì autoû paragnōnai tous dikastás*  
 nothing surprising about it on him err the judges  
 lit. ‘(regarding) what<sub>i</sub> he was not clear how he knew it<sub>i</sub>, ....’  
 ‘In pronouncing on opinions of his that were unknown to them it is not  
 surprising that the jury erred.’  
 (X.M.1.1.17)

<sup>22</sup> But, since *wh*-interrogatives do denote questions as well, how is the mismatch repaired in that case? See Lahiri (2002), who also defends the idea of repair *via* QR, but for *wh*-clauses.

Second, we do not need to attribute the polarity sensitivity to an operator on top of the structure of the Classical Greek interrogatives, since the NPI-distribution can be accounted for otherwise (recall from Sections 2.2 and 2.3 that it is the [+Q] C that requires licensing). Eckardt (2007) also adduces arguments against Adger and Quer's claim for English:

this claim [that there is a silent polar  $\Delta$ ] contradicts everything that we know about the genesis of polarity sensitive items at present. In the initial stage, it is vital for the element to be able to carry stress in order to give rise to an emphatic statement. It is unclear how a phonologically null element could enter this development (p. 452).

Third, we have evidence that neither *ei-* nor *tís-*clauses have to stay in vP, which casts doubt on the QR-side of the explanation.<sup>23</sup> Look at (28) where the clause *eautòn hóstis estì* is fronted (arguably topicalized) in a CP position above the IP headed by *enómizon* 'I thought'.

- (28) *Eautòn hóstis estì*  
 self-ACC.3SG *wh*-NOM.M.SG is  
*pánta tina<sub>FOC</sub> enómizon ánthrōpon eidénai*  
 each one I-think-PST man know-INF  
 'I thought that everybody knows who and what he himself is.'  
 (X.A.7.2.21)

Classical Greek clearly differs from English, which precludes UEQ-topicalization: see the data given by Adger and Quer (2001: 114, here example [26a]) (but Classical Greek patterns with German, see Öhl [2007: 419]). That the interrogative clause is not base-generated in this high position is shown by the reflexive *eautòn*, which must be bound by the DP *pánta tina ánthrōpon* at some point in the derivation, arguably when the clause was below it. We

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<sup>23</sup> I have other reservations about this idea. It is not clear to me how Adger and Quer's approach to QR would coexist with Lahiri's (2002). Lahiri (2002) resorts to a QR process for *wh*-UEQs as well, but predicts it to be available exactly in contexts where the Quantificational Variability Effect is available (Berman 1994), that is in veridical (i), but not in nonveridical contexts (ii), i. e. he gives the opposite pattern to Adger and Quer (2001) for *yes/no*-questions.

- (i) *I know for the most part which students came to the party.*  
 (ii) *\*I don't know for the most part which students came to the party.*

However, there are too many technicalities in these accounts to give a complete comparison here.

need a kind of reconstruction anyway to make the licensing of *ei/tis*-clauses effective.<sup>24</sup>

Adger and Quer's proposal is then not transferable to Classical Greek as such. More generally, Classical Greek and English may differ in their extraction possibilities independently of the UEQ issue,<sup>25</sup> since in Classical Greek, both *ei* 'if' and *wh*-clauses can escape the scope of the nonveridical operator (see [29] for an example of *ei*-clause escaping the scope of the negation *ouk*).<sup>26</sup>

- (29) *Ei khrémath' héxei tosaûta hósá sù dídōs ê kai álla*  
 If money he.will.have as.much as you give or even other  
*pollaplásia toútōn, ouk ân êkhoimi eipeîn.*  
 more than.that not ptc I.am.able to.say  
 'Whether he will have as much money as you are ready to give me or even  
 many times as much, I could not say.'  
 (X.C.5.2.12)

However, despite the criticism I raised, I claim that Adger and Quer's intuition that there is an extra layer in UEQs that explains their distribution is correct for Classical Greek too, as we shall see in Section 4.

### 3.2 Öhl (2007)

To explain UEQs, Öhl (2007) proposes that it is the matrix verb that optionally incorporates a polarity sensitive head  $\pi$  so that it becomes a question-selector rather than a proposition-selector. It is the complex  $\pi + V$  that requires non-veridical licensing. However, I shall not retain his hypothesis for three reasons.

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**24** As pointed out in Neubarth (2006: 136–138), this is possible for CPs, but not for VPs as shown by the following contrast:

- (i) *\*[VP Buy any books]<sub>i</sub>, she didn't t<sub>i</sub>.*  
 (ii) *That John ever slept is impossible.*

*Any* is not licensed in the fronted VP in (i), but *ever* is in the *that*-CP in (ii). Neubarth advocates that this is possible because a CP can host an Op or has a Neg feature that licenses, much like what I proposed in Section 2.2.

**25** It is beyond the scope of this paper to explain the contrast in (26). This may be a phenomenon independent from the UEQ issue. Perhaps English is more restrictive than Classical Greek with respect to clause fronting. See also fn. 44.

**26** The extraction in (29) cannot be attributed to the absence of 'whether' (as opposed to 'if') in Classical Greek, since this language also has a 'whether'-type of clauses (*póteron*).

First, I fail to see how an object that is formed in the syntax, i. e. after the lexical selection, can set a subcategorizing frame within syntax.

Second, it faces the issue of the asymmetry between *yes/no*- and *wh*-UEQs we presented in Section 2.1. Öhl has to explain why *wh*-clauses seem to be possible in English even in the absence of a nonveridical operator, i. e. when the matrix verb cannot become a question-selector (as in example [8a], as opposed to example [4a]). He points out that complement *wh*-clauses also show up with predicates that do not allow for *yes/no*-questions like *be surprised* in (30).

(30) *I'm surprised by who came.*

According to him, this means that the *wh*-feature and the interrogative feature Q he argues for in *yes/no*-questions are two separate objects and do not need appear together.<sup>27</sup> If *wh*- and Q appear together, we have a *wh*-question, but not otherwise, a claim I agree with (see Sections 2.2.2 and 2.2.3, where it is shown that *h-wh*-clauses in Classical Greek are not questions). However he further states that “*Wh*-clauses selected by predicates not selecting Q do not contain Q” (p. 433). This means that no *wh*-clause with resolutive predicates contains Q, i. e. there are no such thing as *wh*-UEQs. But why would the *if*-clause in (3a) be a question and not the *who*-clause in (8b)? Furthermore we saw extensively that this is not true for Classical Greek, where *wh*-clauses with a Q operator are spelt out as *tís*-clauses and do present the distribution of *yes/no*-UEQs, i. e. are *wh*-UEQs.<sup>28</sup>

There is a third reason why Öhl’s idea cannot be retained. It comes from coordination schemes like what we find in the following example: Note that in this example, the *tí*-clause cannot be a direct question uttered by the speaker. That would make the utterance a coordination of an injunction and a question. In the context, it clearly denotes the answer required from the hearer and is subordinated to *endeíxē* ‘show’.

(31) *Mē hēmîn mónon endeíxē tō lógō*  
not to-us only show-SBJV.2SG by-the discourse

<sup>27</sup> The idea of an absence of Q rests on the exclusion of *whether*-clauses after *surprise*-predicates. However, that does not hold anymore, if we accept Abels’ (2007) proof that they do embed questions, but that *whether*-embedding under *surprise* is ruled out for independent reasons, i. e. because it is not usable in a non-contradictory way. Thanks to the reviewer who brought this reference to my attention.

<sup>28</sup> Actually, nothing in Öhl’s analysis prevents the co-occurrence of a *wh*- and a Q feature with resolutive predicates, provided that both are licensed, by focalization and nonveridicality respectively, as he himself admits commenting on his example (100). Assessing Öhl’s hypothesis that focalization is what licenses the *wh*-feature is beyond the scope of this paper.

*hóti dikaiosúnē adikías kreítton, allà tí poiôusa*  
 that justice than-injustice better but wh-ACC.N.SG doing  
*hekatéra tôn ékhonta autē di' hautēn*  
 each the having she thanks-to herself  
*hē mèn kakón hē dè agathón estin.*  
 one ptc bad the-other ptc good is  
 'Do not merely show us by argument **that** justice is superior to injustice,  
 but [make clear to us]<sup>29</sup> **what** each in and of itself does to its possessor,  
 whereby the one is evil and the other good.'  
 (Pl.R.367b2)

In (31), the main verb *endeixē* introduces two complement clauses. A *tis*-clause is coordinated with a *hóti*- ('that')clause, which denotes a proposition, not a question. If we assume that coordination only puts together constituents that have the same type,<sup>30</sup> the *tis*-clause denotes a proposition, and *endeixē* is not made a question-selector as expected under Öhl's hypothesis. Note that even if we posit a left node raising or an ellipsis on the basis of an original sentence like *mē endeixē hóti..., allà [endeixē] tí...* 'do not show that..., but show what...', Öhl's account will not work. *Endeixē* would be turned into a question-selector and a mismatch will arise with the *hóti*-proposition-denoting clause, unless we want to say that there is no polarity sensitive head  $\pi$  that is incorporated in the first *endeixē* while there is one in the second.<sup>31</sup> But would that not prevent Left Node Raising or Ellipsis from happening, since the two *endeixē* would not be the same in that case<sup>32</sup>? Not necessarily, if this kind of ellipsis is a PF-only phenomenon. However, the forward deletion we have here crucially involves both syntactic and phonological features (contrary to backward deletion, see Wilder 1997, among others). In view of these facts, it seems simpler to assume that *endeixē* has a uniform selection property in this example, i.e. is a proposition-selector and is not turned into a question-selector.

<sup>29</sup> I put this part between brackets because it is added by Paul Shorey, the translator, to make the sentence clearer in English, but it is not in the original text.

<sup>30</sup> Note that the coordination argument better works for semantics than for syntax, since two constituents of two different categories can be coordinated, like the DP *vegetables* and the CP *whatever appeals to her* in "Mary eats vegetables and whatever appeals to her," provided that both denote something edible.

<sup>31</sup> Order does not matter (*pace* Öhl 2007), since we also find the reverse ordering: interrogative ... *hóti*-clause as in Pl. R. 373e.

<sup>32</sup> Identity is a condition necessary for ellipsis, since it involves some kind of anaphora (see Merchant To appear for a review of the positions on this matter).



### 3.3 Intermediate summary

In this section we have reviewed Adger and Quer's (2001) and Öhl's (2007) approaches. From Öhl (2007), we keep the idea that the interrogative Q and the [wh]-features are not identifiable with one another, thus predicting the distinction between *t-wh*-clauses (where both Q and [wh] are present) and *h-wh*-clauses (where only [wh] is present). However we still have to find out why *wh*-clauses behave the way they do since the claim that the embedding verb becomes a question-selecting verb encounters too many objections. From Adger and Quer (2001) we retain the idea that there is an operator on top of UEQs. However, it need not be polar, since we showed that, at least for Classical Greek, it is the interrogative clause itself that requires licensing. Moreover their QR idea does not account for Classical Greek *t-wh*-UEQs. In the next section, we will delve more deeply into the syntax of UEQs to confirm the presence of an operator that is located above the interrogative clause. The following section will be devoted to its semantics.

## 4 The syntax of *wh*-UEQ in the light of *Prolepsis*

In this section, we explore the syntax of the CP-domain. I show that UEQs but not SEQs have a split-CP. An additional CP-layer is responsible for the UEQs' behavior.

### 4.1 Syntactic distribution

Here I take a closer look at how the four items we studied in the previous sections (*ei*, *hóti*, *tís* and *hós*) interact with each other syntactically. I will adduce evidence that *ei* and *tís* are lower than *hóti* and *hós*. Their properties are summarized in Table 7.

**Table 7:** Properties of *ei*, *hóti*, *tís* and *hós*.

	+ Nonveridically licensed	- Nonveridically licensed
	+ Embedding under interrogative verbs	- Embedding under interrogative verbs
Head	<i>Ei</i>	<i>hóti</i>
Phrase	<i>Tís</i>	<i>hós</i>

Table 7 suggests that there are two pairs *tís* + *ei* and *hós* + *hóti*, which we are going to examine in turn, before comparing them.

First, the phrasal nature of *tís* and the semantic characteristics it shares with *ei* (nonveridical licensing) suggest that it could be hosted in the specifier of a silent version of *ei*. Let us call it  $C_i^o$  (*t-* as in *t-ís*). Crosslinguistically, this is confirmed by data from non-standard Dutch (32), where the interrogative *wh*-item (here *hoe*) shows up with the interrogative complementizer (*of*) (in the following examples the relevant elements are in bold).<sup>33</sup>

- (32) *Hij weet [hoe [of [je dat moet doen]]]*  
 he knows how if you this must do  
 ‘He knows how you must do this.’  
 (Bayer 2004: ex. 16)

Surprisingly enough, we also have examples like (33), where *dat* ‘that’ appears below both the *wh*-item and *of*.

- (33) *Ze weet [wie [of [dat [hij had willen opbellen]]]]*  
 she knows who if that he had wanted call  
 ‘she knows who he wanted to call.’  
 (Bayer 2004: ex. 17)

However, in this example *dat* can be analyzed as a “pure subordinator” (Bayer [2004: 66], henceforth *dat1*) rather than the declarative/veridical subordinator *dat* (henceforth *dat2*) that we have with verbs meaning ‘tell’ or ‘know’ and that is the equivalent of the Classical Greek *hóti*, to which I return directly. Evidence that *dat1* is a pure subordinator comes from (34) where it shows up with an interrogative verb (an option that is not available to *hóti* in Classical Greek).

- (34) *Ik vraag me af [of [dat [Ajax de volgende ronde haalt]]]*  
 I ask me PRT if that Ajax the next round reaches  
 ‘I wonder whether Ajax will make it to the next round.’  
 (Bayer 2004: ex. 14)

Let us propose tentatively that *dat1* is in the Fin projection of Rizzi’s (1997) split-CP domain I will review below.

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<sup>33</sup> Confirmation comes from (i) (from van Craenenbroeck 2010), where the *whP* is in Spec, *of* and the sentence has a generic reading. In this case, *hóstis* (a variant of *tís*, see Section 2.2.2 and fn. 17) would be used in Classical Greek.

(i) *Wat of op tafel ligt is voor jou*  
 What if on table lies is for you

Second, the same rationale applies to *hós* and *hóti*. *Hós* could be hosted in the specifier of a silent version of *hóti*. Let us call this functional head  $C_h^\circ$  (*h-* as in *h-ós*).<sup>34</sup> Note moreover that *hóti* and *hós*-complement clauses have the same distribution and are limited to factive and veridical predicates, and to declarative speech-act predicates (de Boel 1980; Faure 2014a). This means that *hóti*-, *hós*- (and then  $C_h^\circ$ -) clauses denote true propositions,<sup>35</sup> which is in line with the results in 2.2.

All this is reminiscent of recent work on complementation. For example Baunaz (2015), shows that French has three *C que*. Two of them have veridical properties (like *hóti/C\_h^\circ* and *dat2*), whereas the third one is related to nonveridicality (like *ei/C\_t^\circ* and *of+dat1*). This proposal of three complementizers extends to Modern Greek, which spells them out differently (*pou, óti, na*) and, interestingly, orders them from veridical (high in the structure) to nonveridical (low in the structure, see already Roussou 2000; Giannakidou 2009 among many others). The way these complementizers live together is under examination in the next sections. In particular we will see that they can be stacked, the veridical preceding the nonveridical one.

## 4.2 The structure of the CP domain

Putting things together,  $C_t^\circ$  and  $C_h^\circ$  seem to project each its own phrase. We have to understand how these two projections are organized. I will proceed in two steps, first reviewing the split-CP hypothesis across languages and second examining the arguments for transferring these analyses to our case.

Let us first review crosslinguistic data, starting with Rizzi's (1997, 2001) analysis of Italian sentences recalled under (35), (36). In (35), the topic phrase cannot appear above the complementizer *che* (although a lower position is available), while in (36), it can appear above *se*. Rizzi claims that this is due to a split CP-domain, whose simplified mapping is as in (37).

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**34** Confirmation comes from (ii) (compare with (i) in fn. 33) (from van Craenenbroeck 2010), where the *whP* is in Spec, *dat* and the sentence has a specific reading. In this case, *hós* would be used in Classical Greek. *Dat* must then be *dat2* here.

(ii) *Wat dat op tafel ligt is voor jou*

What that on table lies is for you

**35** Possibly turned into assertion to match the selection of speech-act predicates. For an explanation of the semantic mismatch between speech-act predicates and clauses denoting true propositions, the reader is referred to Égré (2008).

(35) *Maria crede (\*il tuo libro<sub>TOP</sub>) che, il tuo libro<sub>TOP</sub>, lo potrà leggere.*  
 Maria believes your book that your book it will-be-able  
 to-read

‘Maria thinks that your book, she will be able to read it.’

(36) *Non so, a Gianni<sub>TOP</sub>, se avrebbero potuto dirgli la verità.*  
 not I-know to Gianni if they-could-have tell-him the truth  
 ‘I don’t know to Gianni if they could have said the truth.’

(37) [(Illocutionary)-ForceP (*che*) [TopicP [Int(errogative)P (*se*) [Fin ...

Rizzi also points towards Spanish data where the quotative marker *que* cooccurs with and appears above the interrogative marker *si* as in (38a) adapted from Lahiri (2002). This co-occurrence extends, in the same order, to *wh*-questions, as in (38b), a common sentence according to my informants.

(38) a. *Me preguntaron (que) si tus amigos ya te visitaron en Granada.*  
 me they.asked that if your friends already you visited in  
 Granada

‘They asked me if your friends had already visited you in Granada.’

b. *Me preguntaron (que) quién vino.*

me they.asked that who came

‘They asked me who came.’

Note that (35) to (38) give us arguments for the split-CP hypothesis, but I am not claiming that *che/que* in these examples is to be equated with Classical Greek *hóti*. That is not possible due to their distribution: *che* appear with a verb meaning ‘think,’ *que* with a verb ‘ask,’ two options that are excluded for *hóti*/C<sub>h</sub><sup>o</sup>. I just adduced them to ground the split-CP hypothesis. It is beyond the scope of this paper to check whether Classical Greek possesses such a Force or quotative marker. What I am going to claim is that Classical Greek does have complementizer stacking, so that we will end up with the following mapping of the Classical Greek CP domain.<sup>36</sup>

<sup>36</sup> Whether there are other projections like Topic and/or FocusPs between C<sub>h</sub><sup>o</sup> and C<sub>i</sub><sup>o</sup> need not concern us here.

To sum up, the higher projection has veridical properties (see the distribution above), the lower projection has nonveridical characteristics (taking here the shape of interrogation). They seem complementary. Moreover, we have clues that they can be both present at the same time in certain circumstances, namely in the case of *t*-UEQs. This is what is under examination in the next section, thanks to 1) the phenomenon of *prolepsis* ('anticipation'), 2) the extraction properties of UEQs, 3) the stacking of *wh*P<sub>s</sub>.

### 4.3 Proleptic topicalization

In a Classical Greek sentence with a CP-complement like (39), the DP that should be the subject of the verb of the embedded clause is either at the border between the matrix and the embedded clause or higher up in the matrix. It bears the case assigned by the matrix verb to its object.

- (39) *édei*     *autòn* *hóti* *méson ékhoi*    *toû Persikoû strateúmatos*.  
 he-knew him<sub>i</sub>    that middle he<sub>i</sub>-had of-the Persian army  
 'He knew that he (the King) held the center of the Persian army.'  
 (X.A.1.8.21–22)

Thus, in (39), there is above the complementizer *hóti* a pronoun *autón* in the accusative case that does not play any semantic role with respect to the matrix verb. It looks like an anticipation (in Greek a *prolepsis*) of the subject of the embedded clause with which it is coreferent.<sup>37</sup> Note that Panhuis (1984) showed that the DP in the *prolepsis* is a topic.<sup>38</sup>

Importantly, *tís*- and *ei*-clauses accept this phenomenon (the relevant phrase is underlined in [40], [41a], which requires [41b] as an intermediate step not to be counter-cyclic), but not *hós*-clauses (nothing can ever show up above *hós*):

<sup>37</sup> The different analyses of how the *prolepsis* structure is derived are reviewed in Faure (2010). Let us thus assume that the DP either originates in the embedded clause or is base-generated in its left periphery before moving up in the matrix. Both solutions have their difficulties, but it suffices here to note that there is a hosting site for the DP in the left periphery of the clause.

<sup>38</sup> Actually, there is another type of topicalization where the topicalized DP bears a case assigned in the embedded clause (see E. Bac. 173–174). In this case, the topicalized XP is not necessarily the subject of the embedded verb; it is even not necessarily a DP. Here I will focus on proleptic DPs, leaving aside the other types of topicalized phrases, which may land lower than proleptic DPs.

- (40) *Ou eí tis oíden tèn dikaiosúnēn tí estin,*  
 NEG if someone knows the justice-ACC *wh*-NOM.N.SG is  
*euthēōs díkaiōs estin.*  
 at.once fair is  
 ‘Knowing what Justice is does not make someone fair’ (my translation)  
 (Arist. *Magna Moralia*, 1.1.27.2)
- (41) a. *Toùs Hállenas oudén pō safēs légetai ei hépontai.*  
 the Greeks not yet clear is-said if they-follow  
 ‘As for the Greeks, it is not said clearly whether they will follow.’  
 (my translation)  
 (X.C.2.1.5)
- b. *Oudén pō safēs légetai toùs Hállenas ei hépontai.*

This means that (2a) would admit (42a) as an equivalent (with a different information structure), whereas (42b), the counterpart of (2b) with a proleptic phrase is not attested and probably ungrammatical.

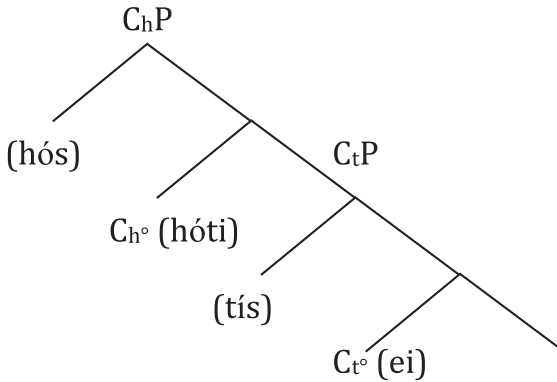
- (42) a. *Prìn délōn eínai toùs állous stratiótas tí poiéousin*  
 before clear be the other soldiers-ACC *wh*-ACC.N.SG will.do  
*sunélexe tò hautōū stráteuma.*  
 he.gathered the own army  
 ‘Before it was clear what the rest of the soldiers would do, he gathered together his own troops.’
- b. *\*Kai tote délōn egéneto tous Thrákas hoú héneka*  
 and then clear became the Thracians-ACC *wh*-GEN.N.SG for  
*tàs alōpekás epì taís kefaláís foróusi.*  
 the fox-skin-cap on the head wear  
 ‘Then it became clear to what end the Thracians wear fox-skin caps on their heads.’  
 (Perseus modified)

We have 25 examples of *Prolepses* with *tís*-clauses (total of *tís*-clauses in the Corpus: 485<sup>39</sup>), but no example with *hós*-clauses.

<sup>39</sup> This number includes the 378 presented in Table 4 plus the 107 with interrogative verbs.

#### 4.4 Consequence 1: Some Classical Greek clauses involve an extra functional head

The co-occurrence of proleptic and *tís*-phrases proves that there are at least two projections in the CP-domain of Classical Greek *wh*-UEQs. We may hypothesize that the upper projection in Figure 1 ( $C_hP$ ) is the same as that hosting the proleptic phrase (recall that *tís* occupies Spec,  $C_t$ ).



**Figure 1:** The structure of the left periphery of the Classical Greek clause.

This is borne out by the interactions *Prolepsis* entertains with the two items we posited can be located in  $C_hP$ , that is *hósPs* and *hóti*. The occurrence of proleptic phrases with *tísPs*, but not with *hósPs* confirms 1) that *tísPs* and *hósPs* are not in the same projection, 2) that in *h-wh*-clauses there is no upper position available for (topic) proleptic phrases. Consequently, *hósPs* and (topic) proleptic phrases may compete for the same position at the top of the embedded clause. Interpretively, proleptic topic phrases are definite. Definiteness implies presupposition, which means that they are endowed with a feature cognate to the veridical feature of *hósPs*. This would explain why they are hosted in the same projection.

This means that in the sequence proleptic phrase + *hóti*, the proleptic phrase is in Spec, *hóti*. Put otherwise, *hóti* plays, among others, the role of a topic head. A piece of evidence is that, in some languages, complementizers can spell out topic heads. Portuguese is one of them:

- (43) *Acho* **que** *amanhã*<sub>TOP</sub> **que** *a* *Ana*<sub>TOP</sub>  
 I.think that tomorrow that the Ana

*que vai conseguir acabar o trabalho.*  
 that will manage to finish the assignment  
 ‘I think tomorrow Ana will manage to finish the assignment.’

Portuguese has the option of displaying a C *que* between each topic as in (43).<sup>40,41</sup> Note that Spec, C<sub>h</sub> may also function as an escape hatch to an upper position in the matrix as in (41).

#### 4.5 Consequence 2: Wh-UEQs, but not S(elected)EQs involve C<sub>h</sub>P

The previous analysis makes the prediction that when *prolepsis* is possible, C<sub>h</sub>P is present, but not otherwise. Interestingly, only resolutive predicates, not interrogatives display prolepses, and hence embed clauses whose left periphery is as in Figure 1. On the other hand, under interrogative predicates, the structure of SEQ would be as in Figure 2.

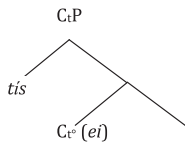


Figure 2: The structure of the left periphery of SEQ.

As shown in Table 8, this mirrors the distribution of *hóti* and *hós*, but also of UEQs. Table 9 shows the strong link between resolutive predicates and *Prolepsis* in the corpus defined in fn. 1: on 25 examples in my corpus, 15 are found with resolutive predicates and none with interrogative predicates. The verb *skopô* ‘examine’ is puzzling. Semantically, it belongs to the class of examination predicates, a class close to interrogative predicates. Unexpectedly, it is favorable to the *prolepsis* phenomenon. However, we may be dealing here with a third, independent class of question-embedding predicates, for examination verbs in Classical Greek are remarkable in that they select (apparently freely) for a DP or

<sup>40</sup> Borrowed from Mascarenhas (to appear: ex. 1). See for many other languages Bayer (2004), Ledgeway (2005).

<sup>41</sup> The relation between clause-typing and topicality is to be clarified though I cannot take up this issue here. Still, analyzing topics would prove more useful if one could map precisely the different types of topics (frame setting/aboutness topics, frame topics, contrastive topics, familiar/continuous topics, see Lambrecht 1994) onto the split CP field (Benincà and Poletto 2004; Frascarelli and Hinterhölz [2007] are attempts in this direction). If these topics do not appear in free order, as is likely, that would make strong predictions.



**Table 8:** Distribution of *ei*, *hóti*, *tís*, *hós* and *Prolepsis* with resolutive and interrogative predicates.

	Resolutive predicates	Interrogative predicates
<i>ei</i>	✓	✓
<i>tís</i>	✓	✓
<i>hóti</i>	✓	x
<i>hós</i>	✓	x
<i>prolepsis</i>	✓	x

**Table 9:** Relations between *Prolepsis* and resolutive predicates.<sup>42</sup>

Corpus defined in Footnote 2		Embedded questions	Embedded questions with <i>prolepsis</i>	Rate
Resolutive	<i>horô</i> ‘see/understand’	27	5	18.5 %
	<i>oída</i> ‘know’	109	7	6.4 %
	<i>légô</i> ‘say’	79	3	3.8 %
Interrogative	<i>bouleúomai</i> ‘wonder about’	32	0	0 %
	<i>erôtô</i> ‘ask’	75	0	0 %
	<i>skopéô</i> ‘examine’	143	10	7 %

a PP along with CP. Moreover, the process of examination tends to create or recreate the answer to the question, rather than looking for a preexisting one. This class definitely requires further research.

An anonymous reviewer brings up an alternative hypothesis to that advocated here: *hós*-clauses and proleptic phrases would be excluded with interrogative predicates because they are DPs and these verbs would not be able to case-mark them appropriately. However, as already noted, *erôtô* ‘ask’ does accept DPs (see example [24]), but still excludes *Prolepsis*. Moreover, the co-occurrence of a proleptic DP and *tís* suggests that there are two projections. It would be surprising that they are hosted in the same projection since they have antagonistic features.<sup>43</sup> The extraction properties of UEQs also argue for a CP with two layers.

<sup>42</sup> The total is 465 and not 485 (see fn. 40), because we excluded rare verbs.

<sup>43</sup> That would additionally require that we accept doubly-filled CPs contrary to the more common one-head-one-specifier hypothesis. Examples like *tís tína timá* (‘lit. who whom honors’, Pl. Phdr. 259c) do have two fronted *wh*-items, but they are of the same (*t*-)type. That never happens with *h*-*wh*-items.

## 4.6 Extraction properties

We already noticed that UEQs allow for extraction on the basis of example (27), repeated here for convenience.

- (27) [*hósa* *mê faneròs ên* [*hópòs egígnòsken hósa*]]  
 whatever not visible was how he.knew  
*oudèn thaumastòn hupèr toutòn perì autoû paragnônai toùs dikastás*  
 nothing surprising about it on him err the judges  
 lit. ‘(regarding) what<sub>i</sub> he was not clear how he knew it<sub>i</sub>, ....’  
 ‘In pronouncing on opinions of his that were unknown to them it is not surprising that the jury erred.’  
 (X.M.1.1.17)

In this example, the *wh*-item *hósa* is extracted out of the *t-wh*-UEQ *hópòs egígnòsken*. Note that we do not observe any minimality effect, as could be expected. Crucially, *hósa* belongs the *h*-paradigm, and (*hó*)*pòs* to the *t*-paradigm. This means that *hósa* cannot transit through Spec, C<sub>t</sub>, with which it does not share any feature (and whose specifier is already filled, anyway). We have to posit another escape hatch, that, I argue, is Spec, C<sub>h</sub>. Note that we do not have examples of extraction of *t-wh*-items in the corpus (nor outside of it to my knowledge), whose extraction is predicted to be blocked in this configuration.

## 4.7 Relative and interrogative stacking

Finally, Classical Greek has the property of embedding a direct speech act in an appositive relative *h-wh*-clause (Kühner and Gerth 1904: 434–435). This happens with a *wh*-question as in (44).

- (44) *Horô stibádas hôn tí soi méta?*  
 I.see bed.of.straw-PL h-wh-GEN.F.PL t-wh-ACC.N.SG for.you with  
 Lit. ‘I see a bed of straw **which<sub>i</sub> what** for you (is going to happen) with **which<sub>i</sub>?**’  
 ‘I see a bed of straw, but what do you have to do with it?’  
 (E.Hel.798)

Note that in this case the *h-whP* always comes before the *t-whP*, as expected under my hypothesis.

## 4.8 Intermediate summary

In this section, we saw that (*t-wh*-)UEQ (but not SEQ, crucially) are compatible with an idiosyncratic type of topicalization: *Prolepsis*, and with extraction of *h-wh*-items (but not of *t-wh*-items), and can have a *h-whP* on top of them. These phenomena target a projection higher than that hosting the interrogative *t*-term. This shows that in *yes/no*- and *wh*-UEQs another functional head is active, which I dubbed  $C_h^\circ$ .<sup>44</sup> Crucially, all this does not mean that  $C_h^\circ$  is polar. The prevention from extractions is only syntactic. What is polar and requires licensing, is the (*if*, *ei*, or *t*-) interrogative clause, because of its [Q] C, as extensively argued for in Section 2. Therefore, although the presence of  $C_h^\circ$  is now firmly grounded, its role has remained unclear so far and is under scrutiny in the next section.

## 5 A type-shifting account for *wh*-UEQs

Recall that *wh*-clauses with resolute predicates in Classical Greek come in two guises: *h-wh*-clauses and *t-wh*-clauses. The first guise is a sort of free relative that has undergone a process, possibly related to a concealed question/concealed proposition process, which need not concern us here (see Sections 2.2.3 and Faure 2011). What we are focusing on now is the second type, which is really a type of UEQ, since *tís* in a *bona fide* interrogative *wh*-item.

We saw that it parallels the distribution of *yes/no*-UEQ well-attested across languages, including Classical Greek and its *ei*(‘if’)-clauses. In this language, *yes/no*-questions and *t-wh*-questions are licensed only in nonveridical contexts while *hóti*(= *that*)-clauses and *h-wh*-questions are not subject to such a constraint (see Section 2.2). We saw that the uniformity of *yes/no*- and *wh*-questions were a challenge to both existing accounts for UEQs, namely Adger and Quer (2001) and Öhl (2007) (Section 3).

From the previous section, we learned that UEQs are preceded by another operator  $C_h^\circ$ , sometimes spelt out as *hóti* (a veridical complementizer, Section 4.1). In the present section, I would like to address the role of this operator. We shall see that it makes UEQs possible.

With resolute predicates, the counterpart of *ei*- and *t-wh*-clauses in modern languages can be substituted for the DP “the answer,” but not “the question” as

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<sup>44</sup> Adger and Quer’s contrast presented in (26) may be explained in the same manner, since  $C_h^\circ$  would make the *if*-clause an island for extraction of *wh*-interrogative items like *what* in this example. A complete re-examination of the English data is required to check this hypothesis.

in (45).<sup>45</sup> On the other hand, interrogative verbs show the opposite pattern (46). This suggests that the *if*- and interrogative *wh*-clauses always denote questions,<sup>46</sup> whereas the sequence  $C_h^\circ$  + *if*- or interrogative *wh*-clause denotes a true proposition since embedded under resolutive predicates, which are factive or veridical (Ginzburg 1995; Égré 2008).

- (45) a. ?Rama knows if Sita has been kidnapped. → Rama knows the answer/  
#the question.  
b. Rama does not know if Sita has been kidnapped. → Rama does not  
know the answer/#the question.  
c. Does Rama know if Sita has been kidnapped? → Does Rama know the  
answer/#the question?

- (46) He asked me if Vyasa wrote the Mahabharata. → He asked me the question/  
#the answer.

My Classical Greek corpus does not present us with such data, but we have a clue that Classical Greek  $C_h^\circ$  + *ei*- or *t-wh*-clauses also denote true propositions, since they can be coordinated with *hóti(that)*-clauses, which we know denote true propositions (See example [31] and how it is analyzed in Section 3.2). If  $C_h^\circ$  + *ei*- or *t-wh*-interrogatives denote true propositions with resolutive predicates, this means that *ei*- and *t-wh*-clauses have undergone a type-shifting operation. Given the presence of a functional head  $C_h^\circ$ , also spelt out as *hóti*,<sup>47</sup> heading true-proposition-denoting clauses, I take it to be responsible for this type-shifting. This operation is cognate to what Groenendijk and Stokhof (1984) proposed to account for the various denotations of interrogative clauses, especially when they are embedded under extensional (= resolutive) predicates (vs. intensional [= interrogative] predicates). The meaning of the operator is as in (47) ~~if we assume a Groenendijk and Stokhof (1984) semantics for questions, where questions denote a proposition abstract, that is are of type  $\langle s, \langle s, t \rangle \rangle$~~ <sup>48</sup>



<sup>45</sup> For the relation of resolutive predicates to the answer to the question and the substitution-test, see Groenendijk and Stokhof (1984), Ginzburg (1995), and Égré and Spector (2015).

<sup>46</sup> As argued for in Adger and Quer (2001).

<sup>47</sup> Recall that the impossibility of *Prolepsis* seen in 4.5 shows that this head is absent in clauses embedded under interrogative verbs. This is in line with the possibility of extraction in English, as shown in examples (25) ( $C_h^\circ$  being absent, the clause is not an island).

~~<sup>48</sup> An anonymous reviewer points out that the overt version of  $C_h^\circ$ , *hóti* synchronically contains the definite article *ho* (masculine, nominative), which makes it reasonable to assume an iota.~~

$$[47] \llbracket C_h^\circ \rrbracket^w = \lambda Q \langle s, t \rangle \langle s, t \rangle [p = \lambda w'_s [Q(w')(w) - 1]]$$

Let us apply it to example (17a), repeated here for convenience and see how it works. (48) gives the relevant steps of the derivation (see Figure 3).

- (17) a. *Ísōs oupō oīstha tí légō.*  
 maybe not.yet you-know *wh*-ACC.N.SG I-mean  
 ‘You may not know yet what I mean.’  
 (Pl. Grg. 500a)

[48] DERIVATION

$$\llbracket \text{tí } \text{légō} \rrbracket = \lambda w'_s \lambda w'_s [\lambda x_e \text{mean}(s, x)(w) - \lambda x_e \text{mean}(s, x)(w')]$$

$$\llbracket C_h^\circ \text{ tí } \text{légō} \rrbracket^w = \langle p \rangle \langle s, t \rangle [p = \lambda w'_s [\lambda x_e \text{mean}(s, x)(w) - \lambda x_e \text{mean}(s, x)(w') - 1]]$$

Where *s* is the speaker

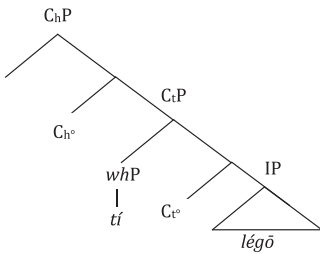


Figure 3: The structure of the *wh*-UEQ *tí légō* in (17a).

To sum up, in this section, we saw that  $C_h^\circ$  is a type-shifting operator turning questions into (true) propositions, thus solving the type-mismatch of the UEQ.

## 6 Concluding remarks

In this article, we were presented with the mismatch of (resolutive) predicates semantically selecting for propositions but syntactically also showing up with apparently question-denoting clauses. This issue exists both for *yes/no*- and *wh*-questions, but it has been taken care of in the previous literature mostly for *yes/no*-questions, certainly because it is covert for *wh*-clauses in most languages. Nevertheless Classical Greek gives us a clue that *wh*-questions could replicate the *yes/no*-question case because one of its *wh*-paradigm follows exactly the distribution of *yes/no*-question (in Greek and in English).

To account for the parallelism of the two types of questions, a new proposal was made. First, interrogative-like clauses that appear in veridical contexts are not interrogative, and then not UEQs. Second, actual *yes/no*- and *wh*-UEQs need to be licensed by nonveridical operators to show up with resolute predicates. This is due to the complementizer  $C_i$ , which is shared by them and sensitive to these contexts.

Third, the entailments presented in Section 5 showed that these clauses actually denote propositions and not questions in resolute environments. This goes along with the presence of a veridical operator at the top of the structure. It was proposed that this operator turns the question denoted by the interrogative into a true proposition. Thus, no selection mismatch arises as supposed at first glance.

Interestingly, Giannakidou's and Roussou's works adduce Modern Greek data that support this view of a veridical operator that is high and a nonveridical operator that is low. The steadiness of the pattern across time is noteworthy.

Finally, the English and Dutch data under (21–22) and in fn. 33, 34 and 44 show that the empirical coverage of our proposal is probably larger. In fact, part of the tests provided by Turnbull-Sailor (2007) point towards a division of English *wh*-items into two categories that could mimic the Classical Greek partition in *h*- and *t*-*wh*-paradigms. More research is needed in this direction.

**Acknowledgements:** I would like to thank two anonymous reviewers for their insightful comments. All remaining errors are mine.

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