VERB MOVEMENT AND FEATURE PERCOLATION:
EVIDENCE FROM TURKISH

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Verb Movement and Feature Percolation: Evidence From Turkish

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ABSTRACT

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This study discusses verb movement in Turkish in terms of its morphosyntactic and syntactic implications. The Turkish data suggest that the morphological selectional (i.e. m-selection) properties of the functional categories necessitate the head-movement of the lexical verb to the functional domain; that is, the functional categories in Turkish need to satisfy their m-selectional properties through the lexical verb or the verbal complex but when the lexical verb/verbal complex comes short of satisfying these constraints due to its participle nature, a verbal form (i.e. *ol* or *i-* copula) is inserted. However, independent of m-selectional properties of functional heads, there is substantial syntactic evidence suggesting that the verb moves to T head in Turkish since it not only interacts with object shift and NPI-licensing requirements but also affects the scope relations in a clause. When it moves, it not only expands the domain for the object but also checks the EPP feature of the T head. As a result of V-movement to T°, the object can scramble over the subject as it is rendered equidistant to Spec TP position. Furthermore, the Turkish data also present evidence to question the claim that V moves to C head (through T head); but instead, based on the data from such embedded structures as relative clauses, a downward feature percolation from C head (i.e. C-to-T feature percolation) rather than an upward head movement (i.e. V-(to-T)-to-C movement) is proposed in this study. The mechanism proposed sheds light on the Turkish relativization strategy on the basis of the percolation of FOC and AGR features from C° to T°. In this way, the central role of the C head with respect to its featural composite is emphasized in the present study.

KISA ÖZET

Bu çalışma Türkçe'de eylem hareketini biçim-sözdizimsel ve sözdizimsel olarak tartışmaktadır. Türkçe'nin bize sunduğu veriler işlevsel ulamlara ait biçimbirimsel seçici özelliklerin sözcüksel eylemin işlevsel alana baş hareketini gerektirdiğini önermektedir. Diğer bir deyişle, Türkçe'de işlevsel ulamlar biçimbirimsel seçici özelliklerini sözcüksel eylemle ya da eylemsel bileşikle tatmin etmektedirler; fakat, sözcüksel eylem ya da eylemsel-bileşik bu özellikleri karşılamada yetersiz kaldığında yapıya bir eylemsel biçim (*ol* ya da *i-* eylemciği) dahil edilir. Bununla birlikte, işlevsel başların biçimbirimsel seçici özelliklerinden bağımsız olarak eylemin Zaman-başına hareket ettiğini gösteren sağlam sözdizimsel kanıtlar mevcuttur; çünkü, böyle bir eylem hareketi hem nesne kayması ve de olumsuzluk kutupları ile etkileşim halinde bulunur, hem de bir tümcedeki kapsam ilişkilerini etkiler. Eylem hareket ettiği zaman sadece nesne için alanı genişletmekle kalmaz, aynı zamanda Zaman başının Uzatılmış İzdüşüm İlke özelliğini denetler. Eylemin Zaman-başına hareketinin bir sonucu olarak nesne öznenin üzerinden Belirleyici-Zaman Öbeği konumuna devriklenebilir çünkü eylem hareketi nesneyi özneyle Belirleyici-Zaman Öbeği konumuna eşit mesafede kılar. Bununla beraber Türkçe'nin sunduğu veriler eylemin Tümleyici-başa (Zaman-başı aracılığıyla) hareket ettiği önermesini sorgulamamızı sağlayan kanıtlara işaret eder. Fakat bunun yerine, bu çalışmada ortaç yapıları gibi yan tümcelerin sunduğu verilere dayanarak, yukarı doğru Tümleyici-başa bir baş hareketi (Eylem-(Zaman)-Tümleyici Baş Hareketi) yerine Tümleyici-baştan aşağı doğru bir özellik süzülmesi (Tümleyici-Zaman Özellik Süzülmesi) önerilmektedir. Önerilen düzenek Türkçe'nin ortaçlama gengüdümlerine Tümleyici-baştan Zaman-başına ODAK ve UYUM özelliklerinin süzülmesi temelinde ışık

tutmaktadır. Böylece bu çalışmada Tümleyici-başın onun özelliksel bileşiği bakımından merkezi rolüne vurgu yapılmaktadır.

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CHAPTER I

INTRODUCTION

1.1. Aim

The aim of this thesis is (i) to discuss verb movement in the clausal structure of Turkish in terms of its morphosyntactic and syntactic implications, (ii) to suggest that V moves to T head but not to C head, and finally (iii) to propose a novel analysis of the derivation of relative clauses in Turkish through a feature percolation mechanism from C head to T head (C-to-T feature percolation vs. V-(to-T)-C movement). The Turkish data suggest that the morphological selectional (i.e. m-selection) properties of the functional categories necessitate the head-movement of the lexical verb to the functional domain but due to the morphosyntactic constraints (i.e. participle nature of functional categories) the V-movement is licensed only to the lowest [-V] functional head in Turkish. However, independent of m-selectional properties of functional heads, there is substantial syntactic evidence suggesting that the verb moves to T head (the highest node in the I-domain) in Turkish since it not only interacts with object shift and NPI-licensing requirements but also affects the scope relations in a clause. Furthermore, the Turkish data also present evidence to question the claim that V moves to C head (through T head) (cf. Kural 1993); but instead, based on the data from such embedded structures as relative clauses, we suggest a downward feature percolation from C head (i.e. C-to-T feature percolation) in the sense of Miyagawa (2004) rather than an upward X° movement (i.e. V-(to-T)-C movement). The mechanism proposed sheds light on the Turkish relativization strategy on the basis of the percolation of FOC and AGR features from C° to T°. So, the questions at the heart of this thesis are the following:

- In what way does the featural composite of functional heads interact with verb movement? In other words, what is the role of morphological and morphosyntactic constraints on verb-movement?

- Apart from morphological selectional constraints, what syntactic evidence is observed on the clausal structure as a result of verb movement? What node in the functional domain can be argued to be 'the final destination' for a lexical verb? T° or C°?

- How does the featural composite of functional heads, namely, C and T heads, play a role on the clausal arcitecture of Turkish, specifically, in the derivation of Turkish relative clauses?

The theoretical framework of the present thesis is the Minimalist Program (Chomsky 1995), the basic assumptions of which will be discussed in the following section:

1.2. Theoretical Framework
1.2.1. Basic Tenets of the Minimalist Program (MP)

The basic motivation of the Minimalist Program (henceforth, MP) by Chomsky (1995) is to investigate the question of how "perfect, simple and elegant" language is; Chomsky (1995) basically proposes two main principles in order to find an answer for this question: (i) the Principle of Economy, (ii) the Principle of Full Interpretation

1.2.1.1. The Principle of Economy

The MP holds that by means of the knowledge of language composed of a few principles and constraints and coded in the brain, and with *minimum* exposure to the external linguistic input, children can acquire a language. The core principle in this

knowledge of language is *the principle of economy* that requires that our brain adopt the most economical way in the derivation and representation of sentences. So, the mapping from the lexicon to the interfaces (i.e. PF and LF components where only legitimate objects are available) should be as economical as possible. The PF-representation is the representation of the phonetic form of the sentence, and the LF-representation is the representation of its logical form. Such derivational operations as Move perform observable consequences only in the *overt syntax* till Spell-out (i.e. the branching point of the interfaces, namely, PF and LF). In contrast, the operations taking place after Spell-out have no such observable consequences, that part being called *covert syntax*. The operations taking place in covert syntax are less costly than the operations in overt syntax due to economy considerations; therefore, covert operations are preferred over overt operations for any derivation. Also recent investigations have revealed that elements can undergo PF-movement with no semantic import for LF.

1.2.1.2. The Principle of Full Interpretation

Chomsky (1993, 1995) proposes that all the morphological features (features intrinsically specified in the lexicon) of a linguistic expression must be *checked* by the morpheme(s) having the same feature(s). There are two types of morphological features: *strong* and *weak*. If there is a strong feature in the derivation it should be checked off before the PF-component since an unchecked strong feature is not a legitimate PF object; otherwise, the structure would *crash*. This requirement is formulated as *the principle of full interpretation*, which dictates that LF-representations should contain only semantically interpretable features. Yet, if there is a weak feature in the derivation, it does not need to be checked off in overt syntax

but could be checked off in covert syntax as it is not visible at PF. In fact, Chomsky (1995) argues that if such an operation as checking of a weak feature can take place in covert syntax it is preferred to occur there again due to economy considerations (i.e. due to *the principle of procrastination*). The universal principle here is that if any phrase or morpheme bears a morphological feature, it must have that feature checked at the relevant level of syntax; otherwise, the structure would be disallowed or crash. What differentiates languages is the difference with strength of the features carried by the same type of phrases.

1.2.1.2.1. Nature of Feature Checking

The MP assumes that functional categories bear strong features. Chomsky (1995; 232) states, "if F is strong, then F is a feature of a nonsubstantive category and F is checked by a categorial feature". Put differently, nouns and verbs check the strong features of functional categories like T(ense), C(omplementizer) and so forth. Chomsky (1995, 1998) suggests two basic operations to delete an uninterpretable strong feature on a functional category: Move and Agree. In the former operation, a syntactic element moves to a specific position to delete the feature in the relevant XP while in the latter process, the uninterpretable feature as a probe 'looks down' into the structure and seeks a goal/target to match the features (i.e. an agreement is established between an uninterpretable feature and the lexical item bearing the matching feature). As noted above, the presence of uninterpretable strong features at LF causes the derivation to crash, and as Lasnik (1999) suggests, a strong feature must be eliminated (almost) immediately upon its introduction to the phrase, which induces locality and cyclicity (*the virus theory*).

<u>1.2.1.2.2. Locality of Feature Checking</u>

The Principle of Full Interpretation also requires that features should be checked in a local configuration. The checking domain of a head includes such local configurations as Specifier/Head and Head-head configurations. Thus, the rule that the feature checking should be in a local context induces a cyclic derivation. Movement must target the closest potential position and a step-by-step derivation should take place (*the Minimal Link Condition/Shortest Move*). Movement can occur as a phrasal movement (i.e. XP moves to a position at a higher YP) or as a head movement (i.e. X° moves to another higher head Y°).

1.3. Head Movement

Roberts (2001) defines 'head movement' as the case of Move-α where the value of α is X°, which means what moves is not a phrase i.e. XP, but the zero category i.e. the head of the phrase itself.[1] The movement of a zero category to another zero category, namely, head movement was first elaborated in Baker (1988) and developed in Pollock (1989). As Roberts (2001) indicates, there are three basic conditions determining the applicability of head movement; (i) locality, (ii) structure preservation, and (iii) a well-formed trace left by head movement. The locality condition is defined by the Head Movement Constraint (HMC) (Travis 1984) as follows:

(1) Head movement of X to Y cannot "skip" an intervening head Z.

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[1] In minimalist terms, as Roberts (2001) states, we can reformulate this as Move-F(eature) where the feature is morphologized on a word.

Simply, what (1) implies is that such a configuration as (2) is not allowed since it violates the HMC:

(2)   YP
       /   \
    X_i+Y   ZP
     ↑↲   /   \
            Z   XP
                    /   \
                  t_i ....
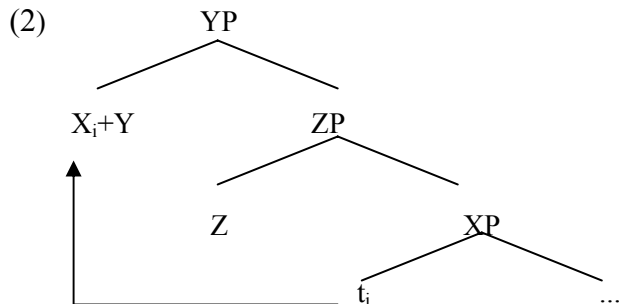
The structure preservation condition requires that a head move from its base position to another head position; in other words, a head cannot move to a SPEC position or an adjunct position; it can only adjoin to another head position under locality conditions. And finally when a head moves to another head position, the trace left behind should be c-commanded by the moved head; as Roberts (2001) notes, this condition necessitates that the head movement should be in an upward direction; otherwise, a downward movement of a head would result in a target position where the moved head cannot c-command its trace, thus not yielding a well-formed trace.

<u>1.3.1. An Instance of Head Movement: Verb Movement</u>

In the literature there are two instances of head movement studied so far: (i) verb movement (V-movement) and (ii) head movement in nominals (N-movement).[2] The typical case of head movement concerns the "cases where the moved X° is a verb, and the target of movement is a position in the clausal functional structure, a canonical example being verb movement in verb-second clauses in Germanic languages (Roberts 2001: 114) ". As the functional structure of a clause is composed

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[2] Throughout the thesis I will only be concerned with V-movement disregarding N° to D° movement since the presence of DP in Turkish is still a controversial issue. See Öztürk (2005) for an account on the absence of DP in Turkish.

of CP and TP, there are two instances of V-movement analyzed in the literature: (a) V-movement into T°, (b) V-movement into C° (through T°).

From a minimalist perspective, since such a syntactic operation as 'movement' should have a motivation on the basis of economy considerations of derivation, V-movement into T° and C° systems respectively is required to satisfy and check an uninterpretable feature in the functional structure of the clause. For instance, when a T° has a strong V feature in a language, the verb in that language should move to T° and check that strong feature in the overt syntax; otherwise, an uninterpretable strong feature that is not checked prior to Spell-out would cause the structure to *crash* at the end of the derivation. Also in a language if an uninterpretable strong feature in the C system needs to be checked by an interpretable feature of the verb or T°, the verb or T° should move to the C system in that language. But the crucial point here is that as Roberts (2001: 123) points out V cannot move directly into the C-system because of the HMC, and "so inversion of main verbs depends on the prior operation of V-movement into the I-system, in fact to the highest position in the I-system, to feed it (123)".[3]   Thus, only such a configuration in (3) can be allowed in a head-initial language such as English.

(3)

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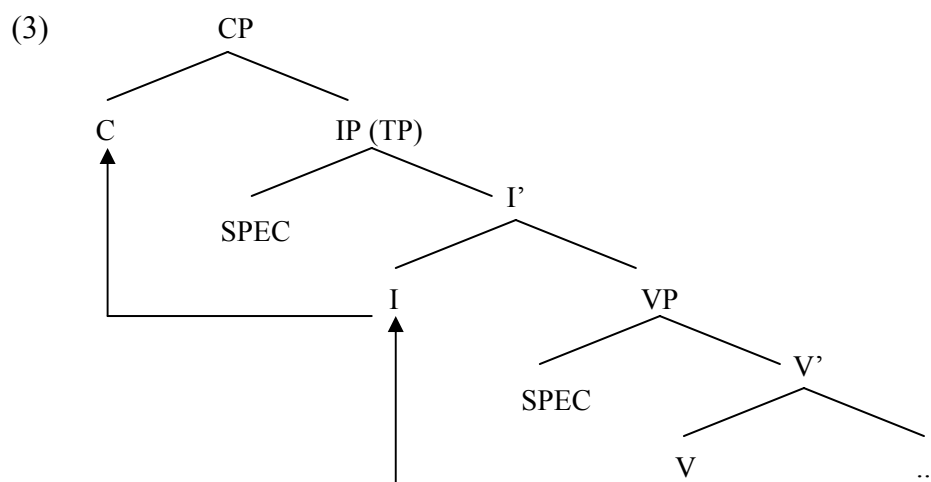
[3] Also it would violate the minimal link condition mentioned above.

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1.3.2. Reasons and Consequences of V-Movement

1.3.2.1. V-movement to T°

As noted above, languages vary with respect to whether V moves to T overtly in order to check some uninterpretable features in the I-system. Consider the following sentences from French and English:

    (4) a.   Jean emrasse souvent Marie.   (French)
             * Jean souvent embrasse Marie.

        b. * John kisses often Mary.   (English)
           John often kisses Mary.

                                      (Roberts 2001: 120)

To account for the differences in the relative positions of adverbs and verb between French and English, it has been proposed that the verb moves from its base position to T° position for some reason in French (Pollock 1989) but in English such a V-movement does not occur and V remains at its base position. To explain this parametric difference in light of the minimalist perspective Chomsky (1995) proposes that T's V feature in French is strong while it is weak in English; that is why in French V moves to T° to satisfy that strong feature overtly; on the contrary, in English the weak V feature of T° can be delayed until LF due to *Procrastination*. In this way feature checking is realized through head-to-head adjunction (i.e. V-to-T movement) in overt syntax in French. Carnie (2002), on the other hand, proposes that in French the motivation for the verb to move is intrinsic as the verb needs to get its inflection. He notes, "this seems to correlate with the fact that in many languages there are positional alternations where auxiliaries (T) and tensed verbs alternate and are in complementary distribution (Carnie 2002: 199)". Carnie takes this difference between French and English as a parametric difference; that is, in French V moves to

T° to get its inflection whereas in English T° lowers to V (*Affix Hopping Rule* by Chomsky (1957)).

Carnie (2002) also analyzes V-movement in Irish, which yields a VSO order. Consider the following sentence:

(5)   Phóg   Máire   an   lucharachán.   (Irish)
       Kissed   Mary   the   leprachaun
       "Mary kissed the leprachaun."

                                                    (Carnie 2002: 199)

Carnie argues that this ordering can be explained via V-movement, where V moves to T° in Irish through head-to-head adjunction and the subject remains at its base position (i.e. Spec, VP) (in the light of VP-Internal Subject Hypothesis).

1.3.2.2. V-Movement to C°

C system is also assumed to have uninterpretable features that can be checked only through V-movement. V first moves to T° and then C° to check those features in the C domain. For instance such structures as subject-aux inversion in English, subject-clitic inversion in French, and V2 inversion in Germanic languages are proposed to be clear examples of V-movement (to T°) to C°. Consider the following German sentences:

(6)   a. [CP Wir [C müssen [TP jetzt das Licht anmachen]].   (German)
              we   must   now the light on-make
           "We must now turn the light."

       b. [CP Wir [C machen [TP jetzt das Licht an]].
              we   make   now the light on
           "We are now turning the light."

                                                    (den Besten 1981)

den Besten (1981) suggests that the underlying structure of a typical German sentence is [IP Subject [VP Object (Prefix-)V] I], and when C is filled by a modal as in

(6a) no movement occurs; however, if C is empty as in (6b) the tensed verb moves to C° because C carries an uninterpretable strong V-feature (or perhaps T feature) and XP moves to Spec, CP (due to EPP) as Roberts and Roussou (1998) suggest; in this way, in German we have a verb second structure.

Based on Rizzi's (1997) Split-CP Analysis Roberts (2001) also analyzes V-movement to C in terms of four projection types, ForceP, FocusP, FiniteP and interspersed TopPs. Due to the nature of these projections (and their different strong features) in C system Roberts proposes that there can be parametric differences (the ones observed in between Irish and English) with respect to the order of constituents in CP.

Also in a recent study, Pesetsky and Torrego (2001) propose that T - to - C movement depends on the uninterpretable Tense feature of C; if it is a strong uninterpretable feature as in English, auxiliary moves to C position, in this way giving rise to Subject-Aux inversion.[4] And in French this uT feature (and possibly Q feature of C) is checked by V-movement into C position, as in the German data provided above.

Thus, the literature on verb movement assumes that in those cases in which there is a strong feature in T and C domains that only V can check through head to head movement, the verb moves into the relevant functional domain upwardly and cyclically in accordance with the conditions mentioned above. However, in SOV (i.e. head-final) languages like Turkish, verb movement is not detectable as easily as in the case of V2 languages and French or Irish since the path of the verb to T°and C° is not interrupted by adverbs or NPs. Also morphological properties of the functional heads of Turkish (e.g. participial nature of Asp heads) constrain the attachment of the

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[4] When C has a strong uWh feature it satisfies that feature through wh-movement of the wh-element to Spec CP position.

verbal complex to a higher functional head; hence the insertion of the copula as a verbal element. However, abstracting away from morphological constraints, the clause structure facts of Turkish necessitate looking for evidence from scope and licensing relations to determine the nature of the position in which the verbal complex occurs.

1.3.3. Head Movement: A Syntactic Operation or PF-Phenomenon?

In the current literature, two camps exist regarding V-movement since they differ in their views on the nature of head movement. As a head merely adjoins to another head through head movement and hence does not extend the target, "head-movement-as-a-PF-phenomenon" camp suggests that head movement occurs at the phonological branch of the derivation, after Spell-Out (Chomsky 2000; Boeckx and Stjepanović 2001). Merge, the basic derivational operation, should be affected at the root so that it can extend the target; however, unlike XP movement, a head-to-head movement is counter-cyclic. As it is adjunction to a non-root node (i.e. a terminal node as X°), it does not extend the target and thus violates the cyclic derivation principle. Futhermore, as Harley (2002) notes, head movement has no semantic or scope consequences. Harley indicates that there is no difference in the relationship between V and negation in the following sentences:

(7) a. Jean ne parle pas en français.
      "John isn't speaking in French."

    b. Jean n'as pas parle en français.
      "John didn't speak in French."

As a result, this camp proposes that head movement does not play any role at LF, i.e. has no semantic effect; hence, they conclude that head movement is a PF-phenomenon.

The other camp (Matushansky 2006; Zwart 2001) argues that head movement is a syntactic operation and it occurs at the overt syntax, whereby, it has semantic effects at LF. Matushansky (2006) argues that if head movement occurs at PF, V°-to-v° movement must occur after Spell-out; however, if VP is sent off to PF (but not the vP) it is impossible for the edge of the current phase (i.e. v°) to be accessible for phonological movement. The question, then Matushansky raises, is when V°-to-v° movement occurs. Also she notes that the reason why head movement has no LF -effects stems from the fact that "most of [the moved constituents] are predicates of some sort (verbs, nouns, most affixes, etc.) (Matushansky 2006; 46)".

The discussion in the following chapters on the properties of verb movement in Turkish will support the claim that verb movement is a syntactic phenomenon rather than a PF operation.

1.4. Layout of the Thesis

The discussion in this thesis is organized as follows: in Chapter II, the nature of functional categories of Turkish with respect to verb movement will be discussed where it will be proposed that as the functional categories bear the uninterpretable V feature, the verb moves to the relevant functional head; however, due to the participle nature of functional categories the lexical verb/the verbal complex can only move to the closest [-V] functional head but not beyond. In those cases in which the lexical verb/the verbal complex cannot satisfy uV feature due to the morphological properties of functional categories, a copula as a verbal element is inserted.   In

Chapter III, independent of morphological constraints, , the role of verb movement in such syntactic operations as object shift and NPI-licensing will be discussed as well as its scope defining properties at S-structure. In line with Miyagawa (2003) and Öztürk (2005), it will be shown that interclausal scrambling (i.e. object shift) is rendered possible through the movement of the verb to the functional domain, and that the licensing of NPIs as well as the interaction of negation with scope facts of Turkish presents evidence in favor of verb-movement to T head. In the chapter, it will be also claimed in line with Aygen (2002) that independent evidence from Turkish data suggests that the verb cannot move to C head but only as high as T head (contra Kural 1993). In Chapter IV, in light of Miyagawa (2004), a feature percolation mechanism of AGR and FOC features from C° to T° will be proposed for Turkish relative clauses and it will be suggested that depending on which feature is strong (i.e. the strong feature percolates down to T° while the weak feature remains at C°), the nature of the element to be relativized as well as the choice of the nominalization morphology on the predicate is determined. Thus, it will be argued that rather than V-(to-T)-to-C movement, C-to-T percolation of AGR and FOC features can be pursued in light of the Turkish data.

CHAPTER II

FUNCTIONAL CATEGORIES IN TURKISH

2.1. Introduction

In this chapter I am going to show that head movement of the lexical verb in Turkish to the functional domain is motivated by the presence of the $[u\text{V}]$ feature on functional categories. The discussion is pursued in light of the morphological and morphosyntactic considerations that stem from the nature of functional heads. I assume that the $[u\text{V}]$ feature is purely the morphosyntactic reflection of a morphological requirement that the functional categories of Turkish inherently bear: Apart from Neg and Mod_{Abil} heads, the rest of functional categories inherently bear [-V] feature (i.e. they derive a participle when attached to a verbal stem) but require a [+V] complement in terms of m-selectional properties (in line with Sezer 2001, Kelepir 2001, and Enç 2004). To check the feature (i.e. to satisfy the m-selectional requirements), V° moves to the functional head with which it forms a complex category that bears [-V] feature (i.e. participle) as mentioned above. In those cases in which multiple functional heads occur on the same predicate the higher functional category requires a verbal element to check its feature since the lexical verb can only satisfy the feature of the lower functional category through V movement, forming a [-V] complex with that category. As this [-V] complex cannot check the $[u\text{V}]$ feature of the higher functional head, the copula as a verbal element is required. The nature of the copula (*i-* or *ol*) is determined by the position that the higher functional head occupies; that is, the copula *ol* is inserted for the lower domain of functional categories – Asp/Mod Domain, and the copula *i-* is inserted for the higher domain – T domain (in line with Kelepir (2001)).

2.2. The Functional Domain of Turkish

In Turkish, the matrix verb can bear a complex morphological structure; a number of different types of verbal suffixes can be concatenated on the same matrix verb. The schema below indicates the order in which the suffixes can appear on the main verb:[5],[6]

(1)	Neg.	Mod.	I (TAM)	II (TAM)	Agr.
	-mA	-yAbil	-DI (Anterior)	-(y)DI (Past)	person
		(Abilitative)	-mIş (Perfect)	-(y)mIş (Evident.)	
			-Iyor (Progr.)		
			-yAcAk (Future)		
			-Ar/-Ir (Aorist)		
			-mAlI (Necessit.)		

The motivation to divide the Tense/Aspect/Modality (henceforth TAM) categories into two groups is that the second group (i.e. TAM II) requires a copular clitic to appear on a predicate when a marker from TAM I is also present on the predicate. A verb stem cannot merge with a TAM II marker that has a clitic; the omission of the clitic is required in such a case. Via this division, I also assume that TAM I markers form a lower domain while the TAM II markers form a higher domain (in line with the hierachy proposed by Cinque 1999 and the proposal by Kelepir 2001). A TAM marker needs to be attached to a verbal element in order to form a well-formed

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[5] The schema is based on Göksel and Kerslake (2005) but it is modified here for specific purposes such as the omission of the counterfactual conditional suffix –(y)sA and the voice paradigm. The position of the counterfactual conditional suffix (I-system or C-system) is controversial in literature (see Aygen 2000b for an account of counterfactuals in C-system). I restrict the discussion in this chapter to the functional heads in the I-system.

[6] I also leave aside the implications of head movement as discussed in Baker (1988); V-to-C, as Baker (1988) suggests, does not apply to Turkish in any case. As for VP-toCP movement (which Göksel 1990, 1993 argues against) that Baker suggests for those languages that do not display V-toC movement, that movement is beyond the scope of this work as the present study does not investigate the movement of phrasal categories (i.e. XP) but only zero categories (i.e. X°).

predicate in Turkish.[7] So, such constructions as the following are ungrammatical in Turkish:

(2) *gel-ebil   / *oku-ma   / *gid-e-me-yebil
      come-abil   read-Neg   go-abil-neg-possib

A TAM marker following modality and negation markers needs to appear on the predicate:

(3) Ali gel-ebil-iyor   /oku-ma-dı   /gid-e-me-yebil-ecek.
      come-abil-prog   read-Neg-past   go-abil-neg-poss-fut
    "Ali is able to come / (Ali) did not read /(Ali) will be able to not go."

Also it should be noticed that a non-verbal predicate can take only a TAM II marker but not a TAM I marker.

(4) *uzun-uyor/*uzun-acak
      long-prog   long-fut

(5) O film   uzun i-di   /uzun i-miş.[8]
     That movie   long cop-past /long cop-evid
     "That movie was long   / (That movie) reportedly was long."

As the schema in (1) indicates, the concatenation of inflectional affixes on a predicate is permitted since Turkish is an agglutinative language:

(6) gid-   ebil-   miş-   ti-   -m
     go   ability perfect   past   1st person agr
          (Mod)   (Aspect)   (Tense)
     "I was able to have gone."

---

7 An agreement morpheme is also required on a predicate besides a TAM marker; but the agreement paradigm is left out of the discussion since in the present study agreement is taken as a feature available on the C head in line with Miyagawa (2004) rather than projecting a phrase of its own, namely, AgrP. Kural (1993) also analyzes the agreement morpheme as a Spell-out of the Agr-features picked up under Spec-head configuration at VP or TP in the syntax and opposes the Agr as a syntactic head.

8 The copula can also be silent in which case the TAM II marker cliticizes onto the non-verbal predicate like "O film uzun-muş".

However, such a concatenation as in (6) is allowed only when it satisfies some restrictions. Not all combinations of inflectional suffixes on a predicate are allowed and the order of the functional heads is subject to some restrictions:

(7) *Ben gid- iyor-   ebil-   di-   -m
           prog   ability   past   1st person agr
           (Aspect) (Mod)   (Tense)

In (7) the order of the functional heads does not comply with the order in the schemata in (1) above; that is, the TAM II marker (i.e. the perfect *-mIş*) precedes the ability marker, which results in the ungrammaticality of the sentence. Göksel (2001), who re-groups the TAM I and II markers under the same paradigm, also indicates that two functional categories from the same slot cannot appear in the same slot of a predicate:

(8) a. *gid-iyor-acak
         go-prog-fut

     b. *gid-ecek-iyor
         go-fut-prog

In those cases as in (8a) and (8b) the copula *ol* needs to be inserted to have a well-formed sentence:

(9) a. Ali gid-iyor   ol-acak.
             go-prog   cop^L-fut[9]
         "Ali will be going."

     b. Ali gid-ecek ol-uyor.
             go-fut   cop^L-prog
         "Ali is going to go." (i.e. He has a volition to go)

Recent studies on the investigation of functional projections in Turkish have tried to shed light on the underlying restrictions that determine the concatenation of these functional heads and their morphological, morphosyntactic and semantic properties with respect to the position they occupy in the functional domain. Enç (2004),

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[9] To make a difference between two copulas (i.e. *i-* and *ol*) in the glosses, I use 'cop^L' for *ol* and 'cop^H' for *i-* for the reasons to be elaborated below.

Göksel (2001), Sezer (2001), Cinque (2001) and Kelepir (2001) have proposed different analyses concerning the nature of these restrictions. In the following, a discussion of the nature of functional categories as proposed in the literature will be presented in light of this.

2.3. The Featural Analysis of Functional Categories

As noted in the preceding chapter, the Minimalist Program (Chomsky 1993; 1995) assumes that functional categories bear strong features, which trigger overt movement – that is verb movement. The following are the questions raised with respect to V-movement in Turkish:

(i)   what are the m-selectional properties of the functional heads,

(ii)   in what way(s) do those properties determine the morphological constraints that in turn determine the movement of the lexical verb/verbal complex,

(iii)   and in what ways are the morphological constraints satisfied when the lexical verb/verbal complex fails to do so?

Among the others, Sezer (2001) and Enç (2004) have proposed a featural analysis of the functional heads (i.e. which head and complement features they bear), thereby presenting an account of the questions raised above. Furthermore, Göksel (2001) and Kelepir (2001) have analyzed the nature of the morphosyntactic/morphological constraints and the ways to satisfy them so that a well-formed predicate is obtained.

2.3.1. Sezer (2001)

Sezer (2001) assumes three main features of functional categories in his analysis: [+/-V(erb)], [+/-N(oun)], and [+/-F(unctional)]. Sezer further assumes in line with

the Minimalist Program that both lexical and functional categories carry head features and complement features; thus, through a checking operation a head checks its complement features against the head features of its complements. This checking operation of functional heads is exemplified in (10) below:[10]

(10)   al   -acak   i   -di

HF [+V, -N, -F] [+T]   [+V, -N, +F] [+T]

CF [+V, -N, -F] [+T]   [+V, -N, +F] [+T]

As Sezer points out, the fact that the complement feature of the functional heads matches the head features of the complements to their left obeys the Full Interpretation principle by Chomsky (1995). Moreover, Sezer notes that there is a difference between a 'true' tense (i.e. the past tense, *–DI*) and the 'participial' tense (e.g. the progressive suffix *-Iyor* of TAM II) in terms of their head features. He suggests that true tenses bear the head features [+Finite, -Nominal] while participial tenses are [+Finite, +Nominal], and that according to these head features, the agreement paradigms select their complements.[11]

2.3.2. Enç (2004)

Enç (2004) categorizes the functional categories in Turkish into three zones: [12]

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[10] As Sezer (2001) notes, the head features of the copula *i-* in (10) indicate that the copula is a verbal category [+V] like a lexical verb but it is functional [+F], which makes it distinct from the lexical verbs.

[11] Two different agreement paradigms have been noted in the literature concerning Turkish agreement system: the z-paradigm and the k-paradigm. It is held that the markers in the z-paradigm are not suffixes but copular clitics (Kornfilt 1996, Sezer 2001)). See Kelepir (2001) for a discussion of the selection of agreement paradigm by the last TAM marker on the verbal stem.

[12] Note that the categorization of the functional categories in (1) above roughly has the same classification of Enç (2004). This shows that my modification of Göksel and Kerslake (2005)'s schemata in (1) aims at following Enç's zonal analysis throughout the present chapter.

```
V(erb) Root  +  Zone I              +    Zone II               +      Zone III
                 -A (ability)             -AcAk (future)               -DI (past)
                 -mA (negation)           -Iyor  (progressive)        -mIş (evidential)
                 -Abil (possibility)      -mAlI (necessity)
                                          -Ir/Ar  (aorist)
                                          -mIş    (perfect)
```

In terms of the order of the functional categories Enç points out that there is a strict

hierarchy for Zone I categories but not for Zone II and Zone III heads. Enç further

notes that iteration within Zone II is allowed if a copula (i.e. *ol* "be") is inserted and

that the insertion of the copula brings its own cycle of Zone I categories, which are

strictly ordered.

> (11)   O   bu işi   bitir-me-*miş*   ol-*acak* /ol-*abil*-ir.
>   He/she this job finish-neg-perf   cop^L –fut / cop^L -poss-aor
>   He/she is going to be such that he/she has not finished the job /
>   He/she may be such that he/she has not finished the job.

She adds that Zone II and Zone III categories, when attached to a verb root, derive a

[-V] complex, and parallel to Kornfilt (1996), Sezer (2001) and Kelepir (2001) Enç

analyzes this derived form as a participle. Yet, Zone I categories do not lead to such

a change in the categorial structure of the verb root and the attachment of a marker

from Zone I to a lexical verb maintains the [+V] nature of the root. In a similar

fashion to Sezer (2001), Enç (2004) presents a featural analysis of the functional

categories that are grouped under Zones in her analysis:

> (12)   Zone I categories are [+V] and select [+V]
>   Zone II categories are [-V] and select [+V]
>   Zone III categories are [-V] and select [+V]
>
>   (Enç 2004; 223)

This featural analysis predicts that each time a Zone II category is attached to a verb

and iterated the insertion of a copula is required since the copula is a [+V] element.

Enç claims in line with Kelepir (2001) that the surface form of the copula is

dependent on the Zone of the category that it occurs with; if the category is from Zone I and II, it is *ol*, and if is from Zone III, it is the copula *i-*.

2.3.3. Göksel (2001)

Göksel (2001) suggests that the morphological requirements of functional categories necessitate the appeearence of the copula(s) on the predicate when there is a mismatch between suffix types and slots that host them. She also notes that the insertion of a copula is closely related to the size of a word; that is, as she proposes, words that contain more than three TAM markers must contain an additional stem. These facts of Turkish, she claims, suggest that such a copula as *ol* is not visible to syntactic representation (in embedded clauses and certain main clauses) but is only inserted to satisfy morphological constraints. Göksel pursues the same analysis for the copula *i-* and concludes that TAM I and TAM II markers given above can be re-grouped under the same paradigm. So, such a form as (13) is ungrammatical due to two reasons: (i) word size (i.e. more than three markers attach to the verb stem) (ii) slot mismatch (i.e. perfect and past markers compete for the same slot)

```
          1      2     3      4
(13)  *gör  -müş   -tü   -ğ    -üm
          perf   past  comp  1stposs
```
                                              (Göksel 2001; 165)

Thus, Göksel argues that copulas dissolve the slot-type mismatches and satisfy word-size restrictions so that a well-formed predicate is obtained.

2.3.4. Kelepir (2001)

Following Kornfilt (1996), Kelepir (2001) suggests that when a verbal complex (e.g. verb root and a TAM I marker) that bears a participle nature is followed by tense and agreeement marker, the *i-* copula that is generated at T° carries tense and agreement

inflections, not the verb itself. Kelepir further suggests that the nature of copula is contingent on at which node it is realized; if the required verbal feature is realized at V°, the form of the copula is *ol*; if it is realized at T°, the form is *i-*. Thus, she concludes that both copulas derive from the same verbal feature. The following structure represemts the nodesat which the two copulas are generated:

(14)

TP

T° ← *i-* [verbal]

V° ← *ol* [verbal]
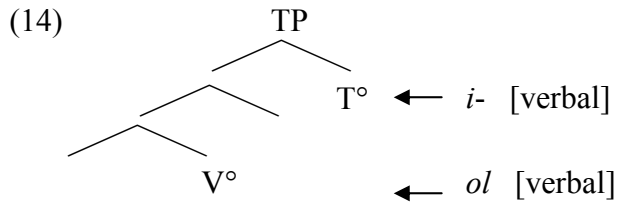
2.4. The Discussion

Through the featural analysis of functional categories, I assume in the light of MP that in the clausal architecture of Turkish, functional heads bear an uninterpretable V feature (i.e. [uV]) that needs to be checked through the lexical verb/verbal complex during the derivation. I assume that this [uV] feature is purely the morphosyntactic reflection of the morphological requirement that functional categoires need to attach to a verbal stem. And I suggest that in those cases in which a concatenation of functional categories that all inherently bear the [uV] feature occurs on a predicate, the lexical verb can only check the uninterpretable V feature of the closest/lower functional head; thus, a verbal element (i.e. a copula) needs to be inserted into the configuration so as to check the [uV] feature of the higher functional category. This is to avoid *crash* due to the presence of an unchecked uninterpretable feature. I assume in line with Kelepir (2001), Sezer (2001) and Enç (2004) that the copula bears [+V] feature but I diverge from their analyses in that I suggest an account of the restrictions that define the concatenation of inflectional suffixes *solely* on the basis of this strong [uV] feature of the functional heads. Therefore, the discussion in

this chapter will be pursued in light of the need to satisfy this morphosyntactic requirement.

I assume the following properties for the functional categories of Turkish in my analysis:

a) The functional categories can be divided into two domains in terms of their morphosyntactic properties as Kelepir (2001) suggests: (i) Aspect / Modality categories (*Lower Domain*); (ii) Tense(/Evid) categories (*Higher Domain*); and I assume the Split-Infl Hypothesis by Pollock (1989) and Aygen (1998 [for Turkish]) that suggests that each of the functional categories project their own syntactic projections in the functional domain. [13]

b) When the multifunctional properties of Turkish TAM markers are taken into consideration, the same marker (e.g. *–DI*) can appear in both (i) and (ii); but its morphosyntactic and semantic properties are determined according to the position it occupies and the domain of that position (in line with Cinque 1999). In other words, rather than the form of the functional category, its position in the hierarchy among the other functional categories is of significance.

c) In line with Kornfilt (1996), Sezer (2001), Kelepir (2001) and Enç (2004) I assume that when a lexical verb merges with an inflectional category, the outcome of such a merging operation is [-verbal] (i.e.participle). The only exception to this generalization is the modality marker *-(y)Abil* and

---

[13] In line with the assumption (b) above, I assume that the $Mod_{Epistemic}$ (inferential), $Mood_{Evidential}$ (reportive) and $Mood_{Evaluative}$ (surprise/unexpectedness) functions of *-mIş* belong to the higher level as they occupy a higher position than the Tense category T_{Past} in Cinque (1999)'s hierarchy of functional heads; only the $Aspect_{Perfect}$ (and probably $Aspect_{Resultative}$) functions of *-mIş* belong to the lower level.

the negation marker -*mA*. I assume that such a [-verbal] complex cannot satisfy the m-selectional properties of a higher functional category.

d) When the lexical verb comes short of satisfying the [*u*V] feature of that higher functional category, *ol* copula is inserted for (i) and the copula *i-* for (ii) (in line with Enç (2004) and Kelepir (2001)). Thus, the nature of copular form is contingent on the nature of the functional projection but not the suffix itself; that is, if a marker expresses more than one function in the inflectional domain (e.g. aspect and tense) at more than one position, the choice of the copula is determined according to the specific position/function of the marker.

e) The insertion of a copula to the inflectional domain is an indication of the start of a new domain; the copula brings its own cycle as Enç (2004) notices.

2.4.1. The Copula-Support in Turkish?

The proposal that the copular forms are inserted for satisfying the m-selectional properties of the stranded functional heads renders the copula insertion similar to *do-*support in English as Kelepir (2001) and Enç (2004) point out. Bobaljik (1995) states that the reason why *do-*support is required in English is that an adjacency relationship cannot be established between Infl and the verb, say, when there is negation between these two. Thus, there are two possible accounts to be followed in his terms: (i) V° cannot directly move to Infl° due to an intervening head, namely, Neg°; otherwise, it would violate the Head Movement Constraint, (ii) a morphological merger operation cannot take place between V° and Infl°. He notes that *do-*support comes to support Infl° as a 'last resort' strategy. In (14a) *do-*support is necessary since there is a negative marker between V° and Infl°, while in (14b) such a support is not required as there is no intervening element between these two

(i.e. since the subject occupies Spec, TP position, and in this way morphological merger operation can take place through adjaceny).

(14)   a. John does not like apples.

```
                IP
              /    \
           DP       I'
          Subj    /    \
                 I       NegP
              α [Infl]  /    \
                      not     Neg'
                             /    \
                            VP
                           /  \
                               V'
                             /    \
                            V      DP
                          [verb]   obj
```
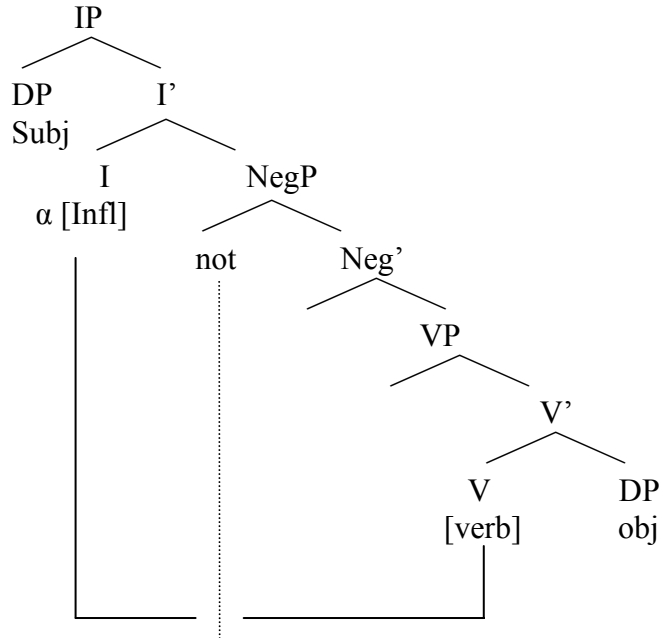
　　　adjacency disrupted: affixation blocked   Bobaljik (1995)

　　　b. Who likes apples?

```
            CP
          /    \
        Who    ....
                I'
              /    \
             I      VP
          [+pre]   .....
               \    V
                \  like
```
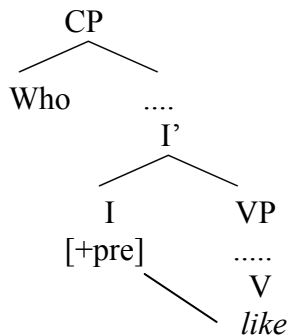
The copula-support in Turkish can also be taken as a last resort strategy; as in English, V° cannot move to a higher functional head and satisfy its m-selectional properties; moreover, the affixal nature of the functional category needs a host but in harmony with its m-selectional properties. To put differently, due to the [-V] nature of functional categories, the lexical verb/verbal complex can only short-move to the lower functional head, leaving the higher functional head stranded; hence, the

insertion of the copula as a [+V] element. The following discussion elaborates on the insertion of copulas.

<center>2.4.2. Copulas in Matrix Predicates</center>

When the complex matrix predicates are investigated on the basis of their m-selectional properties of the functional heads, the need to insert a copula becomes self-evident. As mentioned above, Enç (2004) proposes that the functional domain of Turkish can be divided into three different zones. Following her analysis of functional zones, I assume that the functional categories in all Zones bear the [uV] feature and need to satisfy it through a verbal element. Through a 'roll-up' strategy, the lexical verb moves to that functional head and forms a complex. Nevertheless, this 'roll-up' strategy allows the lexical verb only to move to the closest functional head; the verbal complex is not 'suitable' to attach to a higher functional head morphologically. The reason for the 'insufficient' nature of the verbal complex is that the movement of the verb to the lower functional head derives a [-V] complex (i.e. participle) as stated above. This nonverbal complex, however, does not bear the required head feature to satisfy the m-selectional requirement of the higher functional head and hence does not roll up to that higher functional head. So, we can propose the following:

> (15) In Turkish, the lexical verb can only attach to the closest functional head and this   movement is motivated by the m-selectional properties of the functional head.

However, it should be noticed that as Enç (2004) indicates only the inflectional heads in Zone II and Zone III categories derive a [-V] complex when they combine with the lexical root. When a verb root is attached to a Zone I category, it still preserves its verbal nature but when attached to a Zone II category, it cannot preserve its verbal nature and now the head feature of the 'merged' category is [-V] as Enç

<center>26</center>

notes. Thus, a further concatenation of a functional category from Zone II or III requires the insertion of a copula to satisfy the [*u*V] feature. The interesting point here is that although the merging operation between a verb root and a functional head from Zone I enables the complex to maintain the [+V] feature, the complex still requires a functional head from the higher zones to be inflected. The absence of an inflectional marker from Zone II or III renders the predicate ungrammatical as exemplified in (16):

(16)   *gel-ebil   / *oku-ma   / *gid-e-me-yebil
         come-abil / read-Neg /   go-abil-neg-possib

But if the V head or the complex of a V° and a head from Zone I is attached to a category from Zone II and Zone III categories a well-formed predicate is obtained:

(17)   gel-ebil-iyor   / gid-ebil-di.
             come-abil-prog / go-abil-past
             "He/she can come / he/she was able to go."

In such sentences in (17) the derived V + I [Mod$_{ability}$] complex that bears [+V] feature satisfies the [*u*V] feature of higher functional heads from Zone II and III categories accordingly. Consider the derivation of the matrix predicate "gel-ebil-iyor" below:

(18)   a.   AspP$_{Progressive}$

                 ModP$_{Ability}$ Asp°   [*u*V] ◄─── m-selection need to be satisfied

            VP   V°$_i$ + Mod°$_{Ability}$ [#V] ◄─── m-selection satisfied

                     t$_i$

b.　　　　　　　AspP$_{Progressive}$

ModP$_{Ability}$　　　　[V°$_i$ / Mod°$_{Ability}$]$_k$+ Asp°　[~~#~~V]

VP　　　　t$_k$

t$_i$
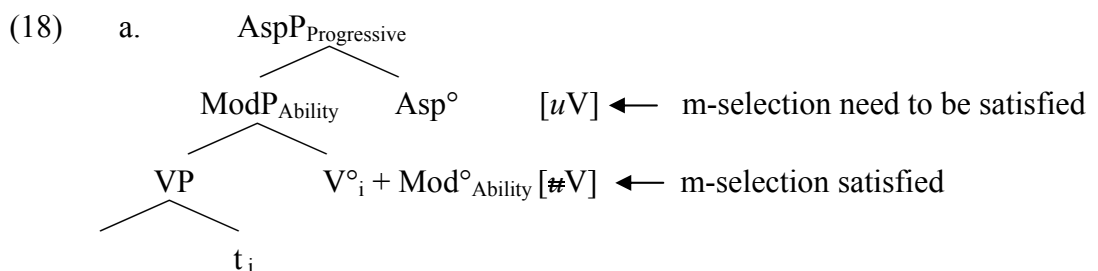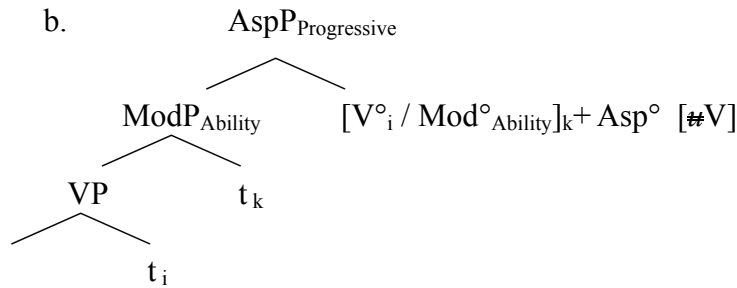
What can be argued about the 'peculiar' nature of -*(y)Abil* at this point is that this modality marker is syntactically a functional head (i.e. Mod°) that needs to attach to a verbal stem in terms of its m-selectional properties.[14] However, in tems of its morphological properties, it still preserves its verbal nature, which enables the higher functional heads to attach to it directly. It should not go unnoticed that "bil-", as a lexical verb in Turkish, literally means "to know"; thus, its verbal nature can be attested and the reason why it does not derive a participle when attached to the lexical verb can be attributed to the fact that its morphologically verbal nature determines its morphosyntactic distribution when selected by a higher functional category (see fn. 15 for further elaboration).[15] Hence, as provided in (12), Enç (2004)

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[14] The proposal here does not include the negation marker -*mA* - another Zone I category -, which requires a further study with respect to its morphologicxal properties; but as the data above suggests, it is [+V] inherently and takes a [+V] complement as in the case of –*(y)Abil*.

[15] It can be suggested that the reason why the head -*(y)Abil* does not derive a participle unlike the higher functional heads can be further attributed to its former postverbal status.

Csató (2003) discusses the nature of double verb constructions and classifies this type of constructions into two groups in terms of the direction of the modification: a) post-verb constructions b) pre-verb constructions.　To exemplify the postverb constructions Csató gives the following postverb constructions from Turkish:

　　(i)　　a. iç-e *dur-* "to keep drinking"
　　　　　　b. sol-up *git-* "to fade away"

Csató notes that the postverb in (ia) adds an aspectual status to the lexical verb and it denotes durativity while in (ib) it adds the meaning that the action is destined to be completed. As she points out, in these postverbal constructions the modification is from left to the right.　Moreover, Bassarak (2000) also notices the separability of the ability/possibility marker of Turkish into two components: -*(y)A*- and –*bil*-.　Bearing in mind the fact that *bil*- literally means "to know", it can be speculated that diachronically the constructions of the lexical verb + the ability marker is a double verb construction but in the course of time, not only the postverb has transformed into a modality marker (i.e. a

attributes [+V] feature to Zone I markers (-*(y)Abil* and –*mA*) as they do not derive participles. So, we can reformulate the proposal in (15) above:

> (20) In Turkish, the lexical verb/verbal complex can only attach to the closest [-V] functional head and this movement is motivated by the m-selectional properties of the [-V] functional head.

When we go back to (16) above, the ungrammaticality of the structures can be suggested as follows: the reason why Zone I category -*(y)Abil* cannot form a well-formed predicate when attached to the lexical verb is due to its deficient functional nature; hence, a functional category from a higher Zone is required to have a fully-inflected and well-formed predicate in Turkish.

2.4.2.1. The Copula *ol*

In light of the proposal in (20), the present analysis suggests that due to their morphological properties, the functional heads (e.g. the categories in the Zone II)

---

functional head) but also it picked the converbal suffix on the lexical verb and formed a distinct functional marker with that suffix. Thus, such a transformation has assigned the postverb a distinct functional category but the fact that the other functional heads can attach to it directly (i.e. with no need for a copula) implies to us that it still preserves its verbal nature due to its former postverbal status. Also it should not go unnoticed that the transformation of the postverbs into functional heads may not be restricted to only the modality marker -*(y)Abil*. Consider (ii):

(ii) Bütün gün koş-*tur*-du-m   (ama hala bütün iş-ler-im-i   halled-e-me-di-m).
      all   day run-tur-past-1p (yet still all   job-plu-poss-acc handle-abil-neg-past-1p

The suffix -*tur* attached to the verb root *koş*- can be analyzed as the allomorph of the causative marker –*DIr* through such an interpretation "I made myself run around throughout the whole day". But to my observation it would not be odd to analyze this marker as the inflectional category variation of the postverb *dur*- in (ia) above. Such an interpretation of (ii) is also possible:

(iii)   I kept running around throughout the whole day (yet, I could not fulfill all my duties).

In such an interpretation as in (iii) the suffix -*tur* adds the aspectual interpretation to the sentence as similar to its postverb counterpart in (ia) above. However, I should note that this suffix is different from -*(y)Abil* in terms of the productivity; it is restricted to a few lexical verbs but the postverb counterpart is employed productively. Such a sentence in (iv) is ungrammatical in the sense of "I kept eating all the day" :

(iv)   *Bütün gün ye-dir-dim (vs. Bütün gün yi-yip dur-du-m)

The diachronic transformation of postverbs to the functional heads (at least for the modality marker -*(y)Abil*) requires further research and it is outside the scope of the current study.

cannot be stacked on to each other as in (21), and a copula as *ol* is required to satisfy

their m-selectional properties in the configuration as illustrated in (23):

(21)   *O   gid-ebil-miş-ecek.
          He/she   go-abil-perf-fut

(22)

$$TP_{Future}$$

AspP$_{Perfect}$ T°$_{Future}$ $[uV]$ ⟵ m-selection need to be satisfied

ModP$_{Ability}$ $[V°_i / Mod°_{Ability}]_k + Asp°$ $[\#V] = [-V]$

VP t_k

t_i
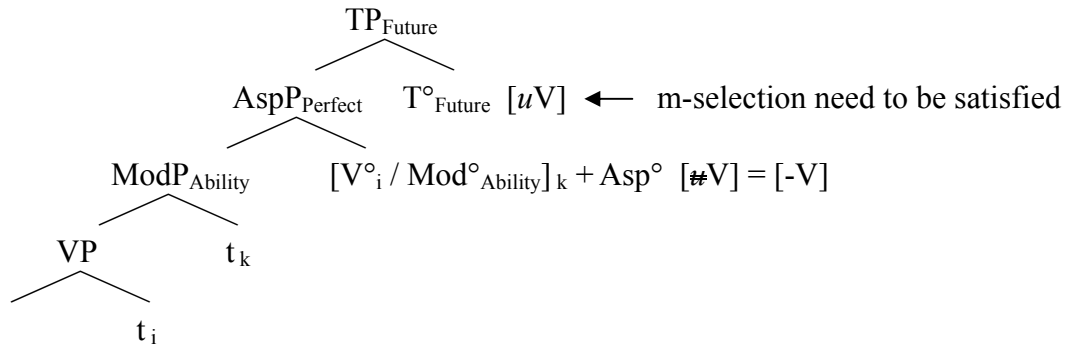
(23)   O   gid-ebil-miş *ol*-acak.
          He/she   go-abil-perf cop^L-fut
          "He/she will be able to have gone."

(24)

$$TP_{Future}$$

AspP$_{Perfect}$ *ol* $[+V] + T°_{Future}$ $[\#V]$ (*Ol Support*)

ModP$_{Ability}$ $[V°_i / Mod°_{Ability}]_k + Asp°$ $[\#V] = [-V]$

VP t_k

t_i
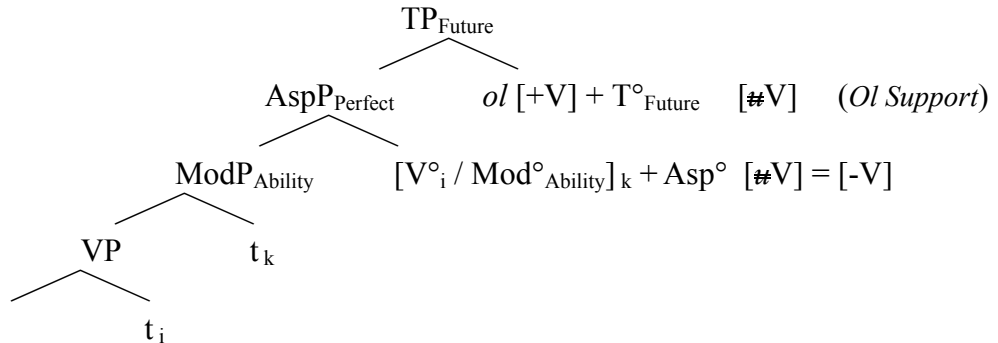
The present analysis suggests that the reason why stacking affixes from the Zone II

categories is not permitted as in (22) is that when the [+V] complex attaches to the

closest functional head (i.e. Asp°$_{Perfect}$) and satisfies its $[uV]$ feature, the 'merged'

category now bears [-V] feature (i.e. participle) as assumed above. Yet, the higher

functional head T°$_{Future}$ needs to satisfy its m-selectional properties. Thus, the copula

ol is inserted to be a verbal host in order for this higher functional head to attach to it

as in (24). Furthermore, as Kelepir (2001) and Enç (2004) indicate, the insertion of

the copula *ol* for satisfying m-selectional requirements in this example is to a substantial extent parallel to *do*-support in English as stated above.

As Ouhalla (1991) suggests, not only 'do-support' but also 'be-insertion' in the case of progressive ASP in English can be argued to be the realization of the same phenomenon in different languages. Ouhalla suggests the presence of the ASP parameter in the UG:

(25) The ASP parameter
    (i) ASP is verbal (i.e. [+V]).
    (ii) ASP is nominal (i.e. [+N])

On the basis of this parameter Ouhalla argues that such languages as Chichewa and Kinyarwanda have value (25i) but also such languages as Swahili, the Celtic languages and English bear the value (25ii). He concludes that is why the former languages have ASP and TNS as a simplex/morphological form, while the latter have a periphrastic form. As the sentences in (21) and (23) suggest then, Turkish has value (25ii) (i.e. Asp° is nominal); hence the periphrastic form. Similarly, English bears the same value as Ouhalla illustrates as follows (e.g. "Ayşe *is* study*ing* her lesson".)

(26)
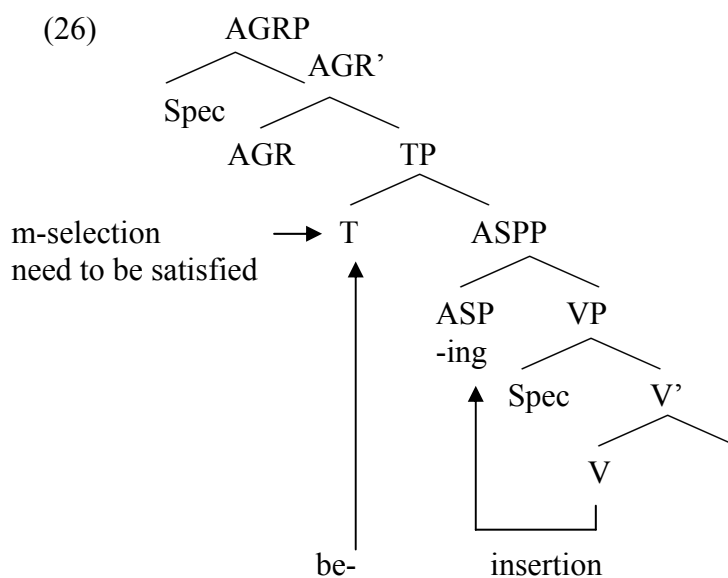
(Ouhalla, 1991; 80)

Ouhalla proposes that movement of the nominal [V+Asp] complex to T head would violate the m-selectional properties of T head; so, to support the stranded element *be* is inserted as in the case of *ol* in (23) above. Thus, the parametric difference of the Asp head can account for the different forms of T and Asp heads as well as the need to insert an expletive element as copula.

2.4.2.2. The Copula *i-*

In Turkish there is not only the *ol* copula that is inserted for satisfying m-selectional properties of functional categories; I assume in line with Enç (2004) and Kelepir (2001) that the *i-* copula is also inserted for satisfying the $[uV]$ feature of the higher domain categories (i.e. for the past tense *–DI* and modality functions of *-mIş*.)

(26) Ayşe   gel-di. [16]
       Ayşe   come-past
       "Ayşe came."

(27)   TP$_{Past}$

          VP   V°$_i$+ T°$_{Past}$ [uV]

             t$_i$
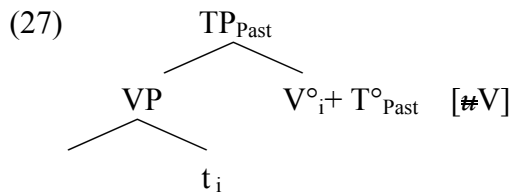
(28) Ayşe   gel-iyor-Ø-du.
       Ayşe   come-prog-cop^H-past
       "Ayşe was coming."

(29) TP$_{Past}$

   AspP$_{Prog}$ *i-* [+V] + T°$_{Past}$ [uV] (*i-support*) ◄— m-selection need to be satisfied

   VP   V°$_i$+ Asp°$_{Prog}$ [uV] = [-V]

         t$_i$

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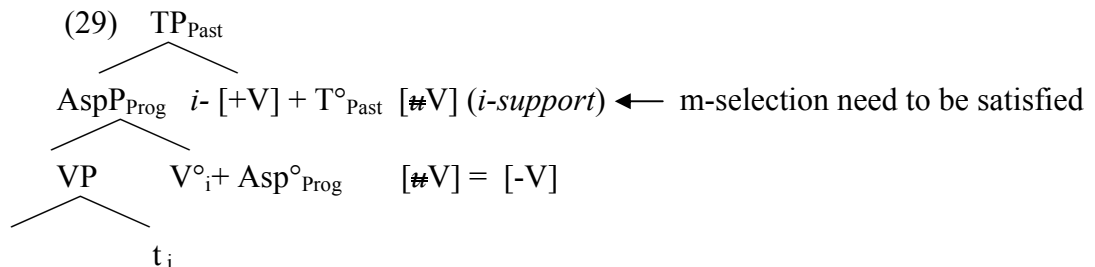
[16] In such a sentence as *O henüz gel-di* "He/she has just arrived" , following Kornfilt (1996) and Sezer (2001) who both argue for the presence of a null copula that precedes the null present tense, I assume that the functional domain includes a null copula and a null present tense, and the marker *–DI* heads an Asp$_{perfect}$ head, hence the present perfect reading. The perfect aspect of *–DI* will be discussed in Appendix. See Kornfilt (1996) and Sezer (2001) for the evidence as to the presence of a null copula preceding a null present tense.

In (27) the tense head can satisfy its [*u*V] feature through the lexical verb but as in (23) above, in (29) the lexical verb satisfies the [*u*V] of the closest functional head (i.e. Asp°$_{Prog}$) in harmony with the proposal in (20). The movement of the lexical verb derives a [-V] complex of V°+ Asp°$_{Prog}$, which again cannot move to T head as it would violate the m-selectional properties of T°, hence the insertion of the *i*-copula. The *i*- copula is not phonologically realized due to the phonological properties of Turkish; however, as Kornfilt (1996) suggests, it is present in the predicate due to (i) the stress on the preceding functional category, (ii) the availability of the form "gel-iyor i-di-m" in Turkish.[17] Although it is phonologically null (i.e. Ø) in the predicate, it fulfills its syntactic function – to check the [*u*V] feature of the higher functional head, hence the grammaticality of (28). Consider (30) and (32):

(30)   *işçi-di.
           worker-past

(31)   TP$_{Past}$
              NP   T°$_{Past}$ [*u*V]
                      N°   [-V]

(32)   işçi-*y*-di.
           worker- cop^{H}-past

(33)   TP$_{Past}$
              NP   *i*- [+V] + T°$_{Past}$ [u̶V]   (*i-support*)
                      N°   [-V]

---

[17] See Kornfilt (1996), Göksel (2001) and Sezer (2001) for the evidence concerning the presence of the *i*- copula in those cases it is not phonologically realized but it is still there with its morphosyntactic properties. So, I assume that the omission of the copula is entirely a PF operation.

On those predicates in which a non-verbal category occurs there is no [+V] category that can satisfy the [*u*V] feature of the functional category as in (30). The nominal category "işçi" in (30) does not bear [+V] feature but [-V].[18] The tense head requires a verbal element to satisfy its m-selectional properties; so, a copular form is required to be inserted to the structure, whereby the well-formed predicate is obtained.[19]

Such evidence coming from verbal and non-verbal predicates suggests that the *i-* copula is also required for satisfying m-selectional requirements parallel to *ol.* But then the question is what determines the nature of the copula (*ol* or *i-*?) in those functional domains? In line with Enç (2004) and Kelepir (2001), I assume that the *ol* copula is inserted for the lower domain - Aspect/Modality categories - and the *i-* copula is inserted for the higher domain - Tense categories – in light of the assumptions (a) and (d) above. Then such a proposal predicts that we can have both of the copulas simultaneously on the same predicate in such a case in which an aspect and tense category cannot satisfy their m-selectional properties through the lexical verb but need a verbal element as in (33):

(33) *gid*-iyor *ol*-muş-Ø-tu
     go-prog cop^L-perf-cop^H-past
     "He was in such acse that he was going."

(34)
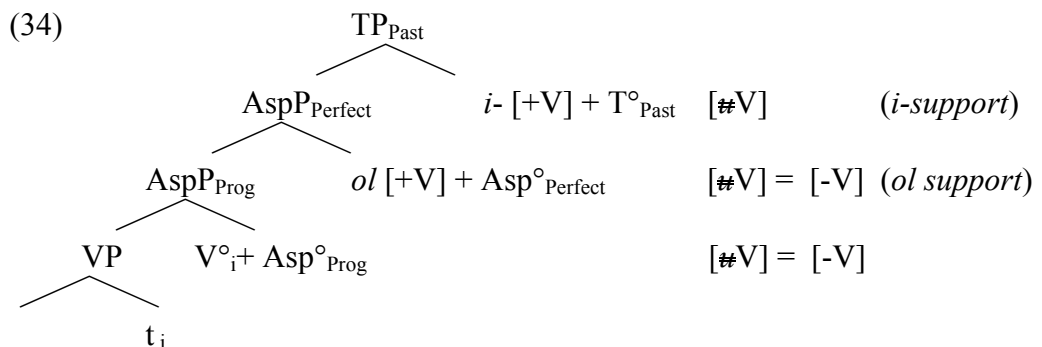
---
[18] Note that the adjectival catregories are assumed to bear [+V] feature; however, they are also marked as [+N]. Only a true verbal category (i.e. [-N, +V]) can satisfy the verb feature of a functional category.

[19] The consonant /y/ is the phonological variant of the copula *i-* in certain environments.

According to the proposed analysis here, the derivation of the predicate is as follows: the functional Asp$_{Prog}$ head, when combined with the lexical verb, satisfies its [uV] feature but when the merged complex further combines with the Asp$_{Perfect}$ head, it cannot satisfy the feature due to the [-V] nature of the complex, which necessitates the *ol*-support for the Asp$_{Perfect}$ head as suggested above. Having satisfied the m-selectional requirements of Asp°, this higher complex (it is [-V] as well) combines with the tense category, which also needs to attach to a verbal stem. So, the copula *i*- is inserted for this tense category and thus, the [uV] feature of the tense head is checked.[20]

2.4.2.3. The Copula *ol* Starts a New Domain

Although the copula *ol* is inserted for purely morphological motivations, it is interesting to note that it starts its own domain for the hierarchy of the functional domains.[21] In his seminal work, Cinque (1999) proposes that all the functional projections over VP universally follow a strict hierarchy with respect to each other. Cinque assumes that the parallelism between the order of functional categories and the order of adverbs at their Spec positions suggests the universal rigid ordering of functional categories. According to his proposal, each functional category occupies a unique syntactic position with a unique meaning in the hierarchy. The universal order of the functional categories is as shown in (35):

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20 The presence of the *ol* copula does not necessitate the following copula to be *i*-; the nature of the copula is contingent on the nature of the functional category. So, more than one *ol* copula can be inserted to the structure when required as in (i):

    (i)   yap-ıyor   ol-acak   ol-muş-Ø-tu-m.
              do-prog   copL-fut copL-perf- copH-past-1Pagr
              "I was in such a case that I was going to have done that."

It should not go unnoticed that some native speakers find this sentence ungrammatical and probably it is confined to some dialects only.

[21] In a sense, contra the analysis developed in this chapter since the capacity of the *ol* copula to start a new domain implies that the copula support is much more than being just a last resort strategy.

(35) MoodP$_{speech\ act}$ > MoodP$_{evaluative}$ > MoodP$_{evidential}$ > ModP$_{epistemic}$ > TP$_{Past}$ > TP$_{Future}$ > MoodP$_{irrealis}$ > TP$_{anterior}$ > ModP$_{alethic}$ > AspP$_{habitual}$ > AspP$_{repetitive(I)}$ > AspP$_{frequentative(I)}$ > ModP$_{volition}$ > AspP$_{celerative(I)}$ > AspP$_{terminative}$ > AspP$_{continuative}$ > AspP$_{perfect}$ > AspP$_{retrospective}$ > AspP$_{proximative}$ > AspP$_{durative}$ > AspP$_{progressive}$ > AspP$_{prospective}$ > AspP$_{inceptive(I)}$ > ModP$_{obligation}$ > ModP$_{ability}$ > AspP$_{frustrative/success}$ > ModP$_{permission}$ > AspP$_{conative}$ > AspP$_{completive(I)}$ > VoiceP > AspP$_{repetitive(II)}$ > AspP$_{frequentative(II)}$ > AspP$_{celerative(II)}$ > AspP$_{inceptive(II)}$ > AspP$_{completive(II)}$ >

(Cinque 2001; 47)

Via Turkish data, Cinque (2001) argues that in such a sentence as (37) the order of the functional categories is predictable from the rigid hierarchy of functional projections in (35):

(36) Oku-*yor*   ol-*abil*-ir   (pc Kornfilt, to Cinque)
       read-*prog*   cop^L-*abil*- aor
       "He might be reading."

Through (37), Cinque suggests that the order of the progressive head and the alethic modality (i.e. possibility) complies with his universal order of functional projections; so, he notes the partial order of functional categories in Turkish as follows:

(37)   Fut> *Mod$_{Alethic}$*> *Asp$_{Progressive}$*> Neg> Mod$_{Ability}$ (>V)

(Cinque 2001; 50)

Note that his analysis does not take into consideration the presence of the copula *ol* that is inserted to check the [*u*V] feature of the Mod°$_{Alethic}$ according to the present analysis. Cinque assumes that the order of the functional categories complies with his universal hierarchy no matter whether they occur at different phonological domains. Although I assume his proposal, "functional heads *are* rigidly fixed, though one and the same morpheme, by filling different heads (with concomitantly different functions), may give the impression of changing places (Cinque, 2001; 55) [italics his]" throughout the analysis in this section, I suggest that the *ol* copula starts a new syntactic domain for the order of the functional heads in the same spirit with Enç (2004), who proposes the *ol* copula brings its own cycle of functional heads. On the

basis of this fact, Enç argues that Cinque's rigid hierarchy is too strong as evidenced from Turkish data. Enç notes that the possibility of iteration of Zone II categories reveals no rigid hierarchy of functional projections; instead she proposes a weaker version of the hierarchy in which aspect categories are lower than tense categories universally as in Turkish. Consider (38):

(38) D̲ü̲n̲ *tam* bu işe başla-*mış* ol-*acak*- Ø-t̲ı̲ (ama yine bir problem çıktı)
         yesterday almost this job-dat start-perf cop[L]-prosp-cop[H]-past
   "Yesterday he was about to have started this job (but a problem occurred again)"

In (38), the adjacent V-slot is occupied by Asp°[Perfect] and it occupies a lower position (i.e. a closer position to V°) than the Asp°[Prospective] that licenses the adverb 'tam'. Nevertheless, in Cinque's universal hierarchy AspP[Perfect] occupies a higher position than the position of AspP[Prospective], which is apparently not the case in (38). I suggest that it is due to the insertion of the *ol'*copula that a new domain for the order of the functional heads starts.[22] In other words, the copula defines the new domain for the hierarchical order of functional categories and separates them from the hierarchy of the lower functional categories.[23]

2.5. Verb Movement Revisited

As stated above, in Turkish the head movement of the lexical verb to a functional head is required for satisfying m-selectional properties of functional categories but the adjunction is only to the closest functional head; because of this, I provided the proposal in (20) above:

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[22] Such a suggestion further supports the proposal of Kelepir (2001) that the *ol* copula is inserted under V°.

[23] I just propose here that at least one of the reasons for the insertion of the *ol* copula is for satisfying m-selectional requirements of functional heads; I leave it to futher research whether (i) it is inserted to V° (Kelepir, 2001) or (ii) it projects its own phrase (cf. Göksel 2001 for some matrix clauses) or (iii) it is simply inserted to the functional head in question to support it as assumed throughout this section. However, the analysis above implies that since the copulas are inserted to the functional heads to satisfy their m-selectional properties, there is no projection of copulas in syntax (in the same spirit with Göksel 2001). They occupy the same syntactic position with the functional heads they are inserted for.

(20) In Turkish, the lexical verb/verbal complex can only attach to the closest [-V] functional head and this movement is motivated by the m-selectional properties of the [-V] functional head.

As the proposal (20) implies, the movement of the lexical verb/verbal complex is short – it moves as high as the closest functional head; this is due to the fact that when the verb moves to the closest functional head and combines with it, the resulting category is a participle (i.e. [-V]) as discussed above. The resulting category cannot satisfy the m-selectional properties of a higher functional head, hence the insertion of a copula as a verbal element. Also, the movement of the resulting category to the higher functional head would violate the m-selectional properties of the functional category. In short, the cyclic movement of the lexical verb to a functional head changes its verbal nature and hence, the requirement to insert a copula.

As suggested above, when a category from the higher domain (i.e. the past tense *-DI* and the evidential *-mIş*) cannot have a lexical verb satisfy its [*u*V] feature, *i-* copula that also bears [+V] feature is inserted. Kelepir (2001) proposes that the motivation to insert the *i-* copula is that a lower functional head such as an Asp° blocks the movement of the lexical verb to T°. As also noted above, Kelepir indicates that the verb movement to Asp° forms a complex head and the complex head is a participle that cannot move to Tense, hence the insertion of the copula *i-* as a verbal element. In a sense, the discussion above supports the copula insertion that Kelepir suggests: When the lexical verb/verbal complex cannot satisfy m-selectional properties of a functional category, the copula *ol* is inserted for the lower domain categories, and the copula *i-* for the higher domain categories; the need to insert a copula element stems from the fact that the movement of a lexical verb to a lower [-

V] functional head derives a participle. The proposal in (20) can be re-formulated as in (39) below:

(39) In Turkish, the lexical verb can only attach to the closest [-V] functional head and this movement is motivated by the m-selectional properties of the [-V] functional head. If a higher functional head is present in the configuration, a copula as a verbal element is inserted to satisfy the m-selectional properties. The selection of the copula is contingent on the nature of the functional head.

As Kelepir (2001) points out, when the structure does not contain Asp or Mod heads on the path of the lexical verb to T head, the lexical V simply moves to T°; because, T° is the closest [-V] functional head and the movement is motivated by satisfying its m-selectional requirements as the proposal in (39) suggests.

(40) Ali git-ti.
     Ali go-past.
     "Ali went."

(41)   a.   TP$_{Past}$ b.   TP$_{Past}$

             VP   T° [uV]   VP   V$_i$° + T° [uV]

                  V°   [+V]   t$_i$
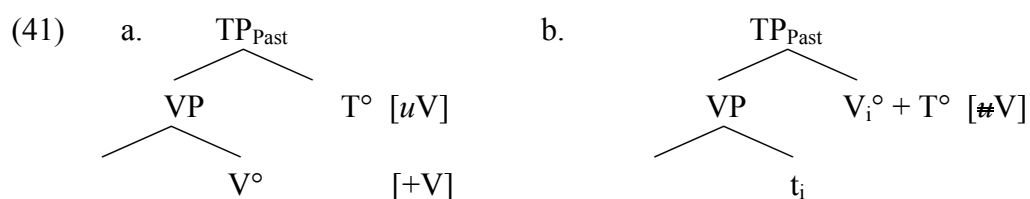
To recapitulate, in this chapter I discussed the movement of the lexical verb to the functional domain in Turkish in terms of morphological and morphosyntactic considerations. I assumed that the functional categories in Turkish need to satisfy their m-selectional properties through the lexical verb or the verbal complex but when the lexical verb/verbal complex comes short of satisfying these constraints due to its participle nature, a verbal form (i.e. *ol* or *i-* copula) is inserted. Otherwise, the movement of the verbal complex would violate m-selectional properties of the functional category attached. The selection of the copula is dependent on the nature of the functional category (i.e. whether it occupies a position in the lower domain or

the higher domain). However, the discussion of verb-movement in Turkish in terms of syntactic properties should be abstracted away from morphological considerations or constraints. Independent of morphological properties of functional heads, the syntactic repercussions of verb-movement should be investigated through scope and licensing properties to determine the nature of the position in which the verbal complex occurs on the functional domain. Therefore, the next chapter investigates the syntactic properties of verb movement in Turkish.

CHAPTER III

VERB MOVEMENT IN TURKISH

3.1. Introduction

This chapter presents evidence to the fact that there is 'verb movement' in Turkish; that is, the verb overtly moves to the functional domain. Yet, it moves as high as the T head but not into the C-system. Evidence coming from object shift, scope facts (i.e. neg-quantifier scope relation) and NPI-licensing (the licensing requirements of Negative Polarity Items) supports this claim. Therefore, following Miyagawa (2001, 2003), I show that when the verb raises to T° position, the object NP is rendered equidistant to Spec TP position with respect to the subject NP such that the object can move to Spec TP position (*object shift*). Furthermore, I suggest in line with Öztürk (2005) that T's EPP feature is deleted through V-to-T movement in Turkish. Thus, I argue that the movement of subject NPs to Spec TP position is just required to trigger the subject-verb agreement at TP level rather than checking the EPP feature of T°, which can be handled by V-raising to T° ($\acute{a}'$ *la* Alexiadou and Anagnostopoulou, 1998). Moreover, I also show that the interaction of negation with scope facts implies the presence of verb movement in Turkish; that is, when the lexical verb moves to the T-system, it picks up the Neg head on the path and arrives at such a position that Neg head can take the quantifier under its scope. The licensing of NPIs provides further evidence in favor of the movement of the lexical verb into the functional domain, whereby, Neg° c-commands a NPI item, satisfying the licensing conditions of NPIs (Kural 1993, Kelepir 2001). Thus, in the following discussion, I will bring the syntactic evidence in the foreground that suggests that the verb overtly moves to the functional domain in Turkish. When it moves, not only

does it render the subject and object NPs equidistant to Spec TP position, but it also leads to scope differences and satisfies the licensing requirements of NPIs.

3.2. Clausal Structure Of Turkish

In the present study I assume the Split-Infl structure of Turkish in light of Pollock (1989), Ouhalla (1991) and Aygen (1998); the clausal configuration assumed throughout the study is as follows:

(1)

```
              CP
             /  \
                 C´
                /  \
              TP     C AGR/ FOC
             /  \
                 T´
                /  \
            AspP     T
           /  \
               Asp´
              /  \
          ModP     Asp
         /  \
             Mod´
            /  \
        NegP     Mod
       /  \
           Neg´
          /  \
        vP     Neg
       /  \
           v´
          /  \
        VP     v
       /  \
           V´
          /  \
               V
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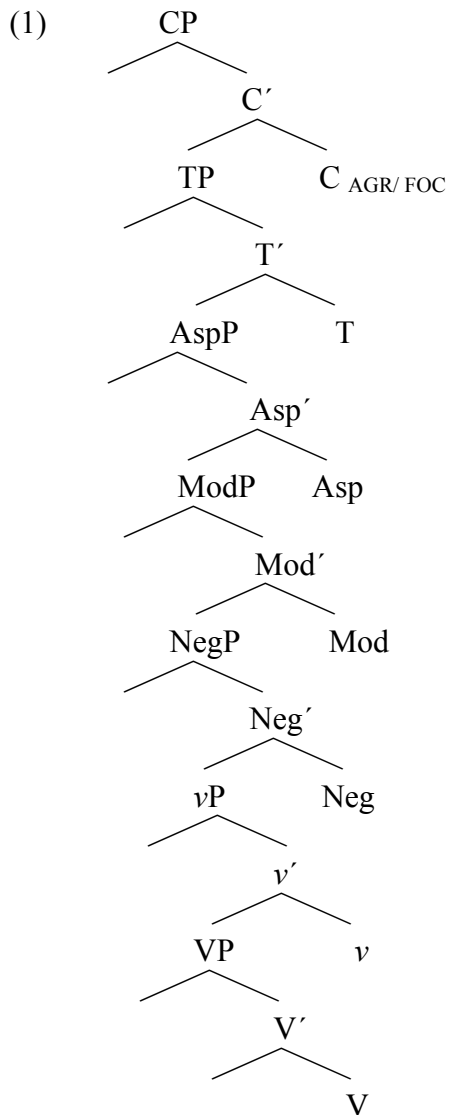
Aygen (1998) proposes that in Turkish T and Asp heads are hybrid and just project one phrase; but I assume they are separate heads in the numeration and under certain conditions they get fused (See Appendix for more elaboration). Furthermore,

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following Miyagawa (2003, 2004), I assume that the C head bears FOC and AGR features; that is, the present study assumes 'agreement' as a feature, hence no AGR projection but it differs from Miyagawa (2004) in that Turkish is not solely a focus-prominent language and that AGR feature percolates down to the T head when it is strong. Thus, the AGR feature on the T head now attracts the Subject NP to Spec TP to establish the subject-verb agreement through Spec-head relation. Moreover, following Chomsky (1995), I assume that the subject NP is generated at Spec *v*P. And in light of Ouhalla (1991), when no Asp° or Mod° projects, the T head m-selects and c-selects the Neg head in the negative clauses.

3.3. V-to-T Movement

As noted in the introduction, in Turkish, the path of the verbal complex to the highest node in the T-system is not interrupted by adverbs or any NPs in the configuration due to its head-final nature; this necessitates looking for evidence from licensing requirements and scope differences in a configuration due to verb-movement. For instance, Aygen (1998) argues in light of MP that the V-complex in Turkish undergoes feature checking process through V-movement and each cyclic movement of the verbal complex to a functional head licenses the features on the fully inflected V-complex. Hence, the 'Full Interpretation' requirement is ensured since there remains no uninterpretable feature unchecked. Öztürk (2005), on the other hand, argues that V-movement to T not only checks the EPP feature on T° but also renders the subject and object NP equidistant to Spec TP position (in line with Miyagawa 2001, 2003). In the following sections, syntactic evidence from scopal facts of Turkish with respect to negation and object shift phenomenon is presented to support the claim that the verb moves to the functional domain in Turkish.

3.3.1. Negation and Scope

Licensing conditions of Negative Polarity Items (NPIs) support V-movement in Turkish. Kelepir (2001) and Kural (1993) argue that negation should c-command NPIs in Turkish.[24] If an NPI item is not c-commanded by a negation marker in the structure (i.e. it is not licensed), the sentence is ungrammatical; for instance, in (2) the negation marker in the embedded clause cannot license the NPI at Spec TP position in the matrix clause as it cannot c-command the NPI:

(2) *Kimse* [Ali'nin   gel-*me*-diğ-i]-ni   söyle-di.
     nobody -gen   come-neg-nom-poss-acc   say-past
     "Nobody said Ali didn't come"

Now let us consider (3):

(3) [Ali$_k$ kimse-yi$_i$ [t$_k$ [sabırla   t$_i$ t$_j$]]   dinle$_j$-me-di].
     TP   vP   VP

          noone-Acc   patiently   listen-Neg-Past
     "Ali didn't listen to anyone patiently."

The position of adverbs (and their scope) constitutes another tool to identify the presence of V-movement. In the sense of Cinque (1999) there are two types of adverbs to identify the domain or boundary of TP and VP levels: High adverbs as *maalesef* "unfortunately" are held to be adjoining to the TP level in a structure whereas low adverbs (i.e. manner adverbs) as *hızlı hızlı* "quickly" or *sabırla* "patiently" are analyzed to attach to the VP domain. Here, the position of the low adverb *sabırla* indicates that the object has moved out of VP domain to a higher position in the configuration; because, as indicated above, low adverbs attach to the VP domain and identify the VP boundary.[25] If the subject "Ali" is analyzed as

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[24] See Aygen (1998) for a counter-argument on NPI licensing in Turkish through a spec-head basis account.
[25] The exact position of the object after movement is open to discussion though; does it adjoin to *v*P domain or to a higher adjunction position as NegP? In both cases, as the complex moves to T˚, the

occupying Spec TP position, then it can be concluded that the object is located at a position lower than Tº. The complex of the lexical verb and NEG moves to Tº position through head movement so that the complex arrives at a position where it can c-command the NPI that is located at a lower position than Spec, TP.[26]

Therefore, the c-command requirement of negation on NPIs in Turkish suggests evidence on the presence of verb movement to the functional domain in Turkish.

In parallel, the facts about scope relations in Turkish also provide evidence for V-movement. As Kural (1994) indicates, one of the basic facts about Turkish is that the scope of simple quantifiers like 'every' and 'some', and numerals is determined by their S-structure c-command relations; that is, these quantifiers do not display ambiguous readings, and their scope *in most cases* can be read off from S-structure.

Scope of negation marker with respect to quantifiers is determined according to its position. When negation occupies a higher position than the quantifier, it provides "NEG> Quantifier" reading. Consider the following sentence then:

(4) $[_{TP}$ Ali $[$ bütün elma-lar-ı$]_i$ $[_{VP}$ hızlı hızlı t_i $t_j]$ ye$_j$-me-di$]$.

            all   apple-Plu-Acc   quickly   eat-Neg-Past
(= He ate some of them quickly but not all of them) (NEG>all, *all>NEG)

Again the low adverb *hızlı hızlı* "quickly" implies that the object phrase moves out of the VP domain to a higher position in the structure as in (3); but the position that it moves to is not Spec TP position since the subject "Ali" is located at that position; so, this suggests that the object moves to a position lower than Spec TP, and the only way that Negº can take the quantifier under its scope is that the V-complex bearing

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negation c-commands and licenses the NPI. Yet, it should not go unnoticed that if the object adjoins to *v*P, Negº can c-command the NPI at its base position.

[26] As Lasnik's *Stray Affix Filter* suggests, V should move to INFL if inflectional morphemes need to be stacked as affixes to V. Thus, the verb picks TAM markers NEG marker on its path to T. As Aygen (1998) states V-movement to T through NEG is consistent with the HMC in Turkish and as the NEG element in Turkish is affixal, V-movement to NEG is motivated.

Neg° moves to T° through V-movement. Thus, Neg° ends up at a position where it can c-command the quantifier "all" and takes it under its scope. Thus, the interaction of negation with scope also suggests evidence on the presence of verb movement.

3.3.2. Object Shift

The availability of object shift in Turkish presents evidence for V-movement, too. Miyagawa (2001, 2003) accounts for the availability of object shift in Japanese through V-movement to T°, which also presents implications for the nature of object shift in Turkish. Miyagawa proposes that in Japanese when V° raises to T°, the domain expands for the object such that Spec TP and Spec vP positions count equidistant for the position that it occupies (i.e. the sister position of V°). Thus the object can check the EPP feature on T moving across the subject without violating locality, which gives rise to the OSV word order. Miyagawa further holds that without V-raising to T, the object would be too distant from Spec TP and only the subject NP would check the EPP then, leading to the canonical SOV order. Thus, he proposes that A-scrambling of the object is EPP-driven.

(5)
```
              TP
            /    \
                  T′
               /      \
            vP          T
          /    \      /    \
       SUB      v′   V-v-Neg-T
             /    \
           VP      t_v
          /   \
        OBJ    t_v
```

(Miyagawa 2003; 192)

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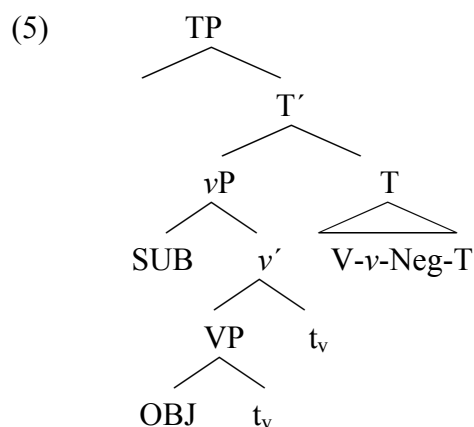
This observation is crucially based on Holmberg's Generalization (1986), who first observed that in order for an object to shift to a higher position in the structure, V's movement to T° is essential, as illustrated by the Icelandic data in (6).[27]

(6) a. Igaer   las$_m$ eg$_j$ [flessar bakur]$_k$ ekki [$_{VP}$ t$_j$ t$_m$ t$_k$]   (Icelandic)
       yesterday read   I   these books   not
       "Yesterday I did not read these boooks."

    b.* Igaer   hefi   eg$_j$ [flessar bakur]$_k$ ekki [$_{VP}$ t$_j$ lessir t$_k$]
        yesterday have   I   these books   not   read
       "Yesterday   I have not read these books."

Miyagawa (2003) also notes that when the object is driven to Spec TP position by the EPP feature on T°, the scope properties of a clause can also change, as exemplified in (7):

(7) Sono tesuto-o$_i$ *zen'in-ga*   t$_i$ uke-nakat-ta (yo/to omou)
    that test -ACC$_i$ *all*-NOM   t$_i$ tale-NEG-PAST
    "That test, all didn't take."

                                                          not >> all, (all >> not)
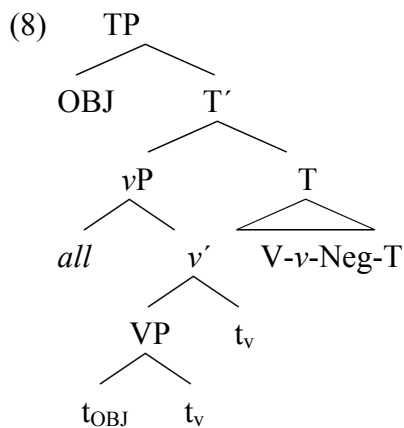
(8)   TP
      /   \
   OBJ   T´
          /   \
       *v*P   T
       / \   / \
    all *v*´ V-*v*-Neg-T
          / \
        VP   t$_v$
       / \
    t$_{OBJ}$ t$_v$ (Miyagawa 2003; 184)

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[27] As cited in Bobaljik (1995), Holmberg (1986) observes that when the verb has not raised overtly, object shift cannot take place in the Scandinavian languages.

Miyagawa further notices that the difference between Romance languages (that have V-to-T movement but not object shift) and Japanese is that Japanese has morphological Case markers; therefore, he proposes the following:

(9)   Languages that have V-to-T raising and morphological Case marking allow EPP-driven   scrambling of the object.

(Miyagawa 2003; 193)

Miyagawa argues that the effect of morphological case markers on the object shift in tandem with V-to-T raising is due to the fact that in Japanese morphological case markers as Nominative and Accusative agree with T°; the correlation between the parallel occurrence of Accusative and Nominative Cases provides evidence that T° licenses both, hence the object scrambling to Spec TP. Then, the question is apparent: Since Turkish allows verb movement as suggested in the previous chapter and has a morphological case marking system, (i) does the object scramble to Spec TP position (i.e. A-scrambling), (ii) if it does, is it due to the EPP on T°, and (iii) what scopal affects does this object shift lead to?

3.3.2.1. Object Shift in Turkish

As noted above, one of the basic facts about Turkish is that the scope of simple quantifiers like 'every' and 'some', and numerals is determined by their S-structure c-command relations and their scope *in most cases* can be read off from S-structure.

(10)   Ali bütün test-ler-e   gir-me-di.   (*NEG>all, *all>NEG*)
              all   test-plu-dat   enter-neg-past
         "Ali didn't take all the tests."
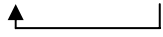
(Öztürk, 2005; 171)

In (10), Öztürk (2005) suggests that at its base position, the object takes narrow scope unambiguously as the negation dominates it at S-structure. However, for (11), there are two different interpretations due to two possible different S-structures of the same sentence:

(11)   Her   çocuk   bir kitab-ı   okudu.
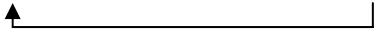   every child   one book-acc read-Past

    i.   "Every child read a specific book." $\exists > \forall$
    ii. "Every child read a different book out of a definite set of books." $\forall > \exists$
                                                                         (Öztürk, 2005; 180)

(12)   a. $[_{\text{Spec TP}} \exists [_{v\text{P}}$ Her çocuk $[_{\text{VP}}$ bir kitab-ı okudu.$]]]$

       b. $[_{\text{Spec TP}}$ Her çocuk $\exists [_{v\text{P}}$ t $[_{\text{VP}}$ bir kitab-ı okudu.$]]]^{28}$

                                        A-movement

In (12a) Öztürk suggests that since the subject NP is left at its base position, it is

under the scope of existential domain. However, in (12b) the distributive subject A-

scrambles to Spec TP and is now out of the existential domain, which gives us the

wide scope reading. Yet, in (13) only the narrow scope reading is possible:

(13) $[_{\text{Spec TP}}$ Bir kitab-ı $\exists [_{v\text{P}}$ her çocuk $[_{\text{VP}}$ t okudu.$]]]$ $\exists > \forall$

                                A-movement

As clear from (13), the object NP scrambles to an argument position (i.e. Spec TP)

since it cannot reconstruct to its base position and thus cannot give rise to ambiguous

reading. In line with Miyagawa (2003) Öztürk argues that V°-to-T° movement

renders the position of the object NP equidistant to Spec TP with respect to the

position of the subject NP (i.e. Spec vP), hence the allowance of the A-scrambling of

the object NP to Spec TP. Öztürk proposes the following:

(14)   Since in Turkish NPs acquire full argument status in their theta role positions
        without Agree with higher functional projections, all arguments remain in
        their theta positions, which have equal relations with the verb in compliance

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[28] Note that Öztürk (2005) suggests an analysis of Turkish clausal architecture on the basis of Neo-Davidsonian Model, in which it is assumed that the argument structure of a verb is licensed by the functional structure and thus, subjects are generated at Spec AgentP, and objects are at Spec ThemeP etc. In the present analysis I assume the vP approach (Chomsky 1995) where a subject is generated at Spec vP and object is generated as the sister of V° in VP.

with the Neo-Davidsonian model. *When the verb moves to a higher functional projection* such as T, even though theta-role introducing functional heads observe the theta-hierachy, all arguments count as equidistant from V/T complex because they all have an equivalent relation to the verb. This is what causes the flat structure effect observed in Turkish, which is taken to be a case of non-configurationality. [italics mine]

(Öztürk 2005; 187)

Then, the question is whether this object scrambling in (13) is EPP-driven as in Japanese, or any other language-internal factor attracts the object NP to Spec TP? In line with Öztürk (2005), I propose that A-scrambling of the object NP is solely Quantifier Raising to Spec TP and motivated by the language-specific scopal properties, and the EPP of T° is checked by MOVE X° (i.e. verb movement) (Alexiadou and Anagnostopoulou 1998). The following discussion will elaborate on this proposal.

3.3.2.2. Case Licensing: Japanese vs. Turkish

As noted above, Miyagawa (2003) suggests that the correlation between the parallel occurrence of Accusative and Nominative Cases suggests that T° licenses both, hence the object scrambling to Spec TP due to case licensing through T° and the EPP. To illustrate the co-occurrence of Accusative and Nominative Case in Japanese, Miyagawa notes that an object with accusative case cannot co-occur with a subject that bears genitive case in such structures as relative clauses and nominal complement clauses:

(15) *[Taroo-*no*   Hanako-*o*   sikatta] riyuu
      [Taro -GEN Hanako-ACC scolded] reason
       Intended Meaning: "The reason why Taro scolded Hanako"

(16)   [Taroo-*ga*   Hanako-*o*   sikatta] riyuu
      [Taro -NOM   Hanako-ACC   scolded] reason
      "The reason why Taro scolded Hanako"

(Miyagawa 2003; 194)

In (15) the presence of genitive case on the subject results in the ungrammaticality of the sentence because of the fact that there is an accusative-marked object in the

embedded clause, too. (16) illustrates the co-occurence of nominative and accusative case in an embedded clause. The following example rules out the possibility that the ungrammaticality of (15) is due to the presence of genitive case in an embedded clause subject.

(17)   [Taroo-no/ -ga   kuru] riyuu
       [Taro -GEN/-NOM come] reason
       "The reason why Taro will come"

As Miyagawa shows in (17), a subject NP in the embedded clause can take genitive case; the problem is that genitive and accusative case cannot co-occur in a relative clause or nominal complement in Japanese. Hence, Miyagawa proposes that the same head (i.e. T°) licenses both the nominative and accusative case markers, which supports the object shift to Spec TP position in Japanese, too. Note that the (approximate) corresponding structure of (18) in Turkish is grammatical:

(18) [Taroo-nun   Hanako-yu   azarla-ma] sebebi[29]
       Taro-GEN   Hanako-ACC   scold-Nom. reason
       "The reason why Taro's scolding of Hanako"

As (18) shows, although there is no Tense head in the nominal complement clause, there can occur an accusative-case marked object in the structure and the presence of a genitive-case marked phrase is compatible with an accusative-case marked object. Leaving aside what licenses the accusative case in (18), it is clear that in Turkish the Tense head does not license the accusative case unlike Japanese. Furthermore, Öztürk (2005) suggests that the T head does not host the case feature and it does not play a role in case feature checking.[30] Thus, going back to (15) above, we can

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[29] It is probably more proper to take the exact corresponding structure of (15) as "[Taro'nun Hanako'yu azarlamış olması]nın sebebi]" ; however, the point here is that in Turkish the genitive-case marked subject can co-occur with an accusative-case marked object and the presence of an accusative-case marked object does not require the presence of a T head in the clause as apparent in (18).

[30] Öztürk (2005) argues that subjects do not move to Spec TP position in active, passive and unaccusative constructions for case checking, whereby, she concludes that the T head is not a host for case features. Öztürk analyzes the nominalizer marker '-mA' as an Asp head that licenses the accusative case within the clause as in (18). Yet, here I assume that at least in (22) above the

eliminate the motivation for Turkish that an accusative-case marked object A-scrambles to Spec TP position in order to be licensed for its morphological case by T°. The following question is self-evident then: Does it move to satisfy the EPP on T°?

3.3.2.3. Where is the Subject? At Spec *v*P or Spec TP?

Öztürk (2005) suggests that (19) and (20) have unambiguous readings in Turkish:

(19) [$_{TP}$ [$_{NegP}$ [$_{vP}$ Bütün çocuklar [$_{VP}$ o sınavı al-]]ma]-dı]   (*all >> not, not >> all)
              all   children   that exam take-neg-past
   "All children did not take that test."

(20) [$_{TP}$ Bütün çocuklar[$_{NegP}$ [$_{vP}$ [$_{VP}$ o sınavı al-]]ma]-dı-*lar*](all >> not, *not >> all)
           all   children   that exam take-neg-past-3pPlu

In (19) the subject stays at its base position and the negation takes it under its scope, hence the narrow scope reading. In (20) the subject moves out of its base position to Spec TP position, whereby, it achieves wide scope reading as well as overt verbal agreement on the predicate. Note that a number of native speakers (myself included) that I have consulted find (19) ambiguous. [31] Indeed, the ambiguity of (20) for those native speakers has an account with respect to the Turkish agreement facts: The third person plural marker can be omitted optionally as in (21).

(21) [$_{TP}$ Bütün çocuk-lar [$_{AdvP}$ gün boyu [$_{VP}$ oyun oyna]-dı-(lar)]
              all   children   day along   game play-past-(3pPlu)
         "All children played games throughout the whole day".

---

scrambling of the object to Spec TP position cannot be explained on the grounds of case checking. See Öztürk (2005) for the evidence that the T head does not play a role in feature checking in Turkish.
[31] Native speakers who find (19) ambiguous also find (10) above ambiguous as well. Aslı Göksel (personal communication) has pointed out to me the ambiguous reading indeed from the different focused parts of the sentence, which brings the focus issue to the domain of syntax in terms of defining the scopal properties within a clause. I leave it to further research to what extent the focus on different parts of a clause play a role in disambiguation of the quantifier scopes. See Göksel (1997) and Oğuşgil (2004) for the interaction of focus with the quantifier scope readings.

Thus, the ambiguity for (19) is predictable: If it stays at its base position and does not move to Spec TP (hence, it does not trigger agreement), the narrow scope reading is obtained. If the subject NP moves to Spec TP and triggers agreement but agreement marker is omitted as a PF-operation, the wide scope reading is interpreted. However, since both the structures have the same form at PF-level, the ambiguity occurs for those native speakers. Yet, in (20), the presence of the agreement marker overtly indicates that the subject occupies Spec TP position, not Spec *v*P position. In a sense, the overt agreement morphology 'gives away' the position of the subject in the clause.[32]

With respect to the narrow scope reading of (19), the question is what checks the EPP if the subject stays at its base position and does not move to Spec TP? As cited in Öztürk (2005), Alexiadou and Anagnostopoulou (1998) suggest that a language that is pro-drop must be V-raising but not vice versa. They further suggest that V-

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[32] The ambiguity gets more evident when you specify the context for (19).

(i) Dün okul-da bütün öğrenciler sınavlar-a gir-me-di (hepsi okul-u sınavlar yüzünden boykot et-ti).
   yesterday school-loc all students exams-dat enter-neg-past (all school-acc exams due to boycett-ed)
   "Yesterday all the students did not take their exams (they all boycotted the school due to the exams)."

Interestingly, those who find (19) ambiguous also tend to find the following passive structures ambiguous:

(ii) Bütün öğrenciler eve   gönder-il-me-di
    all   students home send-pass-neg-past
    "All the students were not let to go home".

We can again specify the context of (ii) as follows:

(iii) Ders zili çalınca bütün öğrenciler eve gönder-il-me-di (hepsin-den bir konferansa katılmaları iste-n-di)
    lesson bell when.rung all students home send-pass-neg-past (all of them-abl a conference-dat participate require-pass-past)
"When the school ring rung, all the students were not let to go home (They all were asked to participate in a conference."

Öztürk (2005) notes that in passive constructions when there is no agreement morpheme, the subject is at its base position, hence the narrow scope reading. When the subject is at Spec TP, it triggers overt agreement and it is out of the negation domain, hence the wide scope reading. The ambiguity in (ii) again can be attributed to the fact that the plural agreement marker is missing on the verb as suggested for (21) above.

raising can check the EPP especially in pro-drop languages with rich inflection.[33]

The head movement of the verb (i.e. MOVE X°) renders MERGE XP 'more costly'

in terms of the EPP checking. Alexiadou and Anagnostopoulou propose as follows:

> (22) Given that the EPP-feature can be in principle checked by the verb and also by the subject NP, why is it that the first option is taken? We would like to propose that the reason is Economy. Overt verb-movement can be conceived of as 'less costly' in the following sense. Since verb movement to AgrS° gives a head-adjunction structure, which is not stricly to the root, it does not extend the phrase marker. Thus, it should be preferred for reasons of Economy of Projection. Since the checking relation is established in a head-head configuration, the projection of a specifier, which extends the phrase marker, is not necessary. The choice arises only in languages with pronominal agreement.
> (Alexiadou and Anagnostopoulou 1998; 519-20)

Then, in line with Öztürk (2005), I assume that when the subject stays at its base

position as in (19) and provides a narrow scope reading, the EPP is checked by head

movement of the verb to T°.[34] Then, the following questions are (i) when is Spec TP

position projected in Turkish, and (ii) when it does, what motivates it to project if the

EPP on T° is already checked by V-movement? I propose the following as the basic

motivation behind projecting Spec TP in Turkish:

> (23) a. The object shift of an NP to Spec TP position is rendered possible by the verb movement to T° (i.e. *the domain expansion*).
>
> b. The movement of a subject NP from Spec vP to Spec TP is due to the AGR feature on T°.[35] The AGR feature attracts the eligible category (i.e. the subject NP that bears the proper phi-features to match with the AGR) to Spec TP position so that subject-verb agreement can be established through a local relation, which is Spec-Head configuration.[36]

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[33] Note that Alexiadou and Anagnostopoulou suggest V-raising to AgrS° checks the EPP; however, here I assume that the agreement is established at TP level rather than at AgrP, which is not employed in the present analysis.

[34] As Alexiadou and Anagnostopoulou (1998) suggest, there is no need to project Spec TP then when the EPP feature is checked by the lexical verb.

[35] In the following Chapter IV, it will be argued in light of Miyagawa (2004) that the AGR feature is originally generated at C° and then percolates down to T° according to its feature strength in the Turkish relative clauses, which determines the relativization strategy in Turkish in tandem with the focus feature.

[36] Indeed what (23b) suggests is that the presence of the AGR feature on T° necessitates the availability of a category at Spec TP; although T's EPP feature can be checked by verb movement, AGR still attracts a subject NP to establish agreement.

c. As it leads to observable consequences at PF and LF, the object shift of an NP to Spec TP is preferred over the movement of a subject NP. The latter is only motivated to check the Agr feature on T° and thus does not bear observable consequences.[37] In that case, Agr can be checked by Long Distance Agree.

We can illustrate the role of (23) through such examples as follows:

(24)   Ben bütün test-ler-e   gir-me-di-m.   (*NEG>all, *all>NEG*)
          I   all   test-plu-dat enter-neg-past-1p
          "I didn't take all the tests."

(25)

```
                TP
              /    \
          Ben_i     T´
                  /    \
              NegP      T_EPP / AGR
              /  \        /  \
           Neg´   V-v-Neg-T
           /  \
         vP    t_v
        /  \
      t_i   v´
           /  \
         VP    t_v
        /  \
  bütün testlere  t_v
```
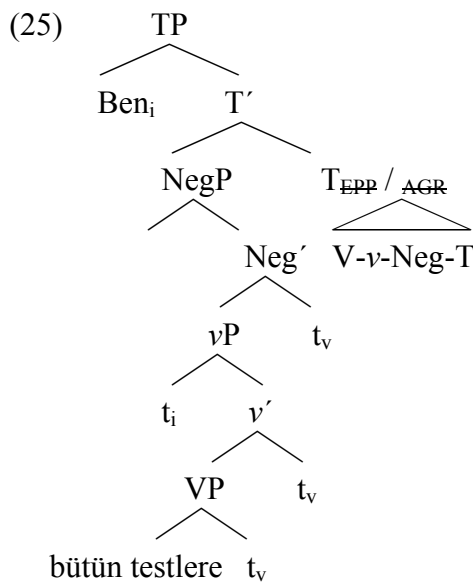
The derivation of (24) is as follows: When the verb moves to T°, it not only expands the domain for the quantified object NP but also satisfies the EPP feature of T°. The object NP stays at its base position (i.e. no object shift) and thus the AGR on T° attracts the subject NP to Spec TP position, hence the subject-verb agreement at TP level.[38] As the negation takes scope over the quantified NP, the narrow scope reading

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[37] Note that Miyagawa (2003) suggests the movement of subject or object NP to Spec TP is motivated to check the EPP on T°; however, one crucial property that Japanese and Turkish differ in is that Japanese does not have verbal agreement system unlike Turkish. This can also provide evidence as to why subject NPs in Turkish do not move to Spec TP just for EPP checking but they move to satisfy the AGR feature.

[38] A further issue concerning the subject-verb agreement is that why subjects bear phi-features but not the object NPs in Turkish? In other words, why does Turkish not bear object-verb agreement but only subject-verb agreement? One possible account would be that AGR feature also specifies a Case feature in addition as [1stP, Sing., Nom] that only the NP attracted to Spec TP can satisfy. Then AGR would be specified only for nominative and genitive Case, but not accusative Case. Also, in those cases in which the object shift of an NP to Spec TP is preferred over the movement of a subject NP, it can be suggested that movement of the object checks more features than the movement of the subject; but I leave to further research which feature attracts the object NP to Spec TP over the subject NP.

of the universal quantifier is obtained. In (26), the wide scope reading of the

universal quantifier is obtained:

(26)   Bütün test-ler-e   ben   gir-me-di-m.   (*NEG>all, all>NEG)
        all   test-plu-dat I   enter-neg-past-1p
        "I didn't take all the tests."
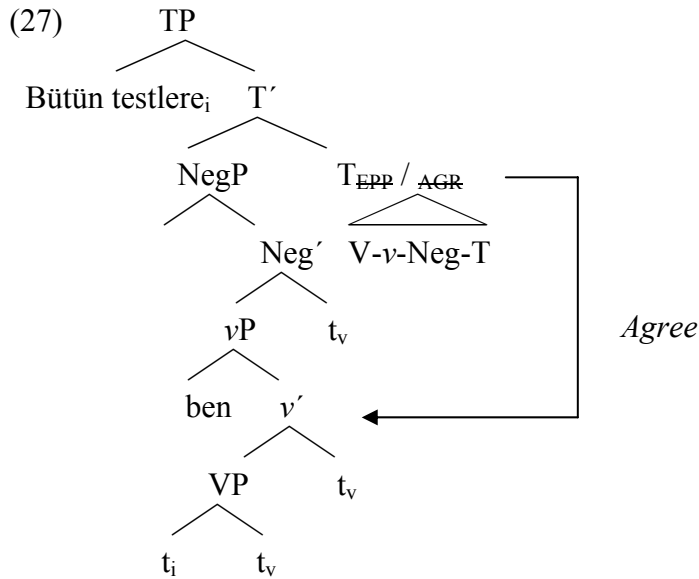

(27)   TP
            ╱   ╲
    Bütün testlere_i   T′
                    ╱   ╲
              NegP   T_EPP / ~~AGR~~ ─────┐
            ╱   ╲   ╱   ╲   │
                 Neg′   V-*v*-Neg-T   │
               ╱   ╲   │
            *v*P   t_v   *Agree*   │
          ╱   ╲   │
       ben   *v*′   ◄───────────────────────┘
             ╱   ╲
          VP   t_v
        ╱   ╲
     t_i   t_v

In (27), again head movement of the verb to T° expands the domain for the

quantified object NP and checks the EPP on T°; in light of (23c) above, the

quantified NP moves to Spec TP position and thus gives rise to wide scope reading.[39]

However, the AGR on T° is left unchecked; as a last resort strategy, T° establishes

Agree relationship with the subject pronoun and checks its AGR feature.[40]

Going back to (19) and (20), the difference between the two sentences is

apparent now: In (19), T° does not host the AGR feature (probably since it is

stranded at C head and is satisfied through Long Distance Agree); so, the subject

"bütün öğrenciler" does not move to Spec TP position (i.e. Spec TP is not projected

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[39] It A-scrambles to Spec TP position because (23) is unambiguous, hence the impossibilty of
reconstruction.
[40] Thus, it can be proposed that checking of the Agr feature is the instantiation of the agreement
marker on the verb.

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since V-movement handles with EPP), hence the narrow scope reading and no overt agreement on the predicate. In (20) the AGR feature on T° attracts the quantified subject to Spec TP, whereby, wide scope reading is obtained as well as the feature checking of the AGR (hence, the agreement marker on the predicate) .

As the discussion above shows, scope facts of Turkish with respect to negation and NPI-licensing as well as the availability of object shift support the claim that the lexical verb moves to the functional domain in Turkish, which is the T-system here. But the evident question follows then: Does the lexical verb move to C-system also? In the next section I will discuss this question based on Kural (1993)'s proposal.

3.4. V- (to-T)-to-C Movement

The issue of having an overt C head has always been controversial in Turkish; apart from the borrowed *ki* marker, most of the studies so far have assumed a null C in the analysis. In contrast to the traditional analyses, Kural (1993, 1994) claims that the final *–K* found in such morphemes as *–DIK*, *-AcAK* and *-mAK* is the C° category and proposes that the lexical verb moves as high as C° in Turkish, picking up the morpheme this way. Kural suggests syntactic evidence to argue for *–K* as the C head. He argues that the absence of the final *–K* (i.e. the C°) in an embedded clause renders ECM and case-marking in infinitives possible since there is no CP projection between the subordinate clause and the main clause in a sentence:

(28) Ahmet-Ø [ben-*i*   uyudum/Ø]   san-ıyor- Ø.
     Ahmet-nom   I-acc   sleep-past-agr   think-pres-agr
     "Ahmet thinks I slept."

(29) Ahmet-Ø   [Berna-nin   düş-me-si]nden   kork-uyor-Ø.
     Ahmet- nom   Berna-gen   fall-inf-poss-abl   fear-pres-agr
     "Ahmet is afraid for Berna to fall (approximately)."

                                                        (Kural 1993; 17-18)

Bearing in mind that ECM is only allowed in the case of CP-deletion, in (32), the absence of –*K* in the embedded clause indicates the absence of CP projection, hence the possibility of ECM. On the other hand, in Turkish the genitive-case marking of the embedded subject is only allowed if the Case is available TP-externally. Thus, in (29), the absence of CP projection again gives rise to Case-marking of the subordinate Infl by the higher verb, which in turns assigns genitive case to its subject.

The absence of CP projection also extends the disjoint reference domain of the subject pronoun of the subordinate clause.

(30) a. Ahmet-Ø$_i$ [pro$_i$ Ankara'ya git-ti-ğ-i]ni   san-ıyor-Ø.
        Ahmet-nom 3.sg. Ankara-dat go-past-comp-agr-acc   think-pres-agr
        "Ahmet thinks he went to Ankara."

    b. *Ahmet-Ø$_i$ [pro$_i$ Ankara'ya git-ti]   san-ıyor-Ø.
        Ahmet-nom   3.sg. Ankara-dat   go-past   think-pres-agr
        "Ahmet thinks he went to Ankara."

                                                                    (Kural 1993; 18)

In (30a), the presence of–*K* (i.e. CP projection) blocks the violation of Principle B and defines the binding domain as the embedded clause. But in (30b) since CP projection is absent, the binding domain extends to the whole clause, hence the violation of the Principle B and the ungrammaticality of the sentence. Thus, Kural concludes that –*K* is the C° category in Turkish. The problematic issue here is then how the subject gets genitive Case if the Case is available TP-externally and the absence of CP projection enables the embedded subject to be marked for the genitive Case as in (31).

    (31) Ahmet-Ø [Hasan'ın   Ankara'ya git-ti-ğ-i]ni   san-ıyor-Ø.
            Ahmet-nom Hasan -gen Ankara-dat go-past-comp-agr-acc think-pres-agr
            "Ahmet thinks Hasan went to Ankara."

The embedded subject is still marked for genitive Case even in the presence of –*K* on the embedded predicate. If there is a single mechanism that assigns genitive Case to embedded subjects, then it should not care about the presence of –*K* on the embedded predicate as is apparent from (29) and (31).

Assuming –*K* as the C head, Kural presents evidence to claim that the verb moves to C° through T°. First, he notes that case-marking on the embedded clause is only allowed when the lexical verb moves to C°:

(32) Ahmet-Ø   [*pro*   ev-e   *koş-tu-ğ*-um]-u   bil-iyor-Ø.
     Ahmet-nom   1.sg   home-dat run-pst-comp-agr-acc   know-prs.agr
     "Ahmet knows that I ran home."

<div align="right">(Kural 1993; 19)</div>

Kural claims that since the lexical verb moves to C°, the verbal complex can be assigned Case by the main clause predicate; put differently, the verbal complex V-T-C must move into a position high enough to be accessible to Case morphology. When it moves in the embedded clauses, it can receive Case morphology as in (32). Again the question here is apparent, going back to (29) and (33) below:

(33) Ahmet-Ø   [ben-im   ev-e   git-me-m]-*i*   ist-iyor-Ø.
     Ahmet-nom   I-gen   home-dat go-inf-agr-acc   want-prs.agr
     "Ahmet wants me to go home."

If the absence of –*K* on the embedded predicate indicates the absence of CP, how is it possible to Case-mark the embedded clause since the lexical verb cannot go to C°? Subsequently, if we argue that Case-marking is allowed since TP/IP is the highest projection now, then it would be circular to argue that in (32) the lexical verb moves to C°as there is CP projection. Then, if an embedded TP can be Case-marked, why is it the case that in ECM constructions the embedded predicate is not Case-marked but the object (as in (28))? What about the role of the nature of agreement? Also, the movement of the verbal complex through V-T-C for Case morphology would be motivated by morphological constraints, but not syntactic requirements.

Kural (1993) also suggests that V-(to-T-)-to-C movement also accounts for why the scrambling of a constituent to the postverbal position is not allowed in the embedded clauses:

(34) Ahmet-Ø   t_i git-ti-Ø   okul-a_i
     Ahmet-nom   go-past-agr   school-dat
     "Ahmet went to school."

(35) *Berna- Ø [[Ahmet-in   t_i *git-ti-ğ-i*]ni okul-a_i   duy-du- Ø
      Berna-nom Ahmet-gen   go-past-agr   school-dat hear-pst-agr
      "Berna heard that Ahmet went to school."

(Kural 1993; 20)

Kural notes that since the lexical verb moves to C°, and the postposed elements adjoin to CP level, the prohibition against adjunction to arguments (Chomsky, 1986) rules out the the possibility of postverbal scrambling in the subordinate contexts.

On the contrary, Aygen (2000; 2002) convincingly presents evidence that V is not at C in Turkish. Aygen indicates that post-verbal scrambling is indeed allowed in Turkish embedded clauses as exemplified in (36) below:

(36) Ben- Ø [[Kürşat-ın   t_i kır-dığ-ın]a   cam-ı_i   inan-ıyor-um.
     I-nom   Kürşat-gen   break-asp--agr glass-dat hear-pst-agr
     "Berna heard that Ahmet went to school."

(Aygen 2002; 87)

Aygen claims that the restriction that prohibits the scrambling of the constituent to a postverbal position concerns the clauses bearing the same case morphology (i.e. grammatical function) with the postposed element. In (36) as the postposed element bears a different case from the embedded clause, scrambling out of the embedded clause is allowed. Thus, Aygen concludes that arguments cannot be scrambled out of clauses with the same case morphology and that post-verbal scrambling (i.e. adjunction to CP) is allowed regardless of the position of the verb. Thus, Aygen (2002) claims that V cannot move to the C head.

Apart from the question whether an overt complementizer exists in Turkish or not, there is no solid evidence to conclude that V-(to-T)-to-C movement occurs in Turkish. As the discussion above and Aygen (2002) shows, Kural's claim is not without problems. The issue of V-(to-T)-to-C movement needs more evidence and requires looking at more clause types in further reesearch. However, as the next chapter illustrates, the featural composite of the C head plays a significant role in Turkish clausal architecture. I suggest that the central concern should be the features that percolate from the C head but not X˚ adjunction to it. Thus, we would shed more light on the clausal architecture of Turkish.

To recapitulate, in this chapter, I have suggested that the syntactic evidence coming from object shift cases, scope facts of Turkish and NPI-licensing indicates that in Turkish the lexical verb moves to the functional domain (T-system). When it moves, it not only expands the domain for the object but also checks the EPP feature of the T head. In those cases in which the NPI object has moved out of its base position, the verbal complex bearing the Neg head licenses it since the complex moves to T˚. Such a movement of the verbal complex also creates wide/narrow scope differences. Also I have showed that the claim (Kural 1993) that the lexical verb moves to C-system also encounters problems, letting aside the presence of overt complementizer in Turkish. In the next chapter, through the analysis of relative clauses in Turkish, I illustrate that rather than an upwards X˚ movement to C˚, the downward feature percolation from the C head to the T (the percolation of AGR and FOC features) determines the nature of the derivation, thereby, presenting implications for the role of the C head in the derivation of Turkish sentences as well as the clausal architecture of Turkish.

CHAPTER IV

FEATURE PERCOLATION AND TURKISH RELATIVE CLAUSES

4.1. Introduction

In this chapter, I will suggest a novel analysis of relative clause derivation in Turkish based on a feature percolation mechanism (i.e. C°-to-T° percolation of *Focus* (FOC) and *Agreement* (AGR) features) in the sense of Miyagawa (2004). The chapter implies that rather than the movement of X° to C° category, the feature percolation from C° to T° plays an important role in the derivation of relative clauses in Turkish. Hence, the discussion in this chapter will emphasize the pivotal role of the C head in the clausal architecture of Turkish in terms of its featural composite. On this purpose, also it will be shown that the genitive Case licensing in nominalized (indicative/factive) embedded clauses is ensured through the same feature percolation mechanism but in the different direction (from C° to null N°).

As cited in Radford (2001), feature percolation/attraction is first suggested by Chomsky (1995) to describe those instances in which movement of a set of features (grammatical features that cannot be checked otherwise) occurs between two heads; however, movement, in its 'true' sense, affects the complete set of (phonetic, grammatical and semantic) features carried by a word/phrase (X°/XP), which is the point where 'movement' and 'feature percolation' diverge. Accordingly, it is proposed in this chapter that according to the percolation of the strong feature (AGR or FOC), the relativization strategy is determined, which in turn determines the nominalization morphology on the predicate.

As has been noted in the literature (Underhill 1972; Hankamer and Knecht 1976; Kornfilt 1984, 2000; Özsoy 1998; Haig 1997) a subject/non-subject asymmetry exists in the derivation of Turkish RCs. The strategy −(*y*)*An* is applied

for subject relativization as in (1); the subject of the embedded clause is relativized in this strategy and there occurs no subject-verb agreement on the embedded predicate but only the -*(y)An* morpheme (i.e. so-called SR Form):

(1) [[t$_i$ [t$_i$ [kitap oku]-*yan*]] adam$_i$] −*(y)An* strategy (Subject Relativization)
$_{CP(=RC)}$ $_{TP}$ $_{VP}$ $_{NP}$

                book   read-*SR*   man
     "the man who reads a book"

On the other hand, the strategy − *DIK* is employed for the relativization of non-subject constituents out of an embedded clause. Unlike SR, non-subject relativization (NSR) requires a genitive/possessive agreement between the subject and predicate as exemplified in (2). Yet, the agreement pattern belongs to the nominal agreement paradigm rather than the predicate agreement paradigm due to the nominalization nature of the –*DIK* morpheme (i.e. NSR Form):

(2) [[t$_i$ [adam-*ın* [dün   t$_i$ oku]-*duğ-u*]] kitap$_i$]^{41} –*DIK* strategy (Non-subject R.)
$_{CP(=RC)}$ $_{TP}$ $_{VP}$ $_{NP}$

        man-*GEN* yesterday   read-*NSR-POSS* book
     "the book that the man read yesterday"

However, in Turkish there are non-subject relativization cases wherein we expect to find − *DIK* strategy but get − (*y)An* strategy instead; because a non-subject constituent is relativized from the embedded clause but SR Form (i.e. −(y)An) occurs on the embedded predicate as illustrated in (3) below:

(3) [[[t$_i$ üzerin-de]$_j$ [t$_j$ [çocuk uyu]-*yan*]] divan$_i$] −*(y)An* strategy (Non-subject R.)
$_{CP}$ $_{TP}$ $_{VP}$ $_{NP}$

          top-loc   child   sleep-*SR*   sofa
    "the sofa on which a child is sleeping"

---

[41] Due to the vowel and consonant harmony in Turkish, the initial and inal consonants, and the vowel in the participle -*DIK* can change into its round and front variants (for the vowel), and voiceless counterpart (for the initial consonant), and be deleted by lengthening the preceding vowel (for the last consonant) in the appropriate environment.

(4)) [[[t$_i$ oğl-u-nu]$_j$ [t$_j$ [polis tutukla]-*yan*]] adam$_i$] –(*y*)*An* strategy (Non-subject R.)
    CP   TP VP   NP

        son-poss-acc police arrest-*SR*   man
      "the man whose son police arrested"

(5)   [[[t$_i$ kız-ı]$_j$ [t$_j$ [ağla]-*yan*]] adam$_i$]   –(*y*)*An* strategy   (Non-subject R.)
    CP   TP VP   NP

        daughter-poss cry-*SR*   man
      "the man whose daughter cries/is crying"

Then the basic question of Turkish RCs is: How is the nominalization morphology (i.e. –(*y*)*An* or –*DIK*) on the predicate determined in Turkish RCs?

With respect to the choice of the nominalization morphology, different proposals have been suggested to unveil the determining factor in the derivation of RCs. There are basically three views on the nature of Turkish relative clauses: (i) the 'deletion' hypothesis (Underhill 1972; Hankamer and Knecht 1976; Haig 1997), (ii) the 'empty operator' analysis of RCs (e.g. Kennelly 1997; Özsoy 1998), (iii) and the recent 'raising' analysis of RCs (e.g. Kornfilt 1997; Çağrı 2005) in light of Kayne (1994).

4.2. Turkish Relativization: Different Accounts

4.2.1. Earlier Approaches

In the earlier approaches it is assumed that in a relative clause construction the category that is co-referential with the head of NP is deleted, and a gap occurs for the deleted item in the embedded clause. Underhill (1972), who first observed the subject/non-subject asymmetry in Turkish relative clause constructions, suggests that if the function of the deleted item is subject, SR form appears on the predicate, and if it is a non-subject category, NSR Form appears on the predicate (*the Primary Principle*). Underhill also observes that 'definiteness' of the subject plays an

important role in the derivation of relative clauses in Turkish. In contrast to (3) above, in which the subject 'çocuk' is indefinite, in (5) below the subject is definite, hence the NSR Form:

(6) [[çocuğ-*un* [[t$_j$ üzerin-de] uyu]-*duğ-u*]] divan$_j$] -*DIK* strategy (Non-subject R.)
     child-*GEN*   top-loc sleep-*NSR-POSS* sofa
  "the sofa on which *the* child is sleeping"

Hankamer and Knecht (1976) propose two different principles for the formation of relative clauses in Turkish: the Mother Node Principle (MNP) and the No Subject Principle (NSP). The MNP requires that when the subconstituent of a major clause constituent is relativized, the choice of the nominalization morphology is determined with respect to the function of the head; so, in (6) above, as the subconstituent of the subject NP is relativized, the SR Form is employed. The NSP, on the other hand, dictates that when there is no subject in the derivation of a relative clause, only SR Form is used. The NSR captures why –*(y)An* strategy is used in the relativization of subjectless impersonal passive constructions:

(7) [t$_i$ [tatil-e gid-il]-en]] ülke$_i$]   –*(y)An* strategy   (Non-subject R.)
     holiday-acc go-pass-*SR*   country
  "the country to which people go for holiday"

In parallel, Haig (1997) notes that when a subconstituent of the embedded subject is co-referent with the head of NP, the embedded subject does not bear genitive case marker as in (4) above (*the Subconstituent of Subject Condition*).

4.2.2. A'-Disjointness Requirement

Under the Government and Binding framework Kornfilt (2000) explains the derivation of relative clauses through the Binding Condition B; the basic question of RCs "how the nominalization morphology on the predicate is chosen" entirely

depends on whether the overt subject (and possessor) agreement is present or absent.
Kornfilt proposes that if an overt subject agreement is present in the clausal domain
then the Binding Condition B is applied for resumptive pronouns, whether overt or
pro. Thus Kornfilt argues that no overt resumptive pronouns are possible in RCs in
Turkish. Analyzing the nominalized modifier clauses (i.e. relative clauses) as *clausal*
rather than phrasal she argues that as a result of a syntactic movement a
phonologically empty bound variable exists in the RC domain and that variable or
pronoun must be free due to Binding Condition B; otherwise, the violation of the
condition results in ungrammaticality. So, Kornfilt proposes the following:

(8) *The A'-disjointness Requirement*: A pronoun must be (A'-) free in the smallest
       Complete Functional Complex which contains it.

Thus, (8) implies the importance of locality: If it is *non*-local, A'-Binding of both
overt and empty pronouns are allowed. The agreement marker on the nominalization
marker *–DIK* requires the condition in (8) and Turkish does not allow locally
operator-bound pronouns, whether overt or *pro*. In such a case *–(y)An* strategy is
employed by replacing the *–DIK* strategy as "a special instance" of this disjointness
condition.

4.2.3. Raising Analysis of Turkish Relative Clauses

4.2.3.1. Kornfilt (1997)

The Antisymmetry Theory by Kayne (1994) requires that all the languages have an
underlying SVO order due to the universal order of Spec-Head-Complement. Kayne
argues that no rightward movement of heads is allowed according to these universal
constraints and only left head movement as in the derivation of relative clauses can

occur. When a NP is relativized within a clause (IP/TP) that the higher D° takes as a complement, it moves to Spec CP position just above the clause. Thus, an order of [D° CP] is obtained.[42]

In light of Kayne's (1994) seminal work, Kornfilt (1997) proposes a raising analysis for the derivation of relative clauses in Turkish. Following Kayne's derivation of the relative clauses, Kornfilt claims that there is a further step in the derivation of Turkish relative clauses to obtain the order of [CP NP] (i.e. prenominal modification of the relativized NP). That is, the IP/TP complement of C° moves to Spec DP position of the higher D°. Kayne's proposal that N-final relatives do not have an overt complementizer is perfectly in harmony with this derivation of Turkish relative clauses then since Turkish does not bear any overt C° in such clauses.

4.2.3.2. Çağrı (2005)

In line with Pesetsky and Torrego (2001), Çağrı (2004; 2005) proposes that in Turkish RCs, T° bears an uninterpretable Wh-feature (i.e. uC) and when T's EPP attracts a +Wh-DP (i.e. DP), it will delete its uC as well as satisfying its EPP feature, and so, the –(y)An strategy is applied; but when a -Wh-DP (i.e. NP) is attracted to Spec TP, T°-to-C° movement is necessary to check uC on T. Çağrı suggests that the –DIK strategy is an 'instantiation' of T°-to-C° movement. She also makes a difference between specific and non-specific subjects through their overt case marking. Çağrı claims that when a subject is overtly case marked as genitive case, it is a DP; but, when a subject is not marked for case, it is an NP. The point here is that only DPs can satisfy the Case Filter and the EPP of T°; NPs should remain in situ and they do not need to satisfy the Case Filter. Then, Çağrı (2005) predicts that if the

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[42] See Kelepir (1996) and Kural (1997) for counterarguments on Kayne (1994) with the implications from the Turkish data.

subject is an NP, any other DP within the clause can be relativized, and as it checks *u*C on T, –*(y)An* strategy is still applied (as in the case of locative NPs above).

In the following section, by employing the head raising analysis of relative clauses I will investigate how the participal on the predicate is determined in Turkish RCs through an alternate analysis. Following the analysis of Miyagawa (2004) I will propose a feature percolation mechanism of *Focus* (FOC) and *Agreement* (AGR) features from C° to T°. Thus, I will suggest that the strength of FOC and AGR features determines the relativization strategy in a RC; that is to say, whether the –*(y)An* or –*DIK* strategy is applied is dependent on which feature percolates down to T°. Therefore, the analysis here implies that the determining factor in the derivation of Turkish RCs (and which strategy to be applied) can be boiled down to the feature strength of these two features. Put differently, the nature of features that C head bears in the derivation sets the nature of the relativization strategy. Furthermore, I will show following Hiraiwa (2000) that the same feature percolation mechanism but in the different direction (from C° to null N°) licenses the genitive Case on the subject in the nominalized (factive/indicative) embedded clauses. Thus, the pivotal role of the C head in terms of its featural composite and percolation properties will be implied throughout the following discussion.

4.3. The Analysis

4.3.1. Feature Percolation

Miyagawa (2004) proposes that focus is computationally equivalent to agreement in those languages where we have no agreement such as Japanese. He suggests that focus and agreement are two polarities of a parametric variation in languages. As in the case of agreement languages that pick an agreeing element and raise it to Spec TP, in focus prominent languages the focused element raises to Spec TP. Focus and

agreement originate on the same phase – C head, either of which percolates down to T. If FOC feature percolates down to T°, we have a focus prominent language as Japanese, but if AGR feature percolates we have an agreement language as English. Miyagawa takes the focus movement in focus prominent languages and wh-movement in agreement languages to be the operation of the same nature.

(9)   a. Focus-prominent (e.g. Japanese)   b. Agreement-prominent (e.g. English)

(*Focus* percolates down to T head)   (*Agreement* percolates down to T head)

Miyagawa suggests that even if a language has an agreement system it does not necessarily mean that it is an agreement language as in the case of Turkish. As Turkish does not have a wh-movement, Miyagawa (2004) proposes that Turkish should be a focus prominent language. Kornfilt (2004b) lends support to this proposal that Turkish is a focus prominent language because its agreement behaves very different from its counterpart in Indo-European languages. Kornfilt suggests that the agreement in Turkish is syntactically and morphologically independent and its primary function is the expression of category features rather than simply an expression of phi-features as in Indo-European languages. In the present analysis, however, I diverge from Miyagawa in that I assume the strong feature (either of FOC or AGR) percolates down to T° in the derivation of Turkish relative clauses; hence, Turkish is not merely a focus prominent language.[43]

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[43] Also the discussion in the preceding chapter that argued for the presence of the AGR feature on T° is in accord with my assumption here; Turkish is not merely a focus-prominent language. In those cases where the AGR feature is strong, it percolates down to T°.

Following Miyagawa (2004) I propose that the derivation of RCs can be explained through the percolation of FOC and AGR features; that is, what determines which strategy to be applied (i.e. *-(y)An* or *-DIk strategy*) is contingent on whether a strong AGR or FOC feature is available on C°; the strong feature percolates down to T°, leaving the weak feature at C˚. As a result, the RCs in Turkish can be explained through the interaction of FOC/AGR feature on C°. I adopt the Phase Impenetrability Condition (PIC) by Chomsky (2001), suggesting that an NP, consequently, should be raised to Spec position CP to be able to move to N˚ in the derivation of relative clauses. The PIC dictates as the following:

(10) Phase Impenetrability Condition

> No further operation such as *Move* and *Agree* can be applied to any constituent below the head of a strong phase; only a constituent at Spec CP position is available for an operation like *Move* to D˚/N˚.
>
> (Chomsky, 2001)

Thus, the PIC blocks movement from Spec TP position to N˚ as this position is inaccessible for *Move*. Now, the question turns into "which NP in the structure is eligible to raise to Spec CP th

4.3.2.1. Non-Subject Relativization

In the case of non-subject relativization strategy, I suggest that the percolation of AGR feature to T head gives rise to the subject-predicate agreement at TP level. To illustrate, in the derivation of (2) above, I suggest that C head bears strong AGR feature that percolates down to T°. The example (2) is repeated here:[44]

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[44] In line with Öztürk (2005), I assume the NP/N° analysis for Turkish rather than DP/D° and I also assume that a derived category moves to N° as the 'final destination'. In other words, a N° takes a relativized clause as its sister.

(2) [[t$_i$ [adam-*ın* [dün t$_i$ oku]-*duğ-u*]] kitap$_i$] –*DIK* strategy (Non-subject R.)
    CP TP   VP   NP

        man-*GEN* yesterday read-*NSR-POSS*   book
  "the book that the man read yesterday"

(11)=(2)
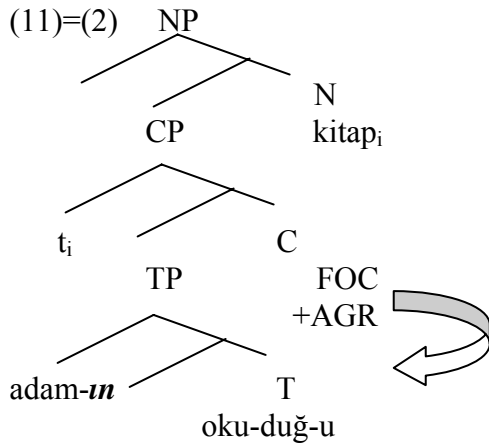
(-*DIK* is the instantiation of C-to-T movement of AGR)

In order to check that strong feature the subject NP *adam* "man" at Spec vP moves to Spec TP. Through this spec-head configuration at TP level, genitive-possessive agreement between Spec TP and T˚ holds and the strong AGR feature is checked.[45] Note that in the preceding chapter I proposed that the presence of the AGR feature on T˚ necessitates a category to be available at Spec TP so that it can be checked. I propose that the case here in (11) is an extension of this aforementioned condition on AGR features. To put differently, the presence of the agreement morpheme on the predicate (as well as on the subject) 'gives away' the presence of an item at Spec TP; the agreement feature attracts the subject to Spec TP and enters into a checking relationship with it, just as in the case of subject-verb agreement in the matrix clauses. Thus, such a checking relationship licenses the subject-predicate agreement in the relative clause. Note that while in finite clauses the subject-verb agreement from the verbal paradigm is established, in non-subject relativization cases, genitive-

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[45] Contra Miyagawa (in press), who analyzes this agreement as complementizer agreement by following Kornfilt (2004a). In this paper I assume that the agreement is instantiated at TP domain, not CP domain; hence, it can be explained why we do not have the same agreement in (13) below.

possessive agreement (nominal paradigm of agreement) is instantiated. A further suggestion regarding this difference would be to assume that the AGR feature gives rise to genitive-possessive agreement as CP is the complement of N°; hence, the nominal agreement paradigm. This is plausible when we take into consideration the relative clause agreement patterns of the other Turkic languages. The Turkmen data in (i) below show that the agreement shows up in the N head, hence no downward percolation to T° but upward feature movement of AGR to N°:

(12) [$_{RC}$ sen-in   ok-an]   kitab-ın
        you-gen   read-part   book-2p.
    "The book that you read/your book that you read"

What about the weak FOC feature? Cinque (1993) argues that the lowest element in the structure receives the sentential focus. In Turkish the immediately preverbal constituent – the lowest element in the structure- has been argued to receive (sentential) focus (Erguvanlı 1984, Kennelly 1997) or "the informational focus" in the sense of Miyagawa (in press).[46] The raising analysis of RCs enables us to argue that the relativized object *kitap* "book" at N° in (2) is inserted to the derivation in the immediately preverbal position (the deepest element in the sense of Miyagawa (2004)) and carries the interpretable FOC feature; in order to check the weak FOC feature of C° the object moves to Spec CP and becomes available for extraction out of CP (in compliance with the PIC). In other words, the weak FOC feature attracts the NP bearing FOC feature to Spec CP. In short, the percolation of the strong AGR feature gives rise to the genitive-possessive agreement on the subject and the

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[46] See Göksel and Özsoy (2000) for a counter-argument against this immediate preverbal focus position, where they propose that rather than a focus position in Turkish there is a preverbal focus field and any constituent in that field receives the focus.

predicate, and the stranded weak FOC feature renders the deepest element to move out of CP since the element is attracted to Spec CP position.[47]

4.3.2.2. Subject Relativization

For the derivation of subject relativization cases as in (1), I suggest that the strong FOC feature percolates down to T° and gives rise to the –(y)An strategy (i.e. no subject-predicate agreement) since the weak AGR feature is stranded at C˚ now:

(1) [[t_i [t_i [kitap oku]-*yan*]] adam$_i$]   –(y)An strategy (Subject Relativization)
    CP   TP VP   NP

     book   read-*SR* man
   "the man who reads a book"

(13)=(1) NP

        N
   CP adam$_i$

 t_i C
   TP AGR
      +FOC

 t_i T
  …   +FOC
  VP (Long Distance Agreement)

 kitap oku

After the strong FOC feature percolates down to T˚, the long distance *Agree* is established with the immediately preverbal object *kitap* "book" that bears FOC feature to check the strong FOC feature at T˚. Miyagawa (in press) proposes the very same 'long distance agreement' mechanism for Kinande (a Bantu language) to

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[47] Contra Çağrı (2004) who proposes that due to the fact that -Wh-DP is attracted to [Spec, TP], T-to-C movement is necessary to check *u*C on T. Thus, Çağrı suggests that –*DIK strategy* is an 'instantiation' of T-to-C movement in Turkish RCs as noted above.

account for the focus 'agreement' with the wh-phrase that bears focus feature so that there is no wh-movement in this language. Miyagawa suggests that through long distance *Agree*, the FOC feature at T° can be checked. And in the example (1), by means of the long distance *Agree*, the object stays in situ. To check the weak AGR feature, the closer consitutent to Spec TP - the subject NP *adam* "man" at Spec vP - moves to Spec CP.[48] As the subject NP checks the weak AGR feature at CP level, we cannot have genitive-possessive agreement since agreement is restricted to and instantiated *only* at TP level as in (11) above (see fn. 45). Since it occupies Spec CP position, the subject is now available to be extracted out of CP for subject relativization. Thus, the percolation of the strong FOC feature instantiates the *–(y)An* strategy, which in turn blocks the genitive-possessive agreement owing to the weak AGR feature left at C˚. The suggestion so far can be summarized as follows

(14)

Strong AGR Feature	AGR to T°	*-DIK* Strategy	Gen-Poss Agreement	Non-subject Rel
Strong FOC Feature	FOC to T°	*-(y)An* Strategy	No Agreement	Subject Rel.

4.3.2.3. Locative NPs and Specificity

For the derivation of RCs with locative NPs, the proposed mechanism above predicts the same derivation. In line with such studies as Kennelly (1997) and Özsoy (1998), I assume that the specificity/nonspecificity properties of NPs closely interact with the positions they occupy in the clausal configuration and the locative NPs in the same structure.

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[48] It should not go unnoticed that t it moves first to Spec TP to check EPP if we assume that XP checks the EPP on T˚ and then moves further to Spec CP to check the weak AGR. Yet, according to the present analysis in which it has been suggested that MOVE X° can check the EPP (*á la* Alexiadou and Anagnostopoulou 1998), there is no need to project the Spec of T°. The subject NP can directly move to Spec CP position, through which it is relativized.

Kennelly (1997) suggests that nonspecific arguments are contained in VP domain and they are internal arguments of Vs. Kennelly claims that the nonspecific subject remains as an internal argument and it bears Weak Case in unaccusative constructions. In transitive and unergative constructions then we cannot have any nonspecific subject because they are base-generated as an external argument at Spec VP. In those unaccusative constructions, when there is a locative NP, the locative occurs as the external argument (i.e. Locative Inversion) to satisfy EPP as in (15) because the nonspecific argument should remain internal as adjacent to V.

(15) a. Bostana   danalar   giriyor
        garden-Loc   calves   are.entering
      "There are calves entering the garden."

   b. Op_i e_i danalar   giren $bostan_i$ (Subject Relativization)
                      calves   enter-SR garden
     "the garden calves enter"

   c. Op_i danalar*(-ın) e_i girdiği $bostan_i$ (Non-Subject Relativization)
                 calves -gen   enter-NSR-poss garden
      "the garden that the calves are entering/entered"

                                                                    (Kennelly, 1997)

Thus, Kennelly (1997) suggests a test to make a distinction between structural subject and oblique argument functions of Locative NPs. If locative NP is base-generated at Spec VP as a structural subject, then the –(y)An strategy is applied as expected; and if locative NP is base-generated as an oblique argument of VP but not at Spec VP, the –DIK strategy is employed again as expected for non-subject relativization.[49]

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[49] As Özsoy (1998) notices, Kennelly (1997) assumes that Turkish unergatives and transitives do not accept an existential argument as a logical subject; that is, unergatives and transitives are assumed not to have nonspecific subjects and the only available strategy to be applied is –DIK strategy. However, for unergative structures, Özsoy (1998) indicates that we can have a nonspecific subject as exemplified below:

As noted above, the proposed feature percolation mechanism accounts for the derivation of RCs with locative NPs as well. Consider (16):

(16)   [[[t_i için-de]_j [t_j [t_j kuş öt]-*en*]] kafes_i]
          CP   TP   VP   NP

             inside-LOC   bird sing-*SR*   cage
       "the cage in which *a* bird is singing"

I assume in line with Kennelly (1997) and Özsoy (1998) that the *nonspecific* subject NP is generated adjacent to V°, and thus, checks the strong FOC feature through long distance *Agree*. On the other side, the locative NP is generated at Spec VP or at a position higher than the non-specific subject. To check the weak AGR at Spec CP, it moves to Spec CP position. Note that N° in the locative NP further moves to N head and in this way is relativized. This movement would not violate the constraint that a head can adjoin to another head (*the structure preservation principle*). Furthermore, the result of the percolation of FOC feature to T head is that –*(y)An* morpheme is realized on the embedded predicate.

But in (16) the *specific* NP is generated at Spec vP, and after having moved to Spec TP, it checks the strong AGR feature that has percolated down to T°; so,–*DIK* strategy is employed, which licenses the genitive-possessive agreement. The locative NP at Spec CP, which is generated at a deeper position than the specific NP in the

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a.   [Kafesin   içinde]   (bir) aslan uyu-yor.
      cage-GEN inside-3sPOSS-LOC   a   lion   sleep-prog
      "A lion is sleeping in the cage."

Özsoy (1998) proposes an alternate analysis by suggesting that subject NPs of unergatives are generated at the deeper Spec VP; but when that NP is not marked for phi-features but there are some other features to be checked in the configuration we apply the Locative Inversion through VP-adjunction and move the locative NP to the higher [Spec, VP]. Through that position, the locative NP now becomes available for further feature-checking requirements that the deeper nonspecific NP cannot check.

first place, checks the weak FOC feature on C°, and N° in the locative NP becomes

available for extraction now.

(17) [[[t$_i$ için-de]$_j$ [[kuş-*un*]$_k$ [t$_k$ t$_j$ öt]-*tüğ-ü*]]   kafes$_i$]
      CP   TP   VP   NP

                inside-LOC bird-*GEN*   sing-*NSR-POSS* cage
                "the cage in which *the* bird is singing"

Thus, the derivation of RCs with locative NPs is realized in harmony with the

proposed mechanism above; specificity/non-specificity of argument NPs closely

interact with this derivation as well.

Up to now, the discussion has assumed the downward percolation mechanism of

features from C head. Then the question is apparent: Is the feature percolation from

C head just one-way? Under certain conditions, can the feature(s) percolate up to a

higher head? I will attempt to provide an answer for this question in the following

section:

4.3.3. Head Amalgamate and Two-way Feature Percolation

Hiraiwa (2000) claims that in those languages in which genitive case is licensed on

the subject of the embedded clause, the C-T-V verbal head amalgamate, which is

formed via AGREE, licenses the Genitive case through AGREE mechanism; so, he

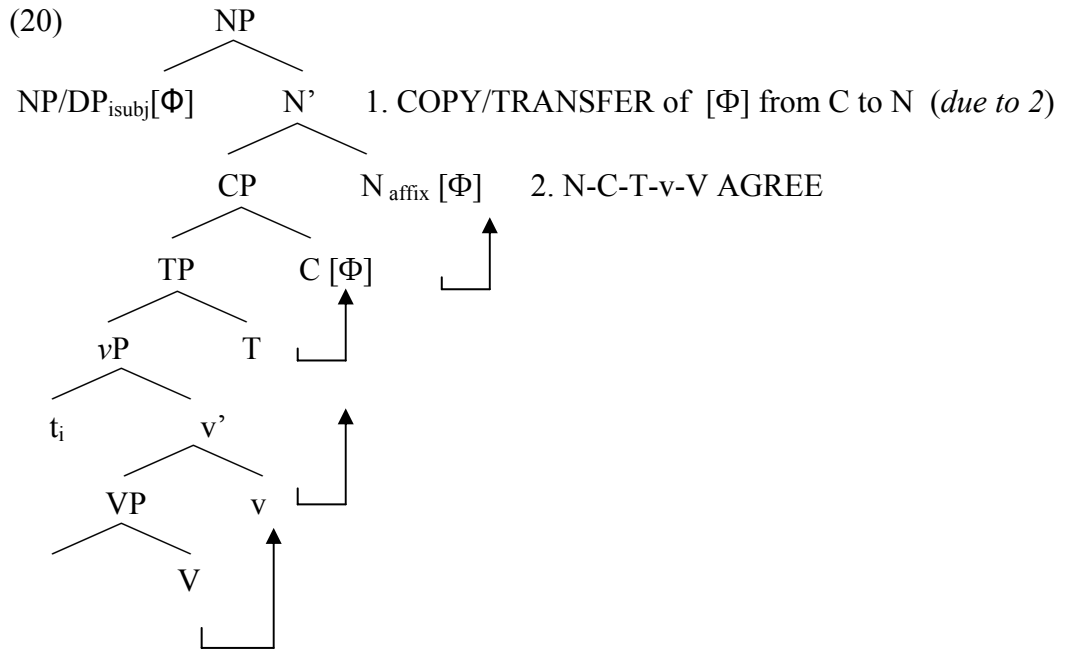suggests the following configuration:

(18)

(Hiraiwa 2000; 84)

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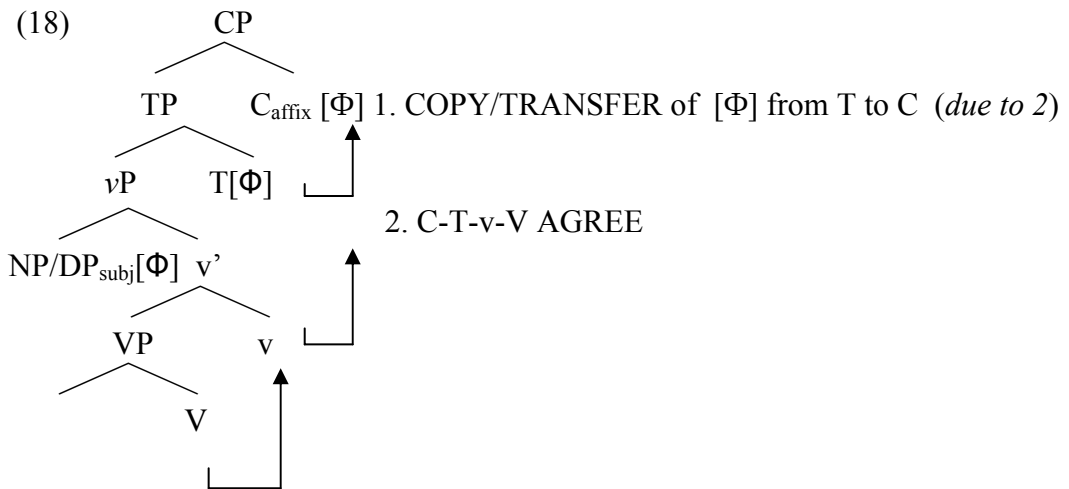
Hiraiwa (2000) opposes the claim that an external D head checks the genitive Case on the subject in relative clauses in such languages as Japanese; instead he suggests that the structural genitive Case can be checked by the [Φ] on C 'copied/transfered' from T via AGREE. The C-T-v-V verbal head amalgamate renders this feature copy/transfer (and Case checking in turn) possible. The only way to form the amalgamate is that C head should be affixal so that morphological merger operation can take place.

As the discussion above shows, I suggest (in line with Miyagawa 2004) the [Φ] (i.e. AGR) on T 'copied/transfered' from C via feature percolation (in the case of NSR); but if we still follow Hiraiwa (2000) the proposed mechanism above implies the head amalgamate of T-v-V that renders the copy/transfer of AGR possible and licenses the Genitive Case on the embedded subject. In a sense, partial C-T-v-V head amalgamate is formed in NSR form as AGR feature now on T head is originally generated at C head. If we assume the copy/transfer of AGR from C to T head but not from T to C as Hiraiwa proposes, is it tenable to argue that AGR can also be copied to a higher head that is affixal or null when available? I claim that such an upward feature percolation of AGR can be argued for nominalized (indicative/factive) embedded clauses of Turkish as in (19):

(19)   Ali   [ben-im   kitap oku-duğ-um]-u   bil-iyor.
              I-*GEN* book read-DIK-*1POSS*-acc   know-prog
         "Ali knows that I read/am reading a book."

Following Borsley and Kornfilt (2000) I assume that a nominalized indicative/factive embedded clause is dominated by a nominal projection (i.e. NP); hence the nominal paradigm of subject-verb paradigm. Also following Hiraiwa (2000), the configuration suggested would be as follows:,

(20)   NP
        ╱   ╲
NP/DP$_{isubj}$[Φ]   N'   1. COPY/TRANSFER of [Φ] from C to N (*due to 2*)
              ╱   ╲
          CP   N$_{affix}$ [Φ]   2. N-C-T-v-V AGREE
        ╱   ╲
      TP   C [Φ]
    ╱   ╲
  vP   T
 ╱ ╲
t$_i$ v'
    ╱   ╲
  VP   v
 ╱ ╲
    V

Note that the N head dominating the embedded CP is null and affixal now unlike the N head in relative clauses above. Also the subject NP moves (or the AGR attracts) to Spec NP position to be in a local environment with the AGR feature on the N head; from its base position it would be too far away from the N head that bears the AGR feature. Through Spec-head configuration (which is the default feature checking of AGR as in the preceding and this chapter), subject-verb agreement from the nominal paradigm is instantiated. For (19) and (20), I further suggest that FOC feature still stranded at C is checked with the lowest element in the structure (i.e. the object *kitap*) through Long Distance Agree. Although FOC feature is satisfied through Long Distance Agree, the *–(y)An* form is not obtained on the embedded predicate as in the subject-relativization case. The *–DIK* form that ensures the genitive-possessive agreement on the subject and predicate attaches to the verb root. In a nutshell, the null and affixal N head dominating the CPs in nominalized (factive/indicative) embedded clauses gives rise to N-C-T-v-V head verbal amalgamate, which in turn renders the copy/transfer of AGR feature to the null N head. Thus, such a copy/transfer licenses the genitive Case on the embedded subject in nominalized

embedded clauses. If we further speculate why such a feature transfer from C°-to-N° does not occur in the derivation of relative clauses, the answer is apparent: N head in relative clauses is not affixal; hence, the amalgamate cannot include N head and cannot transfer the feature from C° to N°, the only head to transfer the feature from C head in relative clauses is then T head.

The discussion above shows that a feature percolation mechanism of focus and agreement features from C° to T° (following Chomsky 2001 and Miyagawa 2004) is the determining factor in the derivation of Turkish relative clauses. Such a mechanism implies that feature percolation between functional categories presents new dimensions as to the nature of derivational properties of Turkish sentences. Therefore, on the basis of the discussion above, I suggest that further research should focus on the feature percolation properties of C head to the I-system, rather than the movement of X° category to C head. Miyagawa's (2004) proposal supports this suggestion as it is based on the feature percolation properties of C head in terms of a parametric perspective. As I argued in the preceding chapter and in this one, again the presence of the strong AGR on T° attracts the subject NP to Spec TP as in the case of the matrix clauses as well as the relative clauses. If FOC feature percolates down to T°, long-distance *Agree* is established between the deepest element that bears interpretable FOC feature and the uninterpretable feature on T°. In that case, no agreement can be established due to the weak AGR feature on C°. Specificity/non-specificity of the subject NPs completely agrees with the mechanism proposed in the derivation of RCs with locative NPs. The movement of N° in a locative NP to the higher N° position also obeys the structure preservation principle, which restricts the positions in a clausal domain a head can move to. Following Hiraiwa (2000), I also suggested that the AGR feature can also percolate up to the null and affixal N head

dominating the embedded CPs in nominalized (indicative/factive) clauses in Turkish, through which it licenses the genitive Case on the embedded subject. In this way, I again showed that the Case licensing properties of nominalized embedded clauses also imply the central role of the C head and its feature percolation properties in the derivation of Turkish embedded clauses.

CHAPTER V

CONCLUSION

This study discusses verb movement in the clausal structure of Turkish in terms of its morphosyntactic and syntactic implications. It has been suggested that independent of m-selectional properties of functional categories, which need to attach to a verbal stem, V moves to T head but not to C head as the Turkish data presents, and finally an alternate analysis has been proposed for the derivation of relative clauses in Turkish through a feature percolation mechanism from C head to T head (C-to-T feature percolation vs. V-(to-T)-C movement).

It has been discussed that the Turkish data suggest that the morphological selectional (i.e. m-selection) properties of the functional categories necessitates the head-movement of the lexical verb to the functional domain; that is, the functional categories in Turkish need to satisfy their m-selectional properties through the lexical verb or the verbal complex but when the lexical verb/verbal complex comes short of satisfying these constraints due to its participle nature, a verbal form (i.e. *ol* or *i-copula*) is inserted. Otherwise, the movement of the verbal complex would violate m-selectional properties of the functional category attached. The selection of the copula is dependent on the nature of the functional category (i.e. whether it occupies a position in the lower domain or the higher domain). However, the discussion of verb-movement in Turkish in terms of syntactic properties has been abstracted away from morphological considerations or constraints.

It has been argued that the syntactic evidence coming from object shift cases, scope facts of Turkish and NPI-licensing indicates that in Turkish the lexical verb moves to the functional domain (T-system). When it moves, it not only expands the domain for the object but also checks the EPP feature of the T head. As a result of V-

movement, the object can scramble over the subject as suggested for Japanese by Miyagawa (2003). It has also been suggested that in those cases in which the NPI object has moved out of its base position, the verbal complex bearing the Neg head licenses it since the complex moves to T°. As illustrated, such a movement of the verbal complex creates wide/narrow scope differences with respect to the negation as well. Also I have showed in line with Aygen (2002) that the claim (Kural 1993) that the lexical verb moves to C-system also encounters problems, letting aside the presence of overt complementizer in Turkish. Instead, it has been argued that the role of the featural composite of the C head plays a central role in the derivation.

Therefore, the proposal based on the feature percolation from C° to T° has implied that rather than the movement of X° to C° category, the features that the C head bears and their strength determine the relativization strategy in Turkish. The presence of the strong AGR on T° attracts the subject NP to Spec TP as in the case of the matrix clauses as well as the relative clauses (i.e. *-DIK* strategy). If FOC feature percolates down to T°, long-distance *Agree* is established between the deepest element that bears interpretable FOC feature and the uninterpretable feature on T°, giving rise to *–(y)An* strategy. In that case, no agreement can be established due to the weak AGR feature on C°. In parallel, it has been shown in the sense of Hiraiwa (2000) that the genitive Case licensing in nominalized (indicative/factive) embedded clauses is ensured through the same feature percolation mechanism but in the different direction (from C° to null N°), implying that the subject-predicate agreement has been realized at NP/DP level this time but not at TP level as in the case of non-subject relativization cases.

There are three fundamental questions that the present study raises for further research:

(i) Besides the scope of quantifiers with respect to their syntactic positions, what is the role of focal stress in determining the scope of quantifiers particularly with respect to negation? A proposal based on this question will shed light on phonology-syntax interface in an elaborate way and give us a better understanding of the 'focus' phenomenon in return.

(ii) What is the role of syntactic Case checking with respect to the mechanism suggested for the derivation of relative clauses? In other words, how do AGR and FOC features interact with CASE feature of NPs not only in embeddded clauses but in main clauses as well? As briefly noted above, since the EPP is checked by V-movement in Turkish, what renders a category eligible to move to Spec TP position due to AGR on T° should be in interaction with the CASE feature of NPs; otherwise, any object NP would be equally eligible to move to Spec TP position as V-movement also renders it equidistant with the subject NP to Spec TP position.

(iii) What are the further syntactic implications of the feature percolation of AGR and FOC features for all the types of embedded clauses as well as the matrix clauses? A single feature percolation mechanism but in different directions has been suggested above; yet, how does the feature percolation mechanism interact with such adjunct clauses (apart from relative clauses) in which the subject is genitive case marked and more importantly with such adjunct clauses in which the subject is not genitive case marked although the embedded predicate bears the agreement morpheme? A further and more elaborate

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investigation would be to study the subject-predicate agreement properties of embedded clauses in other Turkic languages with respect to the feature percolation mechanism proposed above. It is well-known that Turkic languages display different agreement properties in such embedded structures as relative clauses. Therefore, study on wider data is essential to see the implications of the feature percolation mechanism.

In conclusion, this study claims that as the syntactic evidence suggests, V moves to T head but not to C head, and rather than V-(to-T)-to-C movement, C-to-T percolation of AGR and FOC features can be pursued in light of the Turkish data. This also implies the pivotal role of the featural composite of the C head particularly in the derivation of Turkish embedded clauses.

APPENDIX:

1. The Multifunctional Properties of TAM Markers

The apparent problem of the proposal in Chapter II-Section 2.2.4.2. is the availability
of the sentences in Turkish as in (1) and (2):

(1)   a. *Bu günler-de çok iç-er-Ø-di-m.
         "*I used to drink a lot these days."

      b. Bu günler-de çok   iç-er *ol*-du-m.
         this days-loc a.lot   drink-aor cop^L-perf-1p
         "These days I have become a habitual drinker."
                                                          (Sezer, 2001; 15)[50]

(2) a. Sinema-ya gid-ecek-Ø-ti-m (ama bir iş-im çık-tı).
         cinema-dat go-prospective-cop^H-past-1p (yet a job-1pPoss come up-past)
         "I *was going* to go to the cinema (but something else came up)"

      b. Sinema-ya gid-ecek   *ol*-du-m (herkes   itiraz et-ti).
         cinema-dat go-prospective cop^L-past-1p (everybody objection make-past)
         "I *attempted* to go to the cinema (but everyone objected)."
                                                          (Göksel, 2001; 158)

(3)   (?Geçen yıl) Berlin'e git-miş ol-du-m. (vs. (Geçen yıl) Berlin'e git-miş-ti-m)
        (last year) Berlin-dat go-perf cop^L-past-1Pagr vs. I went to Berlin last year.
                                                          (Göksel, 2001; 158)

The presence of the past tense marker *-DI* in (1), (2) and (3) seems to be a counter-
example to the proposal that the copula selecetion is dependent on the level of the
functional category; although it is a tense category, the *ol* copula is inserted, not the
expected *i-* copula. However, if we take a look at the translations of the sentences
we can see that in (1b) and (3) the sentences do not refer to an action that occurred in
the past but a perfective state concerning the present. As Sezer (2001) notes, this
indicates the availability of at least two different functions of *-DI*: (i) one with the
present perfect reading, (ii) one with the definite past reading. Again in line with the

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[50] The English translations of (1) and (2) belong to the authors mentioned; yet, the italics are mine.

assumption (b) above, I assume that here the inflectional category *-DI* has the function of denoting anterior tense as proposed by Cinque (2001); the difference between the anterior tense and the past tense is exemplified in (4) and (5):

(4)   Hasan dün saat beş-te ödev-in-i bitir-*di*-y-di.
     Hasan yesterday hour five-loc assignment-3pPoss-acc finish-perf-cop[H]-past
     "Hasan had finished his assignment yesterday at five o'clock."
                                            (Kornfilt 1998; cited in Cinque 2001)

(5)   Hasan dün ödevini bi ara bitir-iyor ol-du-y-du (ama şimdi ne durum-da bilemem).
     Hasan yesterday assignment-3pPoss-acc once finish-prog cop[L]-perf-cop[H] – past (yet now what situation-loc know-abil-neg-1p)
     "Hasan had been finishing his homework at some point yesterday (yet I do not know in what situation he is in now)."

In (4) and (5) the function of the anterior tense *-DI* is much like a perfective one; it refers to the completeness of the action with respect to the past, which is denoted by the higher past tense, *-DI*. Therefore, I suggest that its function of referring to a completed action makes it possible to consider the anterior *-DI* as a category of the lower level - Aspect/Modality categories; hence, we can explain why we insert the *ol* copula in (1b) and (3) because according to the present analysis the *ol* copula is for the lower domain - Aspect/Modality categories and the *i-* copula for the higher Tense categories.[51] Then, the presence of the copula *i-* in (1a) indicates that the marker *-DI* occupies $T°_{Past}$ and denotes the past tense function; since $T°_{Past}$ cannot license the adverb 'bugünlerde', the structure crashes as Aygen (1998) notes.[52] In parallel, the reason why the anterior tense cannot allow the time adverb 'geçen yıl' in (3) is that – *DI* does not denote the past tense function in that sentence. Rather, it denotes the anterior tense and belongs to the lower paradigm due to its aspectual function.

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[51] In (1b) and (3) I assume in line with Sezer (2001) that there is a null present tense marker following the anterior tense '-DI'; thus, we get the interpretation of a perfective reading concerning the present.
[52] See Aygen (1998) for a proposal on the licensing/checking relation between functional heads and the adverbs occupying their Spec positions in Turkish.

Therefore, it selects the *ol* copula rather than *i-* copula as expected from the Aspect/Modality categories.[53]

2. Fusion of Functional Heads and Distributed Morphology

As for (2), things are a bit more complicated. I suggest that we still insert the *ol* copula for a lower domain functional category despite the fact that *-DI* refers to an action in the past and does not have the anterior tense function as in (1b). However, it is obvious that we do not have the same interpretation for both the sentences when the translations of (2a) and (2b) are taken into consideration; (2a) refers to an action of the speaker in the past (not necessarily volitional or planned) that did not occur due to some reason, and (2b) refers to a *volitional* planned action that did not occur again due to some reason. By employing the mechanisms of Distributed Morphology (Halle and Marantz 1993) I hold that the proposal concerning the copula nature due to the domain division can be still pursued.

Distributed Morphology (Halle and Marantz 1993) includes the level of Morphological Structure into the basic T model of the generative grammar and assumes that the level of Morphological Structure is the interface between syntax and phonology. DM also assumes that through Vocabulary Insertion at the level of Morphological Structure, the phonological features are assigned to the terminal nodes which are purely syntactic and semantic complexes before Vocabulary Insertion. DM also suggests that a vocabulary item does not have to match every feature specified in a node; it can be underspecified and match the subset of the

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[53] Göksel (2001) proposes that such different interpretations of the sentences as in (1), (2) and (3) are due to the availability of the *ol* copula because she suggests that in some main clauses the copula has its own projection and licenses some specific adverbs in its Spec position. But as noted above, she suggests in embedded clauses and certain clauses it does not project a phrase, indicating the duality of its nature.

features in that node. One of the basic operations that DM assumes is the fusion of the terminal nodes, whereby several nodes can fuse into a single node. Through this fusion process, an underspecified item can be inserted to a fused node even if it matches a subset of the features of that node. Thus, in light of DM, I suggest that there occurs a functional category above $Asp°_{Prospective}$ that denotes $Modality_{Volition}$ and that this Mod° fuses with $T°_{Past}$. Then, the *-DI* suffix seems to be a proper match to check the features of this fused head into which it is inserted by Vocabulary Insertion, if we assume that *-DI* is an underspecified item and matches the subset of the features of the fused head. Kelepir (2004) proposes that *-DI* is an underspecified item for the embedded nominalized clauses in Turkish and when the deficient T is not specified for the tense feature, *-DI* is inserted to the deficient T°.[54] I suppose that both of the higher domain categories *-DI* and *–mIş* can match the set/subset of the features of the fused heads that bear Aspect /Modality categories and Tense categories on their featural composite. If a lower functional head fuses with $Mood°_{Evidential}$ *-mIş* is inserted; if it fuses with $T°_{Past,}$ then *-DI* is inserted. Consider (6) below:

> (6) Hasan gid-ecek ol-muş (ama bir iş-i çık-mış).
> Hasan go-prosp cop^{L}-eviden (yet a job-3pPoss come-up-eviden)
> "Reportedly, Hasan *attempted* to go (but something else came up)."

Parallel to (2b) in the sentence above we have the interpretation of 'volition' again but due to the fact this time that $Mod°_{Volition}$ fuses with $Mood°_{Evidential}$ the inflectional head *-mIş* is inserted in this sentence. Moreover when we take a look at the functions of the suffix '-mIş' in Turkish, Cinque (2001) notes that *-mIş* denotes $Mod_{Epistemic}$ (inferential), $Mood_{Evidential}$ (reportive) and $Mood_{Evaluative}$. Thus, it can be suggested

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[54] See Kelepir (2004) for the interaction of the copula forms with the embedded clauses. I suppose the same analysis of checking the strong [*u*V] feature here can be held for the embedded clauses, too; thus, we can explain why we cannot concatenate two functional categories in embedded predicates and why we need the copula *ol* as well. It is also worth noting that the *i-* copula is not employed in the embedded clauses because of the fact that T is deficient as Kelepir (2004) proposes.

that *-mIş* is also an underspecified form that can check the features of the different functional heads. Therefore, both of these canonically assumed tense categories, *-DI* and *-mIş*, denote further aspect and modality functions on the lower functional domain of Turkish. When these two markers denote these functions in the lower domain - 'Aspect/Modality categories' level - and if the lexical verb can only satisfy m-selectional properties of the lower functional head, the *ol* copula is inserted to satisfy the [*u*V] feature of the higher category. So, in line with the assumption (d) above, the fact that the tense categories also display various multiple functions in the Aspect/Modality level renders possible to maintain the proposal that *ol* is inserted for the Aspect/Modality categories and *i-* is for the Tense categories.[55]

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[55] When we consider the multifunctional properties of Turkish Tense/Aspect/Modality Markers, it is not odd to propose that each marker is an underspecified form by default. According to the features of the fused heads, which marker will be inserted is determined. So, as Sezer (2001) has attempted, for each marker we can provide a list of features available on their featural composite. In this way, when two heads fuse, the marker that most matches the features of the newly fused head is inserted. Now, we can talk about a competition among the markers for the insertion. Also, in such a simplex sentence as

(i)   Hasan bile bile ölüm-e git-ti.
        Hasan intentionally death-dat go-past
        "Literally: Hasan died intentionally."

I suggest (through an extreme point, though) there is no reason why we cannot still talk about the fusion of the modality head that denotes volition (and licenses the adverb as well) and the past tense marker; then '-DI', as an underspecified form, can be a suitable match and satisfy the subset of the features of the fused head.
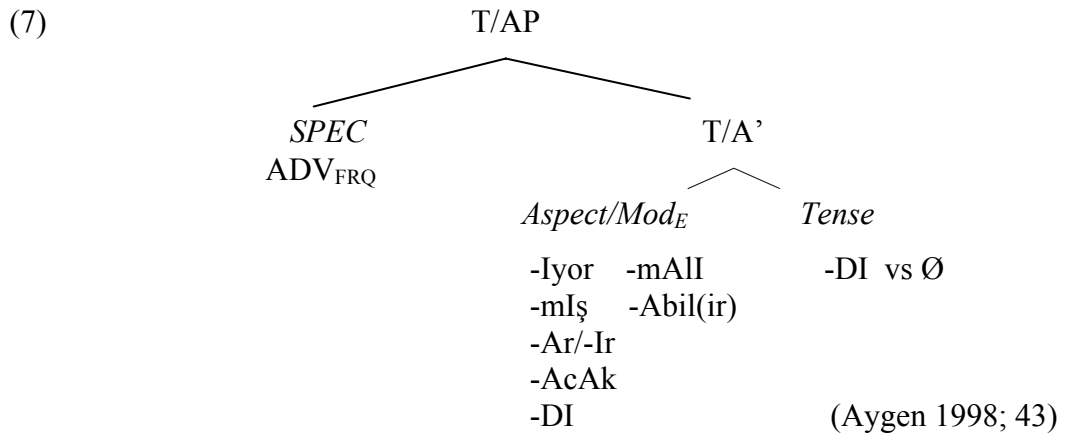
In parallel, for the past tense usage of *-mIş*, Cinque (2001) proposes that *-mIş* is base-generated at T_{Past} and then raised to the relevant Mod heads. Again through the DM analysis it can also be suggested that via the fusion of T_{Past} and the relevant higher Mod head, *-mIş* becomes a proper vocabulary item to be inserted to the fused head as it matches the subset of the features of the fused head (let's assume that *−mIş* is specified as Modality in the lexicon). The fusion of the heads and then the insertion of *-mIş* provide both the past tense and evidential interpretation.

(ii)   Hasan dün gece çok iç-miş.
        Hasan yesterday night a lot drink-eviden
        "Reportedly, Hasan drunk too much last night."

As mentioned above, to my observation the multifunctional properties of TAM markers require a further research on the fusional analysis of functional heads and the feature specification of TAM markers. See Aygen (1999) for the analysis of the fused functional heads in the embedded clauses of Turkish and Öztürk (2001) for the analysis of the fused functional heads in the adjunct clauses; both studies assume that the T and Asp heads are distinct at first place before they get fused.

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3. Hybrid Categories or Fused Heads?

Now the discussion can be extended to the question whether T and Asp heads in Turkish project in syntax separately or they form a hybrid head even at the deep structure as proposed by Aygen (1998). As provided in (7), Aygen proposes that in Turkish, in fact, there is no separate T head but instead a hybrid T/Asp° is available:

(7)

```
                        T/AP
                  _____/‾‾_____
                 /                \
              SPEC               T/A'
              ADV_FRQ           /‾\
                               /   \
                       Aspect/Mod_E      Tense

                       -Iyor   -mAlI      -DI  vs Ø
                       -mIş    -Abil(ir)
                       -Ar/-Ir
                       -AcAk
                       -DI                (Aygen 1998; 43)
```

Note that Aygen also proposes that Aspect and Epistemic Modals form a hybrid/syncretic head. It can be suggested that the sentences in (2b) and (6) support the double-headed hybrid category of T/Asp°; however, I suggest that this 'double-head' property is not base-generated; instead, it is the outcome of a two fused heads (i.e. T° and Asp°) in parallel to the fusional analysis above. Furthermore, this fused head allows the frequency adverbs in its Spec position. The evidence why I propose a fused head analysis rather than the base-generated T/Asp° analysis is that Turkish allows the following constructions:

(8) Ayşe *dün*   *tam* seni ara-*yacak-tı* (ama yine bir işi çıktı).
        yesterday just you call-prosp-past (but again a job appear-past)
    "Ayşe was just about to call you yesterday (but again something else came up)"

In (8), there seems to be two distinct functional heads: Asp°$_{Prospective}$ licenses the adverb 'tam' and a T°$_{Past}$ licenses the time adverb 'dün'; to my observation, such an example as (8) indicates that T° and Asp° can be analyzed as different functional heads that can license separate adverbs in their Spec positions.

(9) Ayşe *belki*   *yarın*   gel-*ir*   (belli   ol-ma-z).
            may be   tomorrow   come-AOR-   definite be-neg-AOR
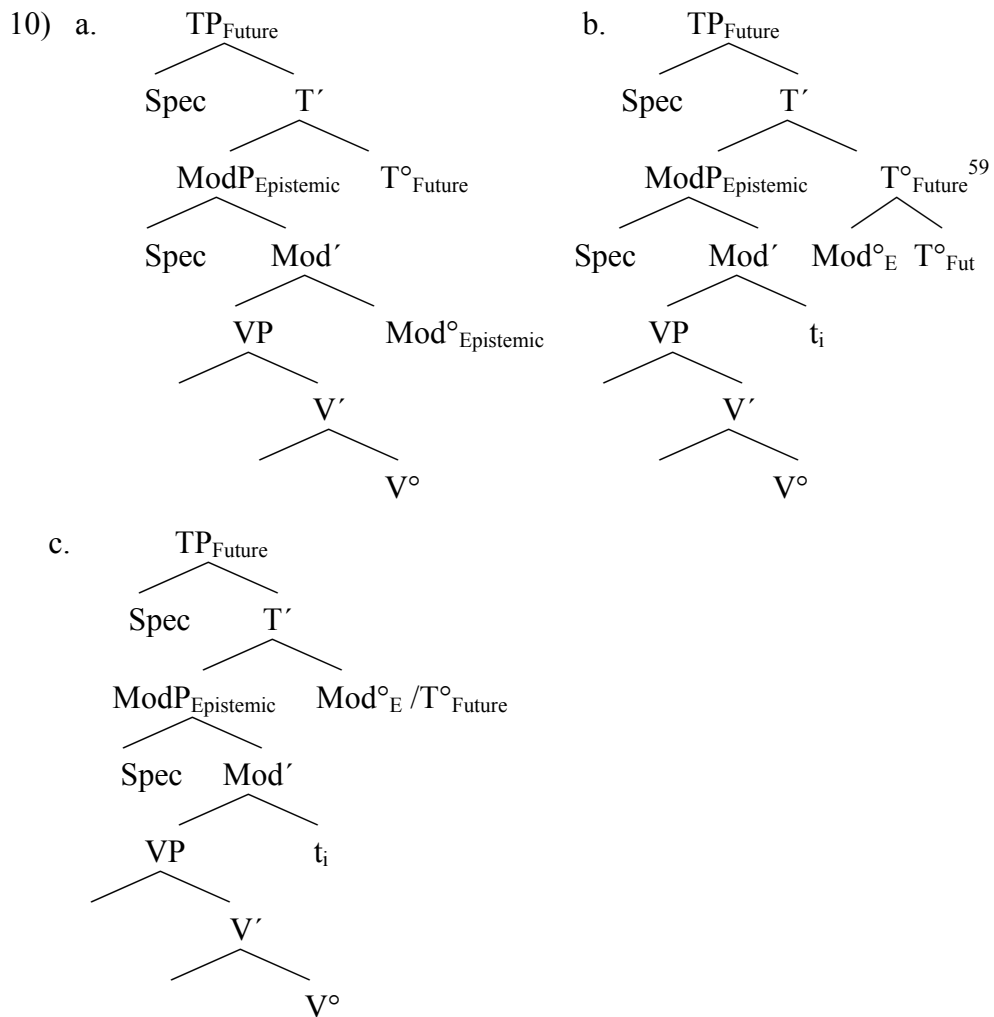   "Maybe Ayşe will come tomorrow (it is not definite at the moment)"

In (9), the very same functional category, namely, the aorist seems to license both the adverbs in its very same Spec position.[56] I assume it would be odd to consider that multiple adverbs can occupy the same Spec position.[57] Therefore, in (9), I suggest the functional domain is composed of (i) Mod$_{Epistemic}$ head that denotes possibility and allows the adverb 'belki' in its Spec position, and (ii) T$_{Future}$ head that licenses the adverb 'yarın'. After the fusion of both the heads the aorist morpheme is inserted as it seems to satisfy the matching features of the fused head.[58] Through the sentence in (9), I suggest that such a hybrid head is not base-generated but rather results from the fusion of the relevant heads as illustated in (10) below:

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[56] Note that the aorist as well as Mod$_{Epistemic}$ and T$_{Future}$ are analyzed by Aygen (1998) under the hybrid T/Asp°.

[57] Or we should talk about the multiple specifier positions of the same functional head.

[58] See Yavaş (1982) for the multiple functions of the Turkish aorist. The feature specification of the aorist morpheme in the lexicon is outside the scope of this study; yet, as in the case of '-mIş' the multiple functions of the aorist render it an underspecified item.

10) a.

```
              TP_Future                              b.         TP_Future
             /        \                                        /        \
         Spec          T´                                  Spec          T´
                      /    \                                            /    \
            ModP_Epistemic  T°_Future                       ModP_Epistemic    T°_Future^59
             /       \                                        /      \       /        \
         Spec         Mod´                                 Spec      Mod´  Mod°_E   T°_Fut
                     /    \                                         /    \
                   VP      Mod°_Epistemic                         VP      t_i
                  /  \                                           /  \
                 V´                                             V´
                /  \                                           /  \
                    V°                                             V°
```

c.

```
              TP_Future
             /        \
         Spec          T´
                      /    \
            ModP_Epistemic   Mod°_E /T°_Future
             /       \
         Spec         Mod´
                     /    \
                   VP      t_i
                  /  \
                 V´
                /  \
                    V°
```

Therefore, I claim that the multifunctional properties of the TAM markers of Turkish render the fusional analysis of the functional categories inevitable.[60] As the

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[59] Halle and Marantz (1993) propose that in order for two heads to fuse, they need to be sisters. As in (10b), it necessitates the head movement of Mod°_Epistemic to T°_Future, whereby they can be sisters and fuse into a single node. It should also be acknowledged that fusion of heads brings the question of how a higher functional category satisfies its uV feature in the syntax before it gets fused with a lower functional head in the morphology component. As DM assumes, morphology cannot have any access to the syntax component and cannot trigger any operation; that is, it is blind to syntax. For a prospective answer to that problem here I would speculate that such a functional head bears the weak uV feature (vs. strong uV feature, which should be checked immediately), which renders it parasitic on the lower functional head to check that weak feature. Note that checking of weak features according to MP can be delayed and be handled after the overt syntax. Then, the strong claim would be that bearing weak uV feature triggers the fusion of a higher functional head with a lower one.

[60] In a sense, that is to say, the fusion of the functional categories renders the multifunctional properties of Turkish inevitable. Also note that with respect to DM, the copula insertion in the case of the presence of an unsatisfied verbal feature can be suggested as follows: When the copula as a verbal element is inserted for the lower domain functional categories, it is morphologically realized as *ol* during Vocabulary Insertion; when it is inserted for the higher domain categories at the syntactic component, it is realized as *i-* at the level of VI, hence, the sensitivity of the nature of the copula for the domain level. Kelepir (2001) holds the very same analysis and assumes Late Insertion for the copulas.

discussion above shows, a detailed analysis of TAM markers in terms of fusional

properties is required; therefore, I leave such a thorough analysis to further research.

REFERENCES

Alexiadou, A. And E. Anagnostopoulou. 1998. "Parameterizing AGR: word order, V-movement and EPP checking". *Natural Language and Linguistic Theory* 16: 491-539.

Aygen, G. 1998. Split Infl Hypothesis in Turkish. Unpublished MA Thesis. Boğaziçi University, Istanbul.

Aygen, G. 2000a. "T-to-C: Extractable Subjects and EPP in Turkish". *Proceedings of WECOL 2000*, Fresno University, California, 65-80.

Aygen, G. 2000b. Counterfactuals: a multifunctional morpheme in Turkish and its syntactic and semantic implications. Paper presented at the Kentucky Foreign Language Conference. University of Kentucky.

Aygen, G. 2002. Finiteness, Case and Clausal Architecture. Doctoral Disseration, Harvard University.

Baker, M. 1988. *Incorporation: A Theory of Grammatical Functiona Changing*. Chicago: Chicago University Press.

Bassarak, A. 2000. "On some fusional properties in Turkish". *Studies on Turkish and Turkic Languages*, A. Göksel, and C. Kerslake (eds.). Harrassowitz Verlag, Wiesbaden, 35-40.

den Besten, H. 1981. "On the interaction of root transformations and lexical deletive rules". *Groninger Arbeiten zur Germanistischen Linguistik* 20, 1-78 (*mentioned in MIT Lecture Notes of Fall 2003*).

Bobaljik, J.D. 1995. Morphosyntax: the Syntax of Verbal Inflection. Doctoral Dissertation, MIT, distributed by MITWPL.

Boeckx, C. and S. Stjepanovic. 2001. "Head-ing Toward PF". *Linguistic Inquiry* 32, 345-355.

Borsley, R.D. and J. Kornfilt. 2000. "Mixed extended projections". *The Nature and Function of Syntactic Categories*, R.D. Borsley (ed.), New York: Academic Press, 101-131.

Brody M. and A. Szabolcsi 2003. "Overt scope in Hungarian". *Syntax* 6, 19-51.

Carnie, A. 2002. *Syntax: A Generative Introduction*, Oxford: Blackwell.

Chomsky, N. 1957. *Syntactic Structures*. The Hauge: Mouton.

Chomsky, N. 1993. "A Minimalist Program for linguistic theory". *The View from Building 20*, Cambridge, MA: MIT Press (reprinted as chapter 3 of Chomsky 1995).

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, MA.: MIT Press.

Chomsky, N. 1998. "Minimalist Inquiries: The Framework". *MIT Occasional Papers in Linguistics* 15, MITWPL.

Chomsky, N. 2001. "Derivation by phase". *Ken Hale: a life in language*, M. Kenstowicz (ed.), MIT Press, 1–52.

Cinque, G. 1993. "A null theory of phrase and compound stress". *Linguistic Inquiry* 24: 239-298.

Cinque, G. 1999. *Adverbs and Functional Heads: a Cross-linguistic Perspective*. Oxford: Oxford University Press.

Cinque, G. 2001. "A Note on Mood, Modality, Tense and Aspect Affixes in Turkish." *The Verb in Turkish*, E. Erguvanlı-Taylan (ed.), Amsterdam: John Benjamins, 47-59.

Csató, E. A. 2003. "A typology of Turkish double-verb constructions". *Studies in Turkish Linguistics: Proceedings of the Xth International Conference on Turkish Linguistics*, S. Özsoy, D. Akar, et al. (eds.) Istanbul: Bogaziçi Üniversitesi Press, 105-111.

Çağrı, İ. 2004. Specificity and Case Interactions: A View from Turkish Relative Clauses. Paper presented at Workshop on Altaic Formal Linguistics-2, Boğaziçi University, Istanbul (to appear in the proceedings).

Çağrı, İ. 2005. Minimality and Turkish Relative Clauses. Doctoral Dissertaion, University of Maryland, College Park.

Enç, M. 2004. "Functional categories in Turkish". *Proceedings of the First Workshop on Altaic Formal Linguistics*, MIT, Cambrdige MA: MIT Press, 208-226.

Erguvanlı, E. 1984. *The Function of Turkish Word Order*. Los Angeles: University of California Press.

Göksel, A. 1990. "Causativity, verb incorporation and some problems." *SOAS Working Papers in Linguistics and Phonetics* 1, A. Göksel (ed.).

Göksel, A. 1993. Levels of Representation and Argument Structure in Turkish. Doctoral Dissertation, SOAS, University of London.

Göksel, A. 1997. "Linearity, focus and the postverbal position in Turkish". *Proceedings of the 7th International Conference on Turkish Linguistics*, E. Csato and L. Johanson (eds.). Wiesbaden: Harrassowitz Verlag.

Göksel, A. 2001. "The auxiliary verb at the morphology-syntax interface". *The Verb in Turkish*, E. Erguvanlı Taylan (ed.), Amsterdam: John Benjamins, 151-181.

Göksel, A. and C. Kerslake. 2005. *Turkish: A Comprehensive Grammar*. Oxford: Routledge.

Göksel, A. and A. S. Özsoy. 2000. "Is there a focus position in Turkish?" *Proceedings of the Seventh International Conference on Turkish Linguistics*, A. Göksel and C. Kerslake (eds.), Harrassowitz, Wiesbaden, 221-228.

Haig, G. 1997. "Turkish relative clauses: A tale of two participles." *Turkic Languages* 1, 184-209.

Halle, M. and A. Marantz. 1993. "Distributed Morphology and the pieces of inflection". *The view from Building 20; essays in honor of Sylvain Bromberger*, K. Hale and S. Jay Keyser (eds.), Cambridge MA: MIT Press, 111-176.

Hankamer, J. And L. Knecht. 1976. "The role of the subject/non-subject distinction in determining the choice of relative clause particle in Turkish*." Papers from the Sixth Meeting of the North Eastern Linguistics Society*, McGill University, 123-135.

Harley, H. 2002. Why one head is better than two: head movement and compounding as consequences of Merge in Bare Phrase Structure. A paper presented in the Arizona Linguistics Colloquium Series, Nov. 15, 2002.

Hiraiwa, K. 2000 "Nominative-Genitive conversion revisited". *The Proceedings of the 10th Japanese/Korean Linguistics*. Stanford, CA.: CSLI.

Holmberg, A. 1986. Word Order and Syntactic features in the Scandinavian Languages and English. Doctoral Dissertation, University of Stockholm.

Kayne, R. 1994. *The Antisymmetry of Syntax*. Cambridge, MA.: MIT Press.

Kayne, R. 1998. "Overt vs. covert movement". *Syntax* 1, 128-198.

Kelepir, M. 2001. Topics in Turkish Syntax: Clausal Structure and Scope. Doctoral Dissertation, MIT. Distributed by MITWPL, Cambridge, MA.

Kelepir, M. 2004. Copular Forms in Turkish, Noghay and Turkmen. Talk given at Workshop on Altaic Formal Linguistics-2, Boğaziçi University, Istanbul (to appear in the proceedings).

Kennelly, S. D. 1997. "Nonspecific External Arguments in Turkish". *Dilbilim Araştırmaları*, Kekibec Yayınevi, 58-75.

Kornfilt, J. 1984. Case Marking, Agreement and Empty Categories in Turkish. Doctoral Dissertation, Harvard University.
Kornfilt, J. 1996. "On Copular Clitic Forms in Turkish". *ZAS Papers in Linguistics* 6; A. Alexiadou, N. Fuhrhop, P. Law, S. Löhken (eds.), Berlin: ZAS, 96-114.

Kornfilt, J. 1997. "On the syntax and morphology of relative clauses". *Dilbilim Araştırmaları*, Kekibec Yayınevi, 24-51.

Kornfilt, J. 1998. The expression of tense, aspect and mood in Turkish. Talk given at the University of Venice, 12 November 1998

Kornfilt, J. 2000. "Some syntactic and morphological properties of relative clauses in Turkish". The Syntax of Relative Clauses. A. Alexiadou, P. Law, A. Meinunger and C. Wilder (eds.), Amsterdam/Philedelphia: John Benjamins: 121-159.

Kornfilt, J. 2004a. Unmasking covert complementizer agreement. Manuscript presented at Linguistic Society of America, Boston, Mass.

Kornfilt, J. 2004b. *Agr* in Turkish as an expression of categorial features. Talk given at Workshop on Altaic Formal Linguistics-2, Boğaziçi University, Istanbul (to appear in the proceedings).

Kural, M. 1992. Properties of Scrambling in Turkish. Ms., UCLA.

Kural, M. 1993. "V-to(-I-to)-C in Turkish". *UCLA Occasional Papers in Linguistics* 11, F. Beghelli and M. Kural (eds.), 17-54.

Kural, M. 1994. Postverbal Constituents in Turkish. Ms., UCLA.

Lasnik, H. 1999. *Minimalist Analysis*. Oxford: Blackwell.

Matushansky, O. 2006. "Head Movement in Linguistic Theory". *Linguistic Theory* 37, 69-109.

Miyagawa, S. 2001. "EPP, Scrambling and wh-in situ". *Ken Hale: A Life in Language*, M. Kenstowics (ed.), MIT Press, 293-338.

Miyagawa, S. 2003. "A-scrambling and options without optionality". *Word Order and Scrambling*, S. Karimi (ed.), Blackwell, 177-200.

Miyagawa, S. 2004. Unifying Agreement and Non-agreement Languages. Talk given at Workshop on Altaic Formal Linguistics-2, Boğaziçi University, Istanbul (to appear in the proceedings).

Miyagawa, S. (in press) "On the EPP". *Proceedings of the EPP/Phase Workshop*, M. McGinnis and N. Richards (eds.), MITWPL.

Ouhalla, J. 1991. *Functional Categories and Parametric Variation*. London: Routledge.

Öztürk, B. 2005. *Case, Referentiality and Phrase Structure*. Amsterdam: John Benjamins.

Özsoy, A. S. 1998. "Locative inversion, VP-adjunction and Turkish relativization". *The Mainz meeting : Proceedings of the Seventh International Conference on Turkish Linguistics*, L. Johanson, É. Á. Csató, et al. (eds.), Harrassowitz, Wiesbaden, 361-375.

Pesetsky, T. and E. Torrego 2001. "T-to-C Movement: Causes and Consequences". *Ken Hale: A Life in Language*, M. Kenstowics (ed.), MIT Press, 355-426.

Pollock, J-Y. 1989. "Verb Movement, Universal Grammar, and the structure of IP." *Linguistic Inquiry* 20, 365-424.

Radford, A. 2001. *Syntax: A Minimalist Introduction*. Cambridge University Press.

Rizzi, L. 1990. *Relativized Minimality*. Cambridge, Mass.: MIT Press.

Rizzi, L. 1997. "The fine structure of the left periphery". *Elements of Grammar: Handbook of Generative Syntax*, L. Haegeman (ed.), Dordrecht: Kluwer, 281-337.

Roberts, I. 2001. "Head Movement". *Handbook of Contemporary Syntactic Theory*, M. Baltin and C. Collins (eds.), Blackwell, 113-147.

Roberts, I. and A. Roussou 1998. The Extended Projection Principle as a Condition on the Tense-dependency (2nd version), ms.

Sezer, E. 2001. "Finite Inflection in Turkish". *The Verb in Turkish*, E. Erguvanlı-Taylan (ed.), Amsterdam: John Benjamins, 1-45.

Svenonius, P. 2001. "On Object Shift, Scrambling, and the PIC". *A Few From Building E39*, MIT Working Papers 39, 267-289.

Travis, L. 1984. Parameters and Effects of Word Order Variation. Doctoral Dissertation, MIT.

Underhill, R. 1972. "Turkish participles". *Linguistic Inquiry* 3, 87-99.

Yavaş, F. 1982. "The Turkish Aorist". *Glossa* 16: 40-53.

Zwart, C. J-W. 2001. "Syntactic and phonological verb movement". *Syntax* 4.1: 34-62.