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Towards a theory of scope rigidity: A case of focus sensitive question particles

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Abstract. Turkish polar questions contain a focus-sensitive clitic *=mI*. When *=mI* attaches to a DP and the clause is embedded, we observe that the matrix clause can be read as either declarative or interrogative. We argue that the reading depends on the height of the focus relative to the embedded C. To derive the matrix question reading, the focused DP covertly moves above C. Turkish is often described as scope rigid, indicating that scope shifting covert movement is generally unavailable. If our analysis is correct, covert movement is still licit in certain environments.

Keywords. scope; polar questions; embedding; focus; alternatives; Turkish

1. Introduction. In Turkish, scope-bearing elements are typically interpreted in their surface scope order (e.g. Zidani-Eroğlu 1997; Kelepir 2001). To illustrate, the only available reading of (1) is one where the universal subject takes scope over the existential object. In languages where scope shifting is observed, it can be taken to result from covert movement (e.g. May 1985). In (1), then, the unattested inverse scope reading could be derived if the object quantifier covertly moved to a scope position above the subject. To account for the absence of the inverse scope reading, such covert movement must be unavailable in Turkish.

(1) [$_{DP1}$ Bi çocuk] [$_{DP2}$ her kitab-ı] oku-du.
a kid every book-ACC read-PST.3SG
✓ SURFACE SCOPE ($\exists > \forall$): 'There was a kid who read every book.'
✗ INVERSE SCOPE ($\forall > \exists$): 'Each book was read by a (possibly different) kid.'

Data involving intervention effects offer another case where covert movement is blocked. Turkish allows *wh*-in-situ. However, (2a) is unacceptable (Kelepir 2001; Kesen et al. 2010). (2a) contains negation, and the subject is a negative concord item. The *wh*-phrase is the object, so negation and its concord item intervene between the *wh* and the clause periphery. This yields ungrammaticality (for different analyses, see Beck 2006; Demirok 2021). In (2b), the *wh*-phrase is overtly scrambled, presumably above negation. To account for the deviance of (2a), it must be that the *wh*-phrase cannot scramble covertly. Otherwise, (2a) should be acceptable, like (2b).

(2) a. * [$_{DP1}$ Hiçkimse] [$_{DP2}$ kim-le] konuş-ma-dı?
anybody who-COM talk-NEG-PST
b. [$_{DP2}$ Kim-le] [$_{DP1}$ hiçkimse] t$_{DP2}$ konuş-ma-dı?
who-COM anybody talk-NEG-PST
'Who is such that nobody talked to them at the party?'

Based on the preceding data, one is naturally led to entertain a strong hypothesis: that covert movement is simply unavailable in Turkish, at least beyond what is minimally required to gen-

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erate an interpretable LF.[1] In this paper, however, we will identify a novel ambiguity in Turkish, and motivate an analysis which does make appeal to covert movement.

Our case study will involve *focus* in an *embedded polar question*. In Turkish, polar questions contain a clitic *=mI* whose placement is sensitive to focus. When *=mI* occurs on a DP and the question is embedded, we observe that an ambiguity can arise, as previewed in (3). The two readings differ in the interpretation of the *matrix* clause. (3) can convey either a matrix declarative or a matrix question. We will pursue a view where a question meaning is derived based on focus, and where the matrix reading thus depends on the height of the focused DP. We propose that the DP can take scope at its surface position in the embedded clause, but can also covertly scramble into the matrix clause. Covert movement will yield the matrix question reading.

(3) Kemal [yarın Ali mi uyu-yacak diye] meraket-ti.
Kemal tomorrow Ali FM sleep-FUT that wonder-PST.3SG.
= 'Kemal wondered whether it is Ali who will sleep tomorrow.'
= 'Is it Ali s.t. Kemal wondered whether he will sleep tomorrow?'

The discussion will proceed as follows. In Section 2, we present background on polar questions in Turkish, together with a semantic analysis where their question meaning is driven by focus, following Atlamaz (2023). In Section 3, we turn to embedding, and provide independent evidence that the height of focus dictates the matrix reading. In Section 4, we consider data like (3), and present our analysis with covert movement. In Section 5, we offer speculation on how to reconcile our data with prior cases where covert movement is blocked. Section 6 concludes.

2. Polar questions. In Turkish, polar questions contain a clitic *=mI*, which we refer as a focus marker (FM). Although *=mI* does not generally occur as a focus marker in other environments, it is obligatory in polar questions. By default, *=mI* appears rightmost in the question, as shown in (4) (Göksel & Kerslake 2005). In this case, the polar question is no different from its English paraphrase. An interlocutor can resolve the question by answering either in the positive (e.g. with *evet* 'yes') or the negative (e.g. with *hayır* 'no'). However, *=mI* can also occur at other positions. In order to host *=mI*, a constituent must be F-marked, as signaled by prosodic stress (Kamali 2015). In (5), the subject DP is F-marked, and the resulting question has a cleft-like meaning, where the main locus of the question is the identity of who slept.

(4) Ali uyu-yacak mu?
Ali sleep-FUT FM
'Will Ali sleep?

(5) Ali_F mi uyu-yacak?
Ali FM sleep-FUT
'Is it Ali who will sleep?'

A key intuition is that a polar question with non-default placement of *=mI* can be resolved with a positive response, while a negative response must come with a follow-up specifying a replacement of the *=mI* marked constituent which would yield a true statement (Kamali 2011; Kamali & Krifka 2020; Atlamaz 2023). The negative alone is not found to be a complete answer. For instance, for (5), (6a) could completely resolve the question, while (6b) could not.

[1] If a transitive verb takes an internal argument of type e, an object quantifier would not be interpretable in situ, and would have to undergo covert Quantifier Raising to the edge of the *v*P to resolve the type-mismatch. The strong hypothesis would allow for covert movement to resolve a type-mismatch, but not otherwise. For instance, a DP would be unable to undergo covert movement merely to shift its scope. For discussion of scope rigidity in different languages, see e.g. Huang (1982), Hoji (1985), Aoun & Li (1993), among many others.

(6) a. Hayır, Mehmet (uyu-yacak).
No, Mehmet (sleep-FUT)
'No, it is Mehmet (who will sleep).

b. # Hayır, uyu-ma-yacak.
No, sleep-NEG-FUT
'No, Ali won't sleep.'

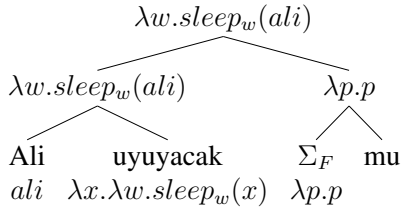
Given the effects of *=mI*, Atlamaz (2023) proposes an analysis of Turkish polar questions where their denotation is composed based on focus. In his view, polar questions always contain a narrow focus. F-marking introduces alternatives, which propagate to the C domain. As a result, the CP comes to denote, in effect, a set of propositions, i.e. a Hamblin set. The clitic *=mI* is itself vacuous, and is taken to be a morphological reflex of F-marking. We will present the analysis in enough detail to set up our discussion of embedding.

2.1. COMPOSING VIA FOCUS. For the simple polar question in (4), Atlamaz (2023), following Kamali (2011), proposes that *=mI* attaches to a covert polarity head, Σ (Laka 1990). Σ is taken to be F-marked by default, when no other focus is present. The LF is in (7).

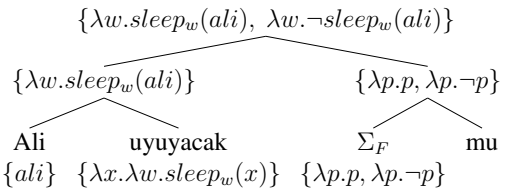
(7) **LF for (4)**
$[_{CP}\ [_{TP}$ Ali uyu-yacak Σ_F] C_Q]

In the ordinary dimension, Σ denotes the identity function, as shown in (8), where the ordinary value of the TP is derived. More importantly, in the focus dimension, F-marking triggers alternatives. As shown in (9), replacements for Σ are taken to be the identity function and a negation operator, in effect positive and negative polar meanings.[2] These compose pointwise with the proposition that Ali will sleep to produce a set of two alternative propositions: that Ali *will* sleep, and that Ali will *not* sleep.[3] That set of propositions is the focus value of the TP.

(8)



(9)



We assume that the focus alternatives in a polar question are operated on by a C head. As defined in (10), the interrogative C (C_Q) sets the ordinary value of its mother as the characteristic function for the focus value of its prejacent (based on Beck 2006; Kotek 2014, 2019). In (7), the TP has the ordinary value in (8), and the focus value in (9). C_Q over-writes the ordinary value, as in (11). The ordinary value of the CP is the characteristic function for the set of two propositions in (9), which thus becomes the Hamblin set for the question.[4]

[2] Atlamaz (2023) assumes that only positive and negative operators are alternatives to Σ. However, Rooth (1992) takes it that alternatives can be formed by replacing the focus with any meaning of the same semantic type. If Σ has a denotation of type <st,st> (as in (8)), any propositional operator would make for a licit replacement. For a discussion on how to derive just the target alternatives, see Turk & Hirsch (in press).

[3] For convenience, we take $\lambda p.\neg p$ to abbreviate $\lambda p.\lambda w.\neg p(w)$ in (9), and throughout the paper.

[4] We depart in detail from Atlamaz (2023). He maintains that both the ordinary value in (8) and focus value in (9) are preserved globally. Defining C_Q to derive the question denotation in the ordinary dimension will simplify the composition when we consider embedding. The definition of C_Q that we provide in (10) is slightly modified from that of a parallel morpheme in Kotek (2014, 2019). She takes the operator to simply shift the focus value to the ordinary value, so the final ordinary value is a set of propositions. We take C_Q to output the characteristic function for that set, again to allow for a more straightforward composition under embedding.

(10) **Defining C_Q**

a. $[\![C_Q\ \alpha]\!]^o = \lambda p_{st}\ .\ p \in [\![\alpha]\!]^f$

b. $[\![C_Q\ \alpha]\!]^f = \{\ [\![C_Q\ \alpha]\!]^o\ \}$

(11) **Predicted meaning**

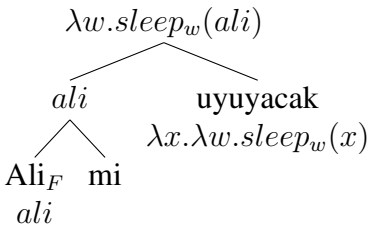
$[\![CP]\!]^o = \lambda p\ .\ p \in \{\ \lambda w.sleep_w(ali),\ \lambda w.\neg sleep_w(ali)\ \}$

When the placement of F-marking is manipulated, the question denotation changes. Consider now the LF for (5), where *=mI* attaches to the subject DP. With respect to the TP, computation on the ordinary and focus dimensions will proceed as in (13) and (14), respectively. The ordinary denotation of the TP is identical in (7) and (12), since all material within the TP is kept constant, except for the placement of F-marking. The difference in F-marking impacts the alternative set on the focus dimension. In (12), the subject is F-marked, and a set of contextually salient entities is introduced as alternatives. These propagate, as in (14). Informally, the overall focus value of the TP is a set of propositions of the form 'x will sleep', for different entities x.

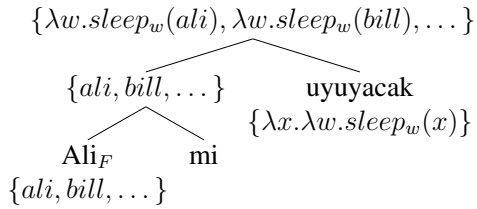
(12) **LF for (5)**

$[_{CP}\ [_{TP}\ \text{Ali}_F$ uyu-yacak $\Sigma\ ]\ C_Q\ ]$

(13)



(14)



As before, the interrogative C will over-write the ordinary value, and set as the ordinary value for the CP the characteristic function for the focus value of the TP. Hence, with F-marking on the subject, the question has as its Hamblin set a set of propositions differing in who sleeps. To resolve the question, the interlocutor must provide a true proposition from the set. They could affirm that Ali will sleep with a 'yes' response. If they deny that Ali will sleep with 'no', then they must provide a different true answer. The intuition in (6) above is, therefore, captured.

(15) **Predicted meaning**

$[\![CP]\!]^o = \lambda p\ .\ p \in \{\ \lambda w.sleep_w(ali),\ \lambda w.sleep_w(bill), \ldots\ \}$

It is useful to note the similarity between the denotation of the question in (5) and a simple *wh*-question. Consider the *wh*-question in (16), along with its LF in (17).

(16) Kim uyu-yacak?
who sleep-FUT
'Who will sleep?'

(17) **LF for (16)**

$[_{CP}\ [_{TP}$ Kim uyu-yacak $\Sigma\ ]\ C_Q\ ]$

Atlamaz takes Turkish *wh*-phrases to be analyzed like those in Japanese, based on the proposal of Kratzer & Shimoyama (2002). That is, he takes *kim* in (17) to lexically introduce alternatives. In one conception, *kim* would have no ordinary value, and have its focus value lexically specified to be a set of human entities, as in (18) (after Beck 2006, Kotek 2014, 2019). Alternatives would, then, propagate as before, and C_Q would set the overall ordinary value as in (19).

(18) **Defining *kim* ('who')**

a. $[\![\text{kim}]\!]^o$ ... *undefined*

b. $[\![\text{kim}]\!]^f = \{\ x \in D_e : human(x)(w)\ \} = \{\ ali, bill, ...\ \}$

(19) **Predicted meaning**

$[\![\text{CP}]\!]^o = \lambda p\ .\ p \in \{\ \lambda w.sleep_w(ali), \lambda w.sleep_w(bill), \dots\ \}$

The Hamblin set for (16), like that for (5), contains propositions of the form 'x will sleep', for different entities x.[5] In the way we have spelled out the analysis, the main difference between (5) and (16) is in the ordinary value of the TP. In (5), the subject is Ali, so the ordinary value is the proposition that Ali will sleep, as in (13) above. In (16), the TP has no ordinary value, since *kim* is undefined on the ordinary dimension. This difference would be detectable in the felicity of response particles. With (5), the particles 'yes' and 'no' can be anaphoric to the ordinary value of the TP, and can thus convey that Ali will or will not sleep. With (16), by contrast, 'yes' and 'no' response particles would be infelicitous, as they lack an antecedent.

To summarize, we have now presented the core data which show that Turkish polar questions involve focus-sensitivity. The analysis we pursue has the critical feature that the derivation of the question meaning is driven by focus alternatives, which propagate to a C_Q head.[6]

3. Embedding the question. Our central concern is data where a polar question is *embedded*. To start, we will consider embedding of a polar question where *=mI* appears on the clausal spine. We introduce the embedding predicate in Section 3.1, and then consider how focus patterns under embedding in Sections 3.2-3.4. This will set the stage for the next section, where we consider our main test case: embedding of a question with a DP under focus.

3.1. INTRODUCING *wonder*. Clause embedding verbs can be grouped into three different classes. Some can only embed interrogatives, some can only embed declaratives, and some can embed either one (e.g. Grimshaw 1979; Lahiri 2002; Theiler et al. 2019). We will work with the first type, known as *rogative* predicates. In particular, we will consider data with *meraket* ('wonder'), whose distribution can be detected in (20).[7] With both declarative and interrogative complements, a complementizer *diye* can occur. As discussed earlier, however, the clitic *=mI* is exclusive to polar questions, where it is obligatory. (20) is acceptable if *=mI* is present (indicating a question), but becomes ungrammatical if *=mI* is omitted (indicating a declarative).

[5] Atlamaz (2023) takes it that *kim* directly contributes on the ordinary dimension. We define *kim* as in (18), as we have assumed that pointwise composition takes place on the focus dimension. It also bears note that, in (15) and (19), we only consider answers which convey that an atomic entity will sleep. Dayal (1996) proposed that the Hamblin set for a *wh*-question like (16) would also contain answers with plural entities. For (5), Atlamaz (2023) reports that, if multiple people will sleep, the answer should specify all sleepers, which could be captured with a plural answer. At the same time, (5) would be infelicitous if it were established prior to the question that there will be multiple sleepers (see e.g. Kamali 2015). For simplicity, we will set aside plural answers here.

[6] Gonzalez (2023) proposes a composition which does not rely on alternatives to form the Hamblin set. Rather, she takes the polar C head to determine the Hamblin set independent of focus, but also to trigger a presupposition, which is focus-sensitive. All that matters for our argument is that focus interacts in *some* way with a C head as the question is composed. For concreteness, we pursue the analysis as introduced in this section.

[7] The predicate *meraket* is a light verb construction that consists of a noun *merak* ('curiosity') and the light verb *et-* ('do'). We opt to write *meraket-* as a single item in order to ease exposition. It also bears note that all data we present with *meraket-* would yield parallel intuitions with other rogative verbs, such as *sor-* ('ask').

(20) Kemal doktor Veli-yi uyu-t-acak *(mı) diye meraket-ti
Kemal doctor Veli-ACC sleep-CAUS-FUT FM that wonder-PST
Intended: 'Kemal wondered whether the doctor will put Veli to sleep.'

Although there are open issues with respect to how verbs such as *wonder* should be analyzed, most approaches share a common assumption: that rogative verbs at least optionally compose with a question denotation (e.g. Karttunen 1977; Ciardelli et al. 2015; Uegaki 2015; Theiler et al. 2019). For our purposes, we can assume the lexical entry in (21).

(21) **Defining *meraket* ('wonder')**
$[\![\text{meraket}]\!] = \lambda Q_{<st,t>} \,.\, \lambda x \,.\, \lambda w \,.\, wonder_w(x, Q)$

Consider the LF in (22) for (20). As in the matrix data, focus on Σ would result in polarity alternatives on the focus dimension. To derive a question meaning on the ordinary dimension to be input to *wonder*, a C_Q head must occur in the embedded clause. We assume that *diye* in (20) can be an exponent of C_Q in embedded environments. As in (23a), C_Q yields the characteristic function for the Hamblin set with answers that the doctor will and will not put Veli to sleep. As defined in (21), *meraket* can apply to that question denotation. The sentence as a whole would express that Kemal stands in the wonder relation to the embedded question, as in (23b).

(22) **LF for (20)**
$[_{CP_2}\ [_{TP_2}$ Kemal $[_{CP_1}\ [_{TP_1}$ doktor Veli-yi uyu-t-acak Σ_F] $\boxed{C_Q}$] meraket-ti] C]

(23) **Predicted meaning**
a. $[\![\text{CP}_1]\!]^o = \lambda p \,.\, p \in \{\, \lambda w.put.sleep_w(doc, veli), \lambda w.\neg put.sleep_w(doc, veli) \,\}$
b. $[\![\text{CP}_2]\!]^o = \lambda w.wonder_w(kemal, [\![\text{CP}_1]\!]^o)$

So far, the data appear quite straightforward. As we will see, however, there is another layer to the empirical picture, which will lead up to our core argument. With embedding, *=mI* can occur at different positions, and that interacts with how the *matrix* clause is interpreted.

3.2. THE KEY ALTERNATION. In (20) above, when *=mI* is present, it occurs to the *left* of the overt C head, *diye*. That example is repeated as (24a). But, there is also another variant. In (24b), *=mI* appears to the *right* of *diye* instead. This manipulation has a striking consequence. In (24a), the sentence is a declarative with an embedded question. In (24b), however, the *matrix* clause is read as a polar question, and the embedded clause is still read as a polar question, as well. Hence, the two examples minimally differ in the interpretation of the matrix clause: (24a) is a matrix declarative, and (24b) is a matrix interrogative.

(24) a. Kemal [doktor Veli-yi uyu-t-acak mı diye] meraket-ti.
Kemal doctor Veli-ACC sleep-CAUS-FUT FM that wonder-PST
'Kemal wondered whether the doctor will put Veli to sleep.'
*'Is it whether the doctor will put Veli to sleep that Kemal wondered?'

b. Kemal [doktor Veli-yi uyu-t-acak diye] mi meraket-ti?
Kemal doctor Veli-ACC sleep-CAUS-FUT that FM wonder-PST
'Is it whether the doctor will put Veli to sleep that Kemal wondered?'
*'Kemal wondered whether the doctor will put Veli to sleep.'

We suggest that the reading of the matrix clause reflects the height of focus relative to the embedded C head. As discussed, *=mI* is a morphological reflex of F-marking. We will propose, though, that *=mI* need not attach to *every* focus. Rather, a single *=mI* can appear, attached to the *highest* F-marked constituent in the scope of any C_Q. In (24a), *=mI* is under *diye*, so the highest F-mark is in the embedded clause. By contrast, in (24b), *=mI* is above *diye*, so there is an F-mark higher than the embedded C. If focus drives question composition and focus alternatives propagate only to the most local C_Q head, it will follow that the matrix clause is declarative in (24a), but interrogative in (24b). In the remainder of this section, we will present in detail our account of the contrast in (24). On that basis, we will be able to use the reading of the matrix clause as a diagnostic for the possible scope sites for a focused DP, which is our aim in the next section.

3.3. STEP 1: HIGH FOCUS = MATRIX QUESTION. To start, we will look closely at the new case in (24b), where the matrix clause is read as a question. To re-iterate, there are *two* questions in (24b), one nested within the other. Since *wonder* obligatorily applies to a question, the embedded clause must denote a question. In addition, the matrix clause denotes a question, too. We have seen evidence that focus drives question computation, and that *=mI* is a reflex of F-marking in polar questions. In (24b), however, there is just *one* overt *=mI*. To make sense of (24b), we need to consider: how can there be *two* questions, but just *one =mI* clitic?

As previewed, we suggest that *=mI* can attach just to the *highest* F-marked constituent that is the associate of any C_Q.[8] We posit the LF in (25) for (24b). (25) contains *two* foci. One is the embedded Σ head, and that is the associate of the embedded C_Q, realized as *diye*. The other is above *diye*, and is the associate of a covert matrix C_Q. In (25), we take it that the higher focus occurs on the embedded question CP itself. If *=mI* tracks the highest F-mark, it will attach to the embedded CP, and surface above *diye*, as observed.

(25) **LF for (24b)**

$[_{CP_2}\ [_{TP_2}$ Kemal $[_{CP_1}\ [_{TP_1}$ doktor Veli-yi uyu-t-acak Σ_F] $\boxed{C_Q}$ $]_F$ meraket-ti] $\boxed{C_Q}$]

With the LF in place, we consider first the lower focus, on Σ. As before, that introduces polarity alternatives, which propagate up to the local C_Q, and that forms a Hamblin denotation for the embedded question on the ordinary dimension. The embedded CP denotes the polar question whose answers are that the doctor will and will not put Veli to sleep, as in (26).

(26) **Interpreting CP_1**

$[\![CP_1]\!]^o = \lambda p\ .\ p \in \{\ \lambda w.put.sleep_w(doc, veli),\ \lambda w.\neg put.sleep_w(doc, veli)\ \}$

In the matrix clause, the higher F-mark plays a crucial role in the computation. Composition on the ordinary dimension up to the TP would yield (27). *meraket* composes with the embedded question and then the subject to result in the proposition that Kemal stands in the wonder relation to the embedded question. (27) would be declarative. Ultimately, however, (27) comes to be overridden, once the higher focus is taken into account.

[8] A reviewer notes that they would also accept a variant of the sentence with two tokens of *=mI*, one to the left of *diye* and one to the right (*Kemal doktor Veliyi uyuttu mu diye mi meraketti?*). This would yield a matrix question reading, like that in (24b). The reviewer finds that repetition of *=mI* is more natural when the two tokens are separated by a greater distance. While there is variation among speakers, a speaker who accepts iteration of *=mI* would allow for *=mI* to attach to *every* associate of C_Q as an available option. The acceptability of two *=mI*'s for some speakers supports our proposal that two foci are at play in the matrix question reading.

(27) **Matrix TP (ordinary)**

$[\![\text{TP}]\!]^o \;=\; \lambda w.wonder_w(kemal, [\![\text{CP}_1]\!]^o)$

Because the embedded question is F-marked, alternatives are derived on the focus dimension which vary in the semantic value of the embedded question. To illustrate, we will focus our attention just on possible polar questions. The alternatives introduced at the site of the F-mark would, then, be as shown in (28). The sample questions provided in (28a)-(28c) are *Will the doctor put Veli to sleep?*, *Will the doctor feed Veli?*, and *Will Ali sleep?*, respectively. These alternatives would propagate on the focus dimension as the matrix clause is computed, so the focus value of the full TP would be as in (29). Informally speaking, the focus value is a set of propositions of the form 'Kemal wonders Q' for different questions, Q, drawn from the set in (28).

(28) **Focus value at CP_1**

$[\![\text{CP}_1]\!]^f = \{\, Q : Q \in D_{<st,t>} \,\}$

a. $= \{\, \lambda p \,.\, p \;\in\; \{\, \lambda w.put.sleep_w(doc, veli),\; \lambda w.\neg\, put.sleep_w(doc, veli) \,\},$

b. $\lambda p \,.\, p \;\in\; \{\, \lambda w.feed_w(doc, veli),\; \lambda w.\neg\, feed_w(doc, veli) \,\},$

c. $\lambda p \,.\, p \;\in\; \{\, \lambda w.sleep_w(ali),\; \lambda w.\neg\, sleep_w(ali) \,\}, \ldots \;\}$

(29) **Matrix TP (focus)**

$[\![\text{TP}_2]\!]^f \;=\; \{\, \lambda w \,.\, wonder_w(kemal, Q) \;:\; Q \;\in\; [\![\text{CP}_1]\!]^f \,\}$

a. $= \{\, \lambda w \,.\, wonder_w(kemal, (28a)),$

b. $\lambda w \,.\, wonder_w(kemal, (28b)),$

c. $\lambda w \,.\, wonder_w(kemal, (28c)), \ldots \,\}$

At the final step, the matrix C_Q uses the focus value in (29) to create a Hamblin denotation, as in (30), capturing the matrix question reading. As seen earlier, non-default F-marking delivers a global semantic value like that of a *wh*-question. In this case, an analogous *wh*-question would be: *What did Kemal wonder?* The ordinary value of the TP in (27) plays a role in the anaphoric potential of response particles. The question in (24b) could be answered with 'yes' to convey that (27) does hold, i.e. that Kemal did wonder whether or not the doctor will put Veli to sleep. A 'no' response would convey that Kemal did not wonder that, and a different answer should be given. As an approximate paraphrase of the question, we can provide the cleft: 'Is it whether or not the doctor will put Veli to sleep that Kemal wondered?'

(30) **Overall meaning (question)**

$[\![\text{CP}_2]\!]^o = \lambda p \,.\, p \in [\![\text{TP}_2]\!]^f$

In summary, what is most important for our purposes is the proposal that the LF for (24b) contains a high F-mark above the embedded C, and that the presence of this F-mark bears a direct relationship to there being a matrix question reading.

3.4. STEP 2: LOW FOCUS = MATRIX DECLARATIVE. To make clear that a high F-mark is needed to derive a matrix question reading, we return to (24a), where *=mI* appears beneath *diye*. If a single *=mI* tracks the highest F-mark, F-marking would be confined to the embedded clause

in this case — and, as we saw, the matrix is read as declarative. The LF presented in (22) is repeated in (31). (24a) can be parsed with just the embedded Σ focused. The embedded C_Q produces a question denotation on the ordinary dimension, as in (32a), and *wonder* composes with that and the subject to yield the familiar ordinary value in (32b): the simple proposition that Kemal wondered whether or not the doctor will put Veli to sleep. Assuming that the matrix C is vacuous in this case, (32b) would be preserved as the ordinary value of the CP as a whole.

(31) **LF for (24a) (= (22))**

$[_{CP_2}$ $[_{TP_2}$ Kemal $[_{CP_1}$ $[_{TP_1}$ doktor Veli-yi uyu-t-acak Σ_F] $\boxed{C_Q}$] meraket-ti] C]

(32) **Overall meaning (declarative)**

a. $[\![\text{CP}_1]\!]^o = \lambda p\,.\,p \in \{\, \lambda w.put.sleep_w(doc, veli), \lambda w.\neg put.sleep_w(doc, veli) \,\}$

b. $[\![\text{TP}_2]\!]^o = \lambda w.wonder_w(kemal, [\![\text{CP}_1]\!]^o) = [\![\text{CP}_2]\!]^o$

It is crucial to emphasize that, as defined earlier in (10), C_Q operates on any alternatives in its scope, and re-sets the focus value. As such, alternatives introduced in the embedded clause are no longer visible in the matrix. Moreover, in (31), there is no higher focus to trigger new alternatives in the matrix clause. For these reasons, a matrix declarative reading is derived. The matrix is predicted to be interrogative if — and *only* if — there is a focus *above* the embedded C_Q.

3.5. INTERIM SUMMARY. When *=mI* appears on the clausal spine, its placement relative to the embedded C controls the matrix reading. A high *=mI* yields a matrix question, and a low *=mI* yields a matrix declarative. These data follow for free if focus drives question composition, and alternatives propagate only to the most local C_Q. With a rogative predicate, the embedded clause must contain a C_Q. So, a matrix question relies on a high F-mark to trigger alternatives at the matrix level. If the data so far are properly treated, the matrix reading can offer a diagnostic for the scope of the highest F-mark relative to the embedded C_Q.

4. The ambiguity. We will now turn to data where focus occurs on a DP. The ingredients are in place for us to make a case that covert scrambling can take place in Turkish. As a starting point, we spell out the line of reasoning that we will follow. Consider the schema in (33). In this case, *=mI* attaches to the DP *Veli*, indicating that this DP is the highest focus. If the DP remains in the embedded clause, as in (33a), alternatives would be introduced beneath the embedded C_Q, and propagate only to that level, yielding a matrix declarative reading. On the other hand, if *Veli* were able to scramble into the matrix clause, as in (33b), then the highest focus would be *above* the embedded C_Q, and its alternatives would propagate to the matrix level, yielding a global question. The matrix reading would track the scope of the focused DP.

(33) a. Kemal wonder [diye [doctor $\boxed{\text{Veli}_{\text{ACC}}\text{=}mI}$ sleep-CAUS-FUT]]

b. $\boxed{\text{Veli}_{\text{ACC}}\text{=}mI}_1$ Kemal wonder [diye [doctor t_1 sleep-CAUS-FUT]]

Crucially, since *Veli* surfaces in the embedded clause, the prediction depends on whether *covert* scrambling can occur in this configuration. If covert scrambling is unavailable, only a matrix declarative reading should be observed. However, if covert scrambling *is* available, the DP could move into the matrix, and yield a global question reading. Such scrambling, if possible, would be optional, so ambiguity between declarative and question readings should result. As we will see, a question reading is possible, so scrambling is supported in our view. We will present the data and analysis in Section 4.1, and identify further predictions in Section 4.2.

4.1. A CASE FOR COVERT SCRAMBLING. The test example is (34), where *=mI* attaches to the DP *Veli* in the embedded clause. To start, we observe that a matrix declarative reading is available. The sentence in (34) is grammatical, and can convey that Kemal stands in the wonder relation to a question whose main locus of interrogation is the identity of the person who the doctor will put to sleep. As discussed, the matrix declarative reading is predicted if the focused DP is in situ in the embedded clause. We propose the full LF in (35).

(34) Kemal [doktor Veli-yi mi uyu-t-acak diye] meraket-ti.
Kemal [doctor Veli-ACC FM sleep-CAUS-FUT that] wonder-PST
✓ 'Kemal wondered whether it is Veli who the doctor will put to sleep.'

(35) **LF for (34) (declarative)**
$[_{CP_2}\ [_{TP_2}$ Kemal $[_{CP_1}\ [_{TP_1}$ doktor Veli-yi$_F$ uyu-t-acak Σ] $\boxed{\text{C}_Q}$] meraket-ti] C]

As in the matrix data provided in Section 2, focus on the DP would introduce as alternatives other entities that are salient in the context. In (35), these would propagate up to the local C_Q head within CP_1. As shown in (36a), CP_1 would denote the characteristic function for a set of possible answers of the form 'the doctor will put x to sleep', for different entities x. The rogative verb would then apply to that question. The full LF, in turn, would yield a declarative meaning, the proposition that Kemal stands in the wonder relation to the question, as in (36b).

(36) **Predicted meaning**
a. $[\![\text{CP}_1]\!]^o = \lambda p\,.\,p \in \{\, \lambda w.put.sleep_w(doc, veli), \lambda w.put.sleep_w(doc, ali), \ldots \}$
b. $[\![\text{CP}_2]\!]^o = \lambda w.wonder_w(kemal, [\![\text{CP}_1]\!]^o)$

Now, we reach our central point of concern: does the sentence *also* have a matrix question reading? In fact, the sentence *can* be read as a matrix question. The sentence is repeated in (37) with that paraphrase. In our analysis, the matrix question reading is expected only if the DP can covertly scramble.[9] A possible LF is (38), where the DP scrambles just outside the embedded clause (cf. Kratzer 2005). Since the DP is above the embedded C_Q, its alternatives will propagate to the matrix level. On the reading in (37), the embedded clause must also denote a question to be input to the rogative predicate. We take it that this question is driven by an F-mark on the embedded Σ head, which is not marked by *=mI*.[10]

[9] One might wonder whether the focused DP (*Veliyi*) is *overtly* scrambled into the matrix clause. Yet, there is reason to doubt that analysis. In (37), the focused DP surfaces to the right of the embedded subject (*doktor*). If scrambling were overt, it would have to be that both DPs have scrambled. In general, however, it seems difficult to scramble both DPs together. (i) is a baseline. In (i), a temporal adverb is introduced, which can be interpreted with the matrix past tense. The two DPs move above the adverb, and the result is degraded on such a reading. In all cases where we observe a matrix question reading, the reading obtains even when the focused DP occurs to the right of another element within the embedded clause, which would not readily scramble overtly with the DP.

(i) ?? Kemal doktor$_1$ Veli-yi$_2$ mi dün [t$_1$ t$_2$ uyu-t-acak diye] meraket-ti.
Kemal doctor Veli-ACC FM yesterday [t$_1$ t$_2$ sleep-CAUS-FUT diye] wonder-PST
'Is it Veli$_F$ s.t. Kemal wondered yesterday whether the doctor will put him to sleep?'

[10] We take it, recall, that *=mI* tracks the highest F-mark in the scope of a C_Q. Looking at the surface form in (37), Σ appears to be above the DP *Veli*. We might, then, expect that *=mI* should attach to Σ. The data can be explained if covert movement takes place in the narrow syntax and involves pronunciation of a lower copy at PF (e.g. Fox & Nissenbaum 1999). In the structure input to PF, the highest copy of the DP would be above Σ. We suggest that *=mI* would attach to the DP on that basis, even though the pronounced copy itself is lower than Σ.

(37) Kemal [doktor Veli-yi mi uyu-t-acak diye] meraket-ti?
Kemal [doctor Veli-ACC FM sleep-CAUS-FUT that] wonder-PST
✓ 'Is it Veli s.t. Kemal wondered whether the doctor will put him to sleep?'

(38) **LF for (37) (question)**
$[_{CP_2}\ [_{TP_2}$ Kemal $[_{XP}$ Veliyi$_{F,1}$ $[_{CP_1}\ [_{TP_1}$ doktor t_1 uyu-t-acak Σ_F] $\boxed{\text{C}_Q}$]] meraket-ti] $\boxed{\text{C}_Q}$]

Concretely, the embedded CP would have the ordinary denotation in (39). Polarity alternatives to Σ are used by the local C_Q to form a Hamblin denotation. The CP denotes a polar question whose answers are similar to our previous polar questions with F-marked Σ. The main difference from the previous such cases is that there is the trace of the scrambled object DP within the embedded CP. The trace is bound by *Veli* from just above the CP. So, the ordinary value of the matrix TP would ultimately be as in (40), amounting to the proposition that Kemal wondered the question with answers that the doctor will and will not put Veli to sleep.

(39) **Interpreting CP$_1$**
$[\![\text{CP}_1]\!]^{o,g} = \lambda p\ .\ p \in \{\ \lambda w.put.sleep_w(doc, g(1)),\ \lambda w.\neg put.sleep_w(doc, g(1))\ \}$

(40) **Matrix TP (ordinary)**
$[\![\text{TP}_2]\!]^o\ =\ \lambda w.wonder_w(kemal,\ [\ \lambda x.[\![\text{CP}_1]\!]^{o,g[1\to x]}\ ](veli))$

On the focus dimension, alternatives to the scrambled DP are introduced in the matrix clause. We take it that each alternative entity would pointwise bind the object trace, resulting in the alternatives in (41) at the constituent labeled as XP, just above the landing site of the DP. (41) is a set of polar questions, where the object is varied. The questions in (41a)-(41c) are *Will the doctor put Veli to sleep?*, *Will the doctor put Ali to sleep?*, and *Will the doctor put Bill to sleep?*. These alternatives would propagate up to the TP, as shown in (42). (42) is a set of proposition, each saying that Kemal stands in the wonder relation to a different question in (41).

(41) **Matrix XP (focus)**
$[\![\text{XP}]\!]^f = \{\ \lambda p\ .\ p\ \in\ \{\ \lambda w.put.sleep_w(doc, x),\ \lambda w.\neg\, put.sleep_w(doc, x)\ \} : x \in D_e\ \}$
a. $= \{\ \lambda p\ .\ p\ \in\ \{\ \lambda w.put.sleep_w(doc, veli),\ \lambda w.\neg\, put.sleep_w(doc, veli)\ \},$
b. $\lambda p\ .\ p\ \in\ \{\ \lambda w.put.sleep_w(doc, ali),\ \lambda w.\neg\, put.sleep_w(doc, ali)\ \},$
c. $\lambda p\ .\ p\ \in\ \{\lambda w.put.sleep_w(doc, bill),\ \lambda w.\neg\, put.sleep_w(doc, bill)\ \},$ ... }

(42) **Matrix TP (focus)**
$[\![\text{TP}_2]\!]^f\ =\ \{\ \lambda w\ .\ wonder_w(kemal, Q)\ :\ Q\ \in\ [\![\text{XP}]\!]^f\ \}$
a. $= \{\ \lambda w\ .\ wonder_w(kemal, (41a)),$
b. $\lambda w\ .\ wonder_w(kemal, (41b)),$
c. $\lambda w\ .\ wonder_w(kemal, (41c)),$ ... }

At the last step, the matrix C$_Q$ would over-write the earlier ordinary value in (40) with a Hamblin denotation, constructed based on the focus alternatives in (42), as in (43). The overall question is predicted to admit a 'yes' response, which would be anaphoric to (40), and therefore, would convey that Kemal did wonder whether the doctor will put Veli to sleep. It could also be answered

with a 'no' response, together with the claim that, for another entity, Kemal wondered the same about them. The question can be approximately paraphrased: 'Is it Veli such that Kemal wondered whether the doctor will put him to sleep?', as given in (37) above.[11]

(43) **Overall meaning (question)**

$[\![\text{CP}_2]\!]^o = \lambda p \,.\, p \in [\![\text{TP}_2]\!]^f$

Hence, we have observed that ambiguity arises under embedding when *=mI* occurs on an F-marked DP, and shown that the matrix question reading follows if the DP can covertly scramble into the matrix clause. Further data bear out predictions of the movement analysis.

4.2. PREDICTIONS. A first prediction is that *overt* scrambling of the DP into the matrix clause should lead to disambiguation in favor of a matrix question reading. Consider (44). On the readings paraphrased under (44), the temporal adverb specifies the past time of Kemal's wondering, and thus attaches in the matrix clause.[12] The focused DP is overtly scrambled over the adverb, so it too is in the matrix clause. Strikingly, only the matrix question reading is attested.

(44) Kemal [Veli mi]$_1$ dün [t$_1$ uyu-yacak diye] meraket-ti?
Kemal Veli FM yesterday t$_1$ sleep-FUT that wonder-PST
= 'Is it Veli s.t. yesterday Kemal wondered whether he will sleep?'
≠ 'Yesterday, Kemal wondered whether it is Veli who will sleep.'

Second, covert scrambling should have a further detectable consequence: scrambling should obviate certain configurations that would be illicit in Turkish. In general, a *wh*-phrase and the *=mI* clitic cannot occur in the same clause, as shown in (45a). However, when (45a) is embedded, as in (45b), the result is acceptable. The interpretation gives us a clue as to why. (45b) cannot be read as a matrix declarative, but only as a matrix polar question. To derive the attested paraphrase, the focused DP would covertly move into the matrix clause in our analysis. Since clause-mate co-occurrence of the *wh*-phrase and *=mI* is prohibited, covert scrambling should be required in this case, accounting for why the matrix question reading is obligatory.[13]

[11] A reviewer asks whether covert movement could be avoided if focus alternatives were able to be visible past the local C_Q. Suppose, for instance, that focus operators could associate with individual indexed foci from any height. If so, an LF for (37) might be as in (i), where the higher C_Q associates with the DP, which remains in an embedded position (cf. Alsop & Champollion 2019 on *wh*-DPs). One issue would be to explain how it is that *=mI* surfaces with the DP, if the DP does not move higher than Σ. In addition, as discussed in Section 3, the distribution of a matrix question reading when *=mI* appears on the clausal spine is directly predicted if alternatives cannot escape their local C_Q. We leave it to the future to spell out a composition for (i), and to consider how constraints on the matrix reading might be captured in a system which allows for non-local focus association.

(i) $[_{CP}\ [_{TP}$ Kemal $[_{CP}\ [_{TP}$ doktor Veli-yi$_{F_2}$ uyu-t-acak Σ_{F_1}] C_{Q_1}] meraket-ti] C_{Q_2}]

[12] There may also be available readings of (44) where the temporal adverb *dün* ('yesterday') is interpreted in the embedded clause, resulting in a future of the past reading. That is, Kemal's wondering would take place before yesterday, and the time of sleeping would be yesterday. We set aside such readings.

[13] In principle, the co-occurrence problem could also be avoided by covertly scrambling the *wh*-phrase into the matrix. Yet, that is not available. (45b) cannot say: 'Who is s.t. Kemal wondered whether it is the doctor that will put them to sleep?' In (45b), the effect could be due to a superiority constraint requiring the higher DP to move. Yet, as we discuss in Section 5, even when the focused DP is *below* the *wh*, at least some speakers accept the sentence, and the focused DP is still the one to scramble. We leave open why the focus is preferentially moved.

(45) a. * Doktor mu kim-i uyu-t-acak?
doctor FM who-ACC sleep-CAUS-FUT
Intended: 'Who is such that it is the doctor who will put them to sleep?'

b. Kemal [yarın doktor mu kim-i uyu-t-acak diye] meraket-ti?
Kemal [tomorrow doctor FM who-ACC sleep-CAUS-FUT that] wonder-PST
= 'Is it the doctor s.t. Kemal wondered whom they will put to sleep tmrw?'
≠ 'Kemal wondered who is s.t. it is the doctor who will put them to sleep tmrw.'

We also predict that the matrix ambiguity should not be available when the focused element *cannot* move. We previously showed that when *=mI* attaches to the low polarity head Σ, the only reading is a global declarative (see Section 3.4). That bears out the prediction, assuming that covert head movement of Σ is unavailable. Another test case comes in (46). Kamali (2015) notes that the *=mI* clitic can target TAM markers, as in (46a). Focus on TAM can be ensured by producing stress on the future tense morpheme. As with the polarity head, when the question with the focused TAM marker is embedded, ambiguity is not attested. (46b) must be read as a declarative. In general, it may be that covert movement is limited to phrasal constituents, so only phrasal elements targeted by *=mI* can move into the matrix to yield a matrix question.

(46) a. Doktor Veli-yi uyu-t-[ACAK]$_F$ mı?
doktor Veli-ACC sleep-CAUS-FUT FM
'Will, as opposed to did, the doctor put Veli to sleep?'

b. Kemal [doktor Veli-yi uyu-t-[ACAK]$_F$ mı diye] meraket-ti.
Kemal [doktor Veli-ACC sleep-CAUS-FUT FM that] wonder-PST
= 'Kemal wondered whether Ali will, vs. did, put Veli to sleep.'
≠ 'Is it will, vs. did, s.t. Kemal wondered whether the doctor put Veli to sleep?'

4.3. TAKING STOCK. In this section, we have considered data in which a question containing an F-marked DP is embedded, and proposed that the DP is still able to take scope in the matrix clause. If this is correct, we have in place a novel case where covert movement is eligible to occur in Turkish. To conclude the paper, we will begin to explore implications of these data for how to formulate a general constraint on covert movement in Turkish.

5. Implications. As discussed at the outset of the paper, Turkish in general patterns as scope rigid. In Section 1, we saw two cases where covert movement is blocked. In the first, an object quantifier could not covertly move above a subject quantifier (see (1)). The second involved an object *wh*-phrase, which could not covertly move over negation (see (2)). (2) also contained a subject negative concord item. Assuming that negation is high in the structure, the subject would be beneath it. So, it may be that the object could not even move across the subject, like in (1). We, however, have proposed that a focused DP *can* covertly move across a C_Q head. If so, constraints must block covert movement in (1) and (2)—but still allow it in our case.

A first idea might be to prohibit one DP from covertly moving across another DP. Our core case is repeated in (47). The crucial movement step to yield the matrix question reading has the focused DP (*Veli*) move over C (*diye*), which would be allowed. Yet, it seems that the DP can also cross another DP along its path. Assuming the focused DP is the only constituent to move (see Fn. 9), that DP would covertly scramble across the embedded subject, as well as C.

(47) Kemal [doktor Veli-yi mi uyu-t-acak diye] meraket-ti?
Kemal [doctor Veli-ACC FM sleep-CAUS-FUT that] wonder-PST
Available: 'Is it Veli s.t. Kemal wondered whether the doctor will put him to sleep?'

A further illustration comes in (48). The embedded clause contains both a *wh*-DP and a focused DP, like in (45b). Crucially, here, the focused DP originates lower than the *wh*. While judgments vary, a number of speakers find (48) to be acceptable, and converge in taking (48) to express a matrix polar question, with a *wh*-question embedded. To yield that reading, the focused DP must covertly scramble into the matrix clause, while the *wh*-phrase remains in the embedded clause. The focused DP must, therefore, move across the *wh*-DP.

(48) % Kemal [kim Veli-yi mi uyu-t-acak] diye meraket-ti?
Kemal [who Veli-ACC FM sleep-CAUS-FUT] that wonder-PST
'Is it Veli s.t. Kemal wondered who will put him to sleep?'

The principles governing covert movement must be more nuanced. One possibility is that only certain DPs are unable to cross another DP via covert movement. The constraint could target quantificational DPs and *wh*-phrases, while focused DPs can be exempt.[14] Another possibility is that all DPs are generally unable to cross, but that the restriction can be lifted when the DP also moves across a C head, with semantic consequences to that scope reversal. We leave it open to determine the correct generalization, and why it holds.[15]

6. Conclusion. We have identified a novel ambiguity in Turkish. When the focus-sensitive clitic *=mI* attaches to a DP within an embedded polar question, the sentence can be interpreted either as a matrix declarative or as a matrix interrogative. We suggested that the latter interpretation arises if the focused DP undergoes covert scrambling above the embedded C_Q head. If our analysis is correct, it has the consequence that covert movement must be an available option in Turkish, at least in certain configurations involving focus interpretation. The precise constraints which regulate covert movement remain to be better understood in future work.

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[14] Demirok (2021) adopts a constraint where one scope-bearing quantifier cannot covertly move across another. He takes it that *wh*-phrases denote an existential quantifier, so are subject to the constraint. In Section 2, we discussed an analysis where *wh*-phrases introduce alternatives, similar to a focused DP. If so, they would not be quantificational, and so this constraint may be unable to block scrambling of the *wh*-phrase in (2).

[15] It is important to note that there may, in fact, be variation among speakers in the constraints on covert movement. This is suggested by the mixed judgments for (48). In addition, while the matrix question reading of our core case in (47) is accepted by most of the speakers we consulted, several found the reading difficult or unavailable. Speaker variation in available scope readings is also discussed in Öztürk (2006).

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