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# REMARKS ON TURKISH INTERROGATIVE COMPLEMENT CLAUSES AND VERB SUBCATEGORIZATION

**Tai MA**
M.A., Graduate Student of Carleton University, Department of Linguistics, taima199506@gmail.com, ORCID: 0000-0002-7657-9069

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## ABSTRACT

This chapter examines the interpretations of interrogative complement clauses in Turkish, with a focus on the embedded wh-words. Verbs such as *unut- (forget)* and *hatırla- (remember)* do not constitute an interrogative environment for the embedded wh-words, and the embedded wh-words are non-interrogative. Interestingly, the two verbs can yield either an interrogative or an indefinite reading. Meanwhile, *san- (assume)* and *şüphelen- (suspect)*, behaving like desiderative and jussive verbs, do not license an embedded wh-word in their complement clauses. In contrast, *düşün- (think), karar ver- (decide)* and *anla- (understand)* yield ambiguous readings for embedded wh-words. Moreover, unlike the English counterparts, the embedded wh-words in complement clauses of *sor- (ask)* and *merak et- (wonder)* can obtain different scopes, but their interpretations remain interrogative in Turkish. The evidence suggests that the interpretations of wh-words depend on the embedding environments, and this suggests reevaluating the verb subcategorization frame based on the observation that wh-words are not consistently interrogative but also indefinite conditionally (Kratzer & Shimoyama, 2002). The problem relates to the syntax-semantics interface. In conclusion, there are three different types of verbs based on their attitudes towards the interpretations of the embedded wh-words.

**Keywords:** Turkish, Verb subcategorization, Wh-words, Interrogative complement clauses, Syntax-semantics interface

## ÖZ

Bu bölüm Türkçede içerik soru tümcelerinin okuma biçimini denetimlemekte ve değişken olan ne-öbeklerine odaklanmaktadır. Türkçede *unut-* ve *anla-* hiç belirsizlik göstermeyip içerik tümcelerini soru biçimine dönüştürmemektedir fakat ikisi de ne-öbeklerine ya soru ya belgisiz okuma kazandırabilir. Aynı anda, *san-* ve *şüphelen-* dilek ve emir belirten eylemler gibi hiç soru biçiminde içerik tümceleri almamaktadır. Öte yandan, *düşün-*, *karar ver-* ve *anla-* içerik tümcelerinde bulunan ne-öbeklerine belirsiz

okuma yaratabilir. Ayrıca, İngilizcedeki karşılıklarından farklı olarak, *sor-* ve *merak et-* de kendi içerik tümcelerindeki ne-öbeklerine belirsiz açı yaratabilir fakat sürekli soru okumadır. Bu çalışmaya göre içerik tümcelerin ne-öbeklerinin okumaları ana eylemlerin özelliklerine göre değişmektedir. Bu bulgu nedeniyle eylemi sınıflandırma dizgesini gözden geçirmek gerek. Ne-öbekleri her zaman soru okuma kazanmamakta olup belgisiz olarak da davranabilir (Kratzer & Shimoyama, 2002). Dolayısıyla, bu çalışma bu sözdizim-anlambilim arayüzeyiyle ilgili problem doğrultusunda eylemi sınıflandırma dizgesine karşı yeni bir bakış açısını sunmaktadır. Sonuç olarak, içerik tümcelerindeki ne-öbeklerine yarattıkları okuma biçimlerine göre üç farklı çeşit eylem vardır.

**Anahtar Sözcükler:** Türkçe, Eylem altbirimleri, Ne-öbekleri, Sözdizim-anlambilim arakesiti

## 1. Introduction

In § 1.1, I will briefly discuss the particular Ā-movement strategy of wh-in-situ languages (Aoun & Li, 1992). Afterwards, in § 1.2, I will introduce the well-attested subcategorization model that unveils the semantic selectional restrictions of verbs for interrogative complement clauses (containing wh-words). Please note that I do not discuss the wh-adjuncts in this paper since Görgülü (2006: 63-64) claims that the extractions of wh-adjuncts in embedded clauses lead to ungrammaticality (cf. Çakır, 2016: 79). In § 1.3, I will adopt the definitions of *-mA*, *-DIk* and *-AcAk* made by Predolac (2017) and Ma (2025) for Turkish clausal complementation strategy.

§ 2 primarily focuses on the interpretations of the wh-words in Turkish complement clauses, excluding the readings of the interrogative complement clauses as exclamatory sentences or echo questions. In light of the syntactic account of clausal embedding facilitated by *-mA*, *-DIk* and *-AcAk*, I inquire about the variable interpretations of wh-words embedded under different verbs, and I will evaluate the data and reassess the subcategorization frame regarding the variable wh-words in complement clauses as far as § 3.

Concerning that *-mA* clauses yield only the interrogative reading, whereas *-DIk* and *-AcAk* clauses allow either the interrogative or the non-interrogative reading, the semantic approach is paid much attention to in this study as a result of the underlying semantic purposes associated with the wh-words embedded under different verbs. In short, this paper examines how wh-phrases in complement clauses interact with different embedding environments and yield different readings, beginning from the question of why the subcategorization is away from adequacy. For the sake of concreteness, the concern of this study can be paraphrased as to what

extent verbs taking tensed complement clauses differ by yielding different readings for the embedded wh-words.[1]

Empirically, if we merely consider whether the interrogative complement clause is grammatical when embedded by a verb without investigating the interpretation strategies of the embedded words in connection with the embedding predicates, as shown in (1), we may temporarily extrapolate that non-factive predicates allow the extraction of embedded wh-words in the LF (see 1a), whereas factive predicates yield ambiguous interpretations (see 1b). However, the assumption is too problematic because it does not cover all examples (see 1c). Therefore, this study heuristically accounts for the various behaviours of wh-words without directly appealing to the verb subcategorization frame.

(1) a. O Ali'nin ne-yi kazan-dığ-ı-nı san-dı?
He Ali-GEN what-ACC win-DIK-POSS-ACC assume-PERF-3.SG.
'What is x such that Ali assumed that Ahmet has won?'

b. O Ali'nin ne-yi kazan-dığ-ı-nı bil-yor./?
He Ali-GEN what-ACC win-DIK-POSS-ACC know-PERF-3.SG.
'Ali knows what Ahmet has won.'
'What is x such that Ali knows that Ahmet has won?'

c. O Ali'nin ne-yi kazan-dığ-ı-nı tahmin ed-iyor./?
He Ali-GEN what-ACC win-DIK-POSS-ACC guess-PROG-3.SG.
'Ali is guessing what Ahmet has won.'
'What is x such that Ali knows that Ahmet has won?'

### 1.1 The Qu-movement instead of invisible LF movement in wh-in-situ languages

From a syntactic perspective, instead of wh-movement, wh-in-situ languages exhibit the Qu-movement after the co-indexation of embedded wh-words with the Qu operator that is base-generated in the complement $C^0$ (Aoun & Li, 1992; cf. Arslan, 1999; Görgülü, 2006; Çakır, 2016). The difference between relative clauses and interrogative complement clauses is that an empty category in the former replaces the overt wh-word. However, I will consistently view both types as A-bar movement in Turkish, even though this study will not involve Turkish (free)-relative clauses.

As a result of the implausibility of the assumption brought up based on (1), intuitively, the questions arise as to whether the subcategorization frame should be revisited based on the Qu-movement, and to what extent if the consideration is non-trivial. To be specific, verbs such as *sor- (ask)*, *merak et- (wonder)* may license the Qu-movement or not, but the interpretations of the embedded wh-words are consistently

[1] Please note that the discussion will only involve the wh-words in tensed complement clauses because subjunctive and other tenseless complement clauses do not allow embedded wh-words (Predolac, 2017; Ma, 2025).

interrogative. In contrast, the interrogative reading is blocked when the wh-words are embedded under verbs such as *bil- (know)*, *hayal et- (imagine)* and *unut- (forget)*. Verbs such as *san- (assume)*, *varsay- (hypothesize)* unconditionally have the Qu operator move to the matrix clause in the LF. I will proceed with these concerns in the following discussion.

### 1.2 The verb subcategorization for interrogative complement clauses

Technically, embedding verbs are annotated with ±wh according to the clause types that the embedded clauses can exhibit as a result of their choices of wh-words. Specifically, if a verb can embed a finite tensed clause that contains a wh-word, the verb is annotated with +wh, which indicates that it can take an interrogative clause as a complement, and vice versa. Wen (2002: 292) provides a list for subcategorization that descriptively annotates verbs with their licensing criteria for wh-words (see 2) (cf. Huang, 1982a: 371). In (2), *assume* demands the wh-movement, and *know* can select either interrogative or indicative complement clauses, whereas *ask* and *wonder* are compatible only with interrogative complement clauses. This subcategorization follows the basic understanding that verbs can choose the type of their complement clauses, such as indicative, interrogative, or subjunctive, which is understood to be their semantic selectional restriction.

(2) a. Assume: [$_{-WH}$ CP];
b. Know: [$_{\pm WH}$ CP];
c. Ask: [$_{+WH}$ CP].

Based on the semantic selectional restrictions, the clausal complementation brings up a new question of why embedded wh-operators receive the identical scope reading from subjunctive complement clauses and complement clauses of verbs like *assume*. For instance, in Turkish, desiderative verbs like *iste* (*want)* and *bekle* (*expect)* take subjunctive complement clauses, and they are incapable of licensing embedded wh-words for the lack of overt genuine tense information (Ma, 2025). In complement clauses of *san- (assume)*, wh-elements are interrogative and undergo wh-movement. Particularly, it is interesting that the verb *san- (assume),* which takes propositional complement clauses, does not behave as non-factive verbs like *düşün- (think)* and *hayal et- (imagine)* that also take propositional complement clauses but may assign either the interrogative or the non-interrogative reading to the embedded wh-words (see 3) (cf. Li, 1992: 125-155). Please also note that, unlike English, rogative verbs such as *ask* exhibit the ±wh feature in Turkish, which means that Turkish rogative verbs allow wh-movement.

(3) O Ali'nin ne-yi kazan-dığ-ı-nı hayal ediyor./?
He Ali-GEN what-ACC win-DIK-POSS-ACC imagine-PROG-3.SG.
'He imagines what Ali has won.'
'What is such x does he imagine that Ali has won?'

As shown in (3), the embedded wh-complement clauses embedded under the verb *imagine* may obtain a non-interrogative reading, behaving differently from when embedded under the verb *san- (assume)*. In this connection, it is felicitous to extrapolate that despite the identical propositional structure, embedded wh-words act differently according to the embedding predicates. Non-factive predicates are also distinguished from each other in terms of their behaviours in assigning different readings to the embedded wh-words. Meanwhile, regardless of their syntactic and semantic differences, non-factive predicates, such as *san- (assume)*, resemble subjunctive governors (e.g., *suggest*) due to the identical behaviour against the capacity for an embedded wh-word.

To summarize, embedded wh-words are ambiguous in complement clauses of factive predicates, such as *unut- (forget)*, *hatırla- (remember)* and *bil- (know)*, but their readings are unambiguous in rogative verbs (*ask* and *wonder*), albeit with different scopes. Some non-factive verbs, such as *hayal et- (imagine)*, overlap with factive verbs *unut- (forget)* and *hatırla- (remember)* in licensing either the interrogative or the indefinite reading to the embedded wh-words. In spite of the contrast of factive and non-factive features, some non-factive verbs may overlap with factive verbs in licensing ambiguous readings to the embedded wh-words. Thus, there must be an additional feature involved in the verb classification for the semantic treatment of the embedded wh-words. However, in this study, instead of reassessing the subcategorization model exclusively for Turkish, I will attempt to attribute the licensing of (non-)interrogative features to the embedded wh-words to the embedding environments.

### 1.3 The brief information of *-mA -DIk* and *-AcAk* heading Turkish complement clauses

In this subsection, I will discuss the embedding strategies in Turkish. This may be additional, but it is necessary for illustrating the syntactic differences between the clausal complementation scenarios in Turkish, which at the same time serves as a brief introduction to the interpretations of the embedded wh-words. Albeit with the nominal morphology, I will regard the *-mA*, *-DIk* and *-AcAk* constructions as complement clauses that are embedded under mood governors (Farkas, 1992), following Kural (1993), Kornfilt (2003, 2007), Predolac (2017) and Ma (2025).

In Turkish, *-mA, -DIk* and *-AcAk* are followed by the nominal morphology (e.g., the possessive case and the case marking) but facilitate the sentential complementation. *-DIk* is for independently tensed complement clauses (please note that *-AcAk* is the prospective variant of *-DIk*, and the alternation of *-DIk* with *-AcAk* is grammatically licit) and *-mA* for subjunctive complement clauses (Predolac, 2017; Ma, 2025). Regarding the functions of the three suffixes, according to Demirok (2019), *-DIk* clauses indicate a propositional complex in the sense that they

manifest a tensed finite clause, whereas *-mA* does not represent any genuine tense information.

As for the behaviours of the embedded wh-words in the two different embedding environments (overtly tensed *-DIk* and *-AcAk* and untensed *-mA*), it is possible to adapt the complementary distribution of mood categories to the syntactic features of *-DIk*, *-AcAk* and *-mA* clauses, which are depicted as follows: indicatives are [-WH, +T], interrogatives are [+WH, +T], and subjunctives are [-WH, -T] (Ma, 2025). As shown in (4), *-DIk* and *-AcAk* can manifest the indicative and interrogative moods (see 4a & 4b), whereby they may yield either interrogative or non-interrogative readings for embedded wh-words depending on the embedding environments. By contrast, *-mA* subjunctives are not concerned with an embedded wh-word due to the lack of overt tense morphemes (see 4c).

(4) a. O Ali'nin ne-yi ye-diğ-i-ni bil-iyor./?
He Ali-GEN what-ACC eat-DIK-POSS-ACC know-PROG-3.SG.
'He knows what Ali ate.'
'What is such x that he knows Ali ate?'

b. O Ali'nin ne-yi yi-yeceğ-i-ni unut-tu./?
He Ali-GEN what-ACC eat-PROS-POSS-ACC forget-PERF-3.SG.
'He forgot what Ali would eat.'
'What is such x that he forgot Ali would eat?

c. O Ali-nin ne-yi ye-me-si-ni iste-di?
He Ali-GEN what-ACC eat-MA-POSS-ACC want-PERF-3.SG.
'What does he want Ali to eat?'

In other words, I will not relate the nominal morphology to the embedded wh-words in question. Suppose that the verb *iste (want)* will have a subjunctive complement clause manifested by the *-mA* construction. It always yields a wide scope and the interrogative readings for the embedded wh-operator. Meanwhile, the verb *karar ver- (decide)* can either take a subjunctive complement clause or a tensed complement clause (interrogative or indicative). However, we cannot conclude that the reading yielded for an embedded wh-operator depends on whether the nominalization is driven by *-mA* or *-DIk*, or *-AcAk,* and then maintain that the wide reading is associated with *-mA* but ambiguous with *-DIk* and *-AcAk*. This is too problematic and empirically misleading, given that the semantic evidence deviates from the preconceived conclusion. The manifestation of complement clauses by *-mA*, *-DIk* and *-AcAk* in Turkish is nonetheless trivial, and this study will only focus on the *-DIk* and *-AcAk* cases for the various interpretations that their embedding predicates assign to the embedded wh-words.

## 2. Wh-words are variables

In this section, I will discuss the interpretations of wh-words in various contexts and explore the interrelationship between the embedding predicates and the readings of the embedded wh-words. A large body of research shows that wh-words have been treated as quantifiers, indefinites or variables (Chomsky, 1981: 55–60; Wen, 2002: 290; Nishigauchi, 1990; Cheng, 1997).[2]

Due to the mediation of negation, modality and mood, wh-words may be multiply ambiguous and interpreted as the universal quantifier, the negative quantifier or the existential quantifier (cf. Huang, 1982b: 242; Lin, 1996: 230). Huang (1982b: 242) notes that the non-interrogative readings stem from contextual information that provides a less-than-positive meaning. Furthermore, as Lin (1996) notes, wh-words are interpreted in line with an indeterminate expression when the truth value of the proposition is associated with uncertainty or negation.

It is also well-attested that wh-words are not consistently interrogative in Turkish and their readings vary according to the quantificational forces stemming from the embedding environments (Görgülü, 2006). For instance, in negative environments, wh-words typically refer to a quantifier such as *none* and *nobody*, whereby the double negation undergoes an affirmative paraphrasing, and they obtain a reading as the universal quantifier (see 5a). In conditional clauses, wh-words denote a referentiality and behave as the existential quantifier (see 5b). By contrast, by means of the aorist aspect, wh-words may refer to a negative quantifier (see 5c). Empirically, the non-interrogative readings of the embedded wh-words are pragmatically by-products of the contexts, and the non-interrogative reading is dispensable as a result of the run-of-the-mill function of wh-words to express questions.

(5) a. Ali ne-yi bil-mez.
Ali what-ACC know-NEG.PRES.3.SG.
'What does Ali not know?
(Intended: Ali knows everything.)

b. Ali kim-i tanı-r-sa.
Ali who-ACC know-AOR-COND.3.SG
'If Ali knows who.'
(Intended: If Ali knows someone.)

c. Ali ne-yi bil-ir.
Ali what-ACC know-AOR-3.SG.
'What does Ali know?'
(Ali knows nothing.)

(Adapted from Görgülü, 2006)

[2] In Cheng's (1997) analysis, wh-words are analogized as *polarity-sensitive items*, such as negative polarity items and free choice items (e.g. *any*).

On the other hand, interrogative complement clauses differ from matrix interrogative clauses in that the former denote a set of propositions (Uegaki, 2015: 34). To be specific, wh-words in complement clauses are liable to provide a set of potential answers via the retrieval in the context. Interrogative complement clauses are ultimately analogized to indicative/propositional ones, and embedded wh-words are not essentially interrogative (cf. Uegaki, 2020: 15). Put differently, interrogative complement clauses technically are not distinguished from tensed indicative clauses in terms of the essential propositional modal (cf. Palmer, 2002: 52-54).

From that position, embedded wh-words in a proposition obtain different readings as a result of the adaptation of the complement clauses to the embedding predicates. Suppose that an embedding verb is a rogative predicate; an interrogative reading is licensed to the embedded wh-word. If the embedding predicate is altered with one that can block the interrogative reading of the embedded wh-word and take *bil- (know)* for example, its complement clause, in the circumstance that the non-interrogative reading is expected other than the interrogative one (see 6), must contain such information that the speaker has acquired the knowledge or the intuition that Ali has bought something.[3] This evidence suggests that some verbs may provide or relate the utterance to contextual information so that the embedded wh-words yield non-interrogative readings. Therefore, I will compare the syntactic and semantic approaches to the embedded wh-words in § 2.1.

(6) Ben Ali'nin ne-yi al-dığ-ı-nı bil-iyor-um.
I Ali-GEN what-ACC buy-DIK-POSS-ACC know-PRO-1.SG.
'I know what Ali bought.'

Incidentally, verbs that can take complement clauses are generally known to be cognition verbs (including mental and psych verbs, e.g., *think*, *believe* and *remember*) and desiderative verbs (e.g., *want*), etc. Still, some action verbs can embed finite complement clauses (e.g., *show*). From a semantic perspective, embedding a clause in the argument structure relates to intensional semantics (Farkas, 1992: 72). Factive verbs essentially tend to convey veridicality-based truth judgment, whereas non-factive verbs do not. In other words, as a result of the factive feature, different from non-factive verbs, the embedded clauses of factive verbs are subject to truth evaluation. However, both non-factive and factive verbs in this discussion are limited to the ones that take propositional complement clauses, and particularly, the factivity-based verb classification does not participate in the interpretations of the embedded wh-words essentially. In § 2.2, I will depart from the feature modification of verbs but illustrate the interconnection of the embedding verbs and the embedded wh-words.

[3] Raj Singh, personal contact.

## 2.1 The mismatch between the syntactic and semantic analyses of wh-words

The section focuses on the syntactic and semantic approaches to the embedded wh-words. Within the Minimalist framework, wh-words in complement clauses may yield either a wide or a narrow scope. The variations of the wh-features associated with different verbs in one language constitute a subcategorization model, as shown in (2). This syntactic approach to the behaviours of variable wh-words accounts for the binary scope (either wide or narrow) resulting from wh-movement from the embedded clauses to the matrix clauses. Syntax, being concerned with the derivation, accommodates the subcategorization model with the wh-movement criterion. For instance, the wh-operator yields a narrow scope in (7a & 7b) (please note that I temporarily ignore the ambiguous interpretations of these embedded wh-words in Turkish).

(7) a. John asked [$_{\text{interrogative}}$ what Mary said].
'John asked what x is such that Mary said.'
(John did not know what Mary said.)

b. John knows [$_{\text{non-interrogative}}$ what Mary said].
'John knows what x is such that Mary said.'

c. *John assumes what Mary said.
'*There is x such that John assumed that Mary said.'

However, the complement clause in (7a) is essentially interrogative because the reply to the wh-variable is yet unknown (which can be cancelled by saying *Mary said nothing*). On the contrary, in (7b), not only does the wh-operator receive a narrow reading, but also the embedded wh-operator is non-interrogative (the presupposed information cannot be cancelled by saying *Mary said nothing*).[4] The comparison of (7a) with (7c) indicates that the rogative predicate *ask* overlaps with the non-factive predicate *assume* in licensing the interrogative reading to the embedded wh-word regardless of the scope difference. Overall, (7a), (7b) and (7c) are distinguished from each other according to the extrapolation that embedded wh-words receive indefinite readings when the embedding predicates do not require their embedded interrogative clauses to provide a set of potential answers as genuine questions do. Next, I will illustrate the analysis of the embedded wh-words that hinge on the Minimalist syntactic approach, which also shows the challenging aspects of this problem.

From a syntactic perspective, Aoun and Li (1992: 232-233) maintain that the Qu operator is base-generated in the embedded clauses, whereby it moves to the matrix clauses if the embedding environment blocks the Qu operator. Meanwhile, the wh-words are also associated with two different values, [-wh] and [+wh]. Therefore, a question will be generated with the combination of [+Qu] and [+wh], [-Qu] and [+wh] yield

[4] Please note that the use of the term *presuppose* does not relate to presuppositional predicates.

exclamatory sentences, [+Qu] and [-wh] yield yes/no questions, and [-Qu] and [-wh] yield declarative sentences.

Empirically, the rogative predicates license the Qu feature down to the C of their complement clauses, by which the embedded wh-word checks the Qu feature, yielding an interrogative complement clause. On the contrary, some verbs overlap in licensing either interrogative or non-interrogative readings to the embedded wh-words, while some block the non-interrogative reading and the existence of the embedded wh-word. It is not a welcome approach to connect the non-interrogative readings to embedded questions despite the presence of wh-words. From this position, this approach still leaves the question open as to why the embedded wh-words behave differently depending on the embedding predicates and how the problem can be addressed uniformly without appealing to a subcategorization frame that appears redundant.

Within the Minimalist architecture, the mapping of the wh-words to the interrogative reading can be understood as an agreement, namely, the complementizer has an interpretable Qu feature (iQ feature) and an uninterpretable wh-feature (uwh-feature), and the wh-phrase has an interpretable wh-feature (iwh) and an uninterpretable Qu feature (uQ) (Citko, 2014: 19-20). In the Minimalist fashion, uninterpretable features should be removed and evaluated prior to the LF, and interpretable features are handed over to the LF (Richards, 2007: 566). Overall, the interrelation of the Qu with wh does not account for the non-interrogative reading of the wh-words embedded under verbs such as *unut- (forget)*, *hayal et- (imagine)*, and *bil- (know)*.

To summarize, the mismatch originates from the inadequacy of the traditional syntactic approach to the attitudes of the embedding predicates towards embedded wh-words. This syntactic-semantic mismatch can be ameliorated by adding the consideration of whether the embedded wh-words need to denote a set of answers to the verb subcategorization frame. In § 2.2, I will show the evidence that the embedding predicates play a significant role in determining the non-interrogative reading for the embedded wh-words or not.

### 2.2 Wh-words in different embedding contexts

In this section, I will implement the treatment of wh-words as variables and develop the argument that the interpretations of wh-words are affected by the embedding predicates in terms of whether they demand the embedded wh-words to denote a set of possible answers as genuine interrogative wh-words do. Benefitting from the exhaustive study of the variable feature of wh-words, we now reach a consensus that wh-words do not primarily serve the interrogative mood. The same interrogative complement clauses are possible to acquire different LFs in terms of the interpretations of the embedded wh-words as a result of the embedding predicates.

Incidentally, the verb subcategorization provided by Huang (1982a) is borne out by English and Mandarin evidence with respect to the syntactic approach to wh-movement. However, the mismatch of the syntactic and semantic approaches to the different interpretations of the embedded wh-words remains puzzling. Besides, the same verb subcategorization frame does not apply to Turkish. Technically, the parametric discrepancies in the subcategorization models for different languages are nonetheless acceptable to the extent that the irregularity does not refute the universality. Turkish rogative verbs may be exceptions when compared to English and Mandarin rogative predicates that preclude the movement of the embedded wh-words either in the LF or the PF.

On the other hand, the slight parametrization marginally pushes forward a comparison of the interrogative interpretations with the non-interrogative interpretation of the embedded wh-words. In English and Mandarin, the wh-words embedded under rogative predicates are consistently interrogative but narrow-scoped. In Turkish, the wh-words embedded under rogative predicates can move to the matrix clauses in the LF, and they remain interrogative. Comparatively, the wh-words embedded under verbs such as *bil- (know)*, *hayal et- (imagine)* and *unut- (forget)* receive a narrow scope and the non-interrogative reading when the movement is blocked in the LF, but they can be assigned a wide scope and the interrogative reading when they move to the matrix clauses in the LF. Interestingly, verbs such as *san- (assume)* and *zannet- (suppose)* are limited to assigning a wide scope and the interrogative reading to the embedded wh-words. Apart from the reality that Turkish rogative predicates allow wh-movement in the LF, what feature makes different types of predicates differ by whether they license the non-interrogative interpretation to the embedded wh-words or not?

In the preceding sections, it has been noted that it is not on the right track to maintain the distinction based on the factive and non-factive features of verbs to account for this phenomenon. It is also certain that verbs are not arbitrarily associated with wh-features when taking tensed complement clauses that are manifested by *-DIk* and *-AcAk* constructions in Turkish. Moreover, they systematically select wh-complement clauses. Take *söyle- (tell)* for instance; the verb *tell* is a dual mood governor, which means that it is compatible with both tensed complement clauses (see 8a) and subjunctive complement clauses (see 8b) (Cornilescu, 2003: 172; Ma, 2025: 96). Thus, as an inference from the underlying information in the utterances connected to the embedding predicates, there must be a corresponding feature associated with these verbs that facilitate the assignment of the non-interrogative reading to the embedded wh-words.

In (8a), *söyle-* takes a tensed complement clause containing a wh-word, and the wh-word yields ambiguous interpretations. Based on the non-interrogative reading of (8a), the speaker's knowledge that Ali has said he would work with someone serves as an affective context so that the embedded wh-word refers to an existential/indefinite expression. In other

words, the underlying context rules out the interrogative reading of the wh-word, and the embedded clause is no longer a set of propositions, and the embedded wh-word is, in the same fashion, no longer a set of possible answers.

(8) a. Ali *pro* kim ile çalış-acağ-ı-nı söyle-di./?
Ali who with work-ACAK-POSS-ACC tell-PERF-3.SG.
'Ali told (us) whom he would work with.'
'Whom did Ali tell he would work with?'

b. O Ali'nin kim ile çalış-ma-sı-nı söyle-di.
He Ali-GEN who with work-MA-POSS-ACC tell-PERF-3.SG.
'Whom did he tell that Ali should work with?'

On the other hand, the interrogative interpretation of (8a) overlaps with the subjunctive counterpart of the complement clause of *söyle- (tell)*. However, this does not indicate that the tensed complement clause is paraphrased in a subjunctive scenario. In this connection, we can infer that the embedded wh-words in both the tensed complement clause and the subjunctive complement clause yield the interrogative interpretation because the same embedding predicate does not provide any affective context for the wh-word to obtain the non-interrogative reading. Please note that the analysis does not relate the interpretation to the scope of wh-words.

Incidentally, even this paper does not pay attention to conditional clauses embedding wh-words, the evidence in (9) nonetheless proves that the embedded wh-words are interpreted as interrogative or non-interrogative depending on the embedding environments. Compared to the ungrammatical interrogative translation of (9), the non-interrogative reading stems from the conditional marker *-(y)sA*. The conditional function triggers the underlying information that, as far as the speaker considers, he has decided that he would work with someone.[5]

(9) $O_i$ *pro*$_i$ kim ile çalış-tığ-ı-na karar ver-di-yse./*?
He who with work-DIK-POSS-DAT decide-PERF-COND-3.SG.
'If he decided whom he would work with.'

The verb *karar ver- (decide)* is a dual-mood governor as well. It allows the embedded wh-word in its indicative complement clause and can license either the non-interrogative or the interrogative reading. The conditional clause provides the utterance with an affective context that rules out the interrogative interpretation but allows only the non-interrogative reading as *someone* (Huang, 1982b; Lin, 1998: 219-255). Even though the contextual information may be beyond the speaker's

[5] Suppose that the conditional type is associated with the present tense or the optative mood. The embedded wh-word still receives the non-interrogative reading since the conditional context (a.k.a. affective context) implies that he will and he is expected to work with someone as far as the speaker considers (this note is owing to Oktay Çınar's feedback).

knowledge, it must be available for the utterance to be grammatically valid and meaningfully appropriate. Briefly, the non-interrogative reading is not arbitrarily assigned because of the involvement of the underlying contextual information but is dependent on the embedding predicates. In the next section, I will discuss the verbs that may license the non-interrogative interpretation to the embedded wh-words.

## 3. The embedding environments for the different interpretations of embedded wh-words

In this section, I restrict the environments to the embedding predicates instead of extending them to cover the contextual information or moods. Uegaki (2020) utilizes a mechanism of question-to-proposition reduction, which facilitates the novel treatment of interrogative complement clauses as a proposition structure and uniformly accounts for the non-interrogative readings of embedded wh-words. Specifically, Uegaki (2020) ascribes this phenomenon to the predicates providing the implication/presupposition that the embedded clause is semantically true, whereby the references of embedded wh-words have implicit indices.

### 3.1 Predicates that may not require the embedded interrogative clauses to denote a set of answers

Take (10) for instance. The interpretation of the embedded interrogative clause varies in terms of whether it marks a question or implies an answer. In the former scenario, it can be the case that nobody ever danced, whereas, under the presupposed information stemming from Ali's motivation for thinking, there might be at least one person who danced. Uegaki (2015) refers to this presupposed reference of wh-questions as an existential presupposition in interrogative complement clauses. The existential semantics is available because the embedding predicates create space for non-veridicality and uncertainty.

(10) Ali kim-in dans et-tiğ-i-ni düşün-dü?/.
Ali kim-GEN dance-DIK-POSS-ACC think-PERF-3.SG.
'Ali thought who danced.'
'Who did Ali think danced?'

The embedded wh-words may refer to only one true informative answer as a consequence of predicates of veridicality or certainty; for instance, *bil- (know)*, *belli (be certain)* (see 11) (Uegaki, 2015). In the context of (11) for the non-interrogative reading, benefitting from the predicate *belli (certain)*, the wh-word refers to a very specific entity, and it originates from the underlying background that Ali has exactly won something. The presupposed answer to the embedded wh-word is unique in (11) as a response to the embedding predicate *belli*.

(11) Ali'nin ne-yi kazan-dığ-ı belli.
Ali-GEN what-ACC win-DIK-POSS certain-PRES-3.SG.

'It is certain what Ali has won.'

Nevertheless, I do not distinguish in a detailed manner the existential presupposition from the uniqueness presupposition for embedded wh-words. The slight difference between the two non-interrogative readings will not be considered in this study. A general repercussion of this approach is that if we decompose or define interrogative clauses as a set of propositions, certain verbs may rule out the interrogative readings for their embedded interrogative clauses, and other verbs fail to yield the non-interrogative readings so that the wh-words must move and obtain the semantic interpretations from higher positions (matrix tenses, moods, etc.).

### 3.2 Predicates that assign the interrogative reading to the embedded wh-words

To begin with, two different types of verbs require the embedded wh-words to be interrogative. First, rogative predicates such as *ask*, *wonder* and *inquire* in Turkish can allow wh-movement in the LF to have the interrogative feature evaluated in the matrix clauses. Therefore, it is possible to posit that interrogative complement clauses may not incur any violation when moving the embedded wh-words to the matrix clauses in the LF in Turkish.

Second, to contrast with the embedding predicates that can license the non-interrogative reading to the embedded wh-words, technically, the embedding predicates that allow wh-movement do not reduce the questions to propositions because their complement clauses must not contain a wh-word (please remember that interrogative clauses are considered to be a set of propositions from a semantic perspective) (cf. Uegaki, 2015: 74). These verbs consistently take declarative complement clauses and preclude the presence of a wh-word in their complement clauses, e.g., *inan (believe)* and *san- (assume)*.

Intuitively, the distinction based on factivity does not account for this problem, and the cognitive and mental features lexically do not distinguish verbs like *believe* and *assume* from others that can take interrogative complement clauses. This problem represents an interaction between syntax and semantics, and the semantic feature of these verbs remains an open question for further studies in two respects: why cannot verbs like *believe* and *assume* take interrogative complement clauses, and why do verbs like *imagine*, *know* and *forget* embed non-interrogative wh-words?

## 4. Concluding Remarks

In this study, I compared the interpretation strategies of the embedded wh-operators in different embedding environments. By virtue of the finding, the applicability of the traditional verb subcategorization is questioned and is expected to be remedied. Meanwhile, regarding the

ambiguity of interpretations of the embedded wh-words, I heuristically attributed the phenomenon to the embedding predicates and discussed the problem from both syntactic and semantic perspectives.

Incidentally, this study does not intend to remedy the verb subcategorization for Turkish evidence. However, the traditional verb subcategorization designed for the syntax of the question-embedding phenomenon underpredicts the non-interrogative interpretations of the embedded wh-words compared to the interrogative readings.

The Minimalist approach does not cover the possible indefinite interpretations of the embedded wh-words. In this connection, this study tentatively implements a semantic approach to embedded wh-words to consider their interrogative and non-interrogative interpretations. Originally, the embedding environments are taken into consideration based on which readings they assign to the embedded wh-words and whether they allow wh-movement in the LF in Turkish.

As a result, three types of verbs are identified according to their licensing criterion for the embedded wh-words. Rogative verbs in Turkish consistently assign the interrogative reading to the embedded wh-words and allow the wh-movement in the LF. Verbs such as *hayal et- (imagine)*, *unut- (forget)*, *düşün- (think)* and *bil- (know)* take either the non-interrogative or the interrogative counterparts of the wh-complement clauses. By contrast, verbs such as *inan- (believe)*, *san- (assume)* and *zannet- (suppose)* overlap with subjunctive mood governors and preclude the existence of the embedded wh-words. In this study, I tentatively argue that the non-interrogative reading of the embedded wh-words results from the indefeasible underlying premises associated with the embedding verbs which pragmatically implies that the intended propositions are true.

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