The Organization of Functional Heads
and
Tense/Aspect/Mood Interpretation in Turkish

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This dissertation investigates the IP-related categories and how the verbal domain of Turkish is organized. Within the theory of Universal Grammar, there are three major approaches to the IP domain of languages. The initial distinction is between the Syncretic IP model and the Rich IP model. The former refers to the conception that human language only makes available the heads and phrases required in a specific derivation, and that languages display parametric variation while the latter argues that the human mind comes with a highly articulated and rigid schematic hierarchy where all features of all functional categories are available in every derivation without parametric variation, yet most of them are silent. Additionally, there is an intermediate hypothesis, the Split IP model, where only major categories such as tense, mood and aspect, have dedicated head positions, and the morphological form inserted to each head position specifies its value.

The dissertation aims to find out which one of these models is supported by the data in Turkish. I argue that split or syncretic character of the IP in Turkish should be sensitive syntactic operations that can target the functional heads individually. With this in mind, I suggest that a non-finite adjunct clause in Turkish is exceptional in that it lacks any kind of content when it stands alone, and therefore cannot be uttered in isolation. Yet when adjoined to a matrix clause, it is interpreted as having the values of the functional heads in the matrix clause via the mechanism 'copy'. The data illustrates that although 'copy' can target some heads individually, there are two sets of heads that are always copied as a whole. Assuming that 'copy' can only single out independent heads, I conclude that Turkish has two syncretic phrases where two morphemes co-head the phrase. Specifically, ability modal and negation form the deontic modality phrase (DmodP) while tense co-heads another phrase with an aspect or modal marker (TAMP).

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Abbreviations

1SG	-	First person singular
2SG	-	Second person singular
3SG	-	Third person singular
3PL	-	Third person plural
ABIL	-	Ability
ABL	-	Ablative
ACC	-	Accusative
AGR	-	Agreement
AOR	-	Aorist
ASP	-	Aspect
AUX	-	Auxiliary
CAUS	-	Causative
CEL	-	Celerative
COM	-	Commitative
COMP	-	Complementizer
COND	-	Conditional
CONT	-	Continuous
CONV	-	Converb
DAT	-	Dative
DED	-	Deduction
E	-	Point of Event
EVID	-	Evidential
EXP	-	Expectation
FUT	-	Future
GEN	-	Genitive
GER	-	Gerund
GFPP	-	German/French present perfect
IMPFV	-	Imperfective
IND	-	Indicative
INST	-	Instrument
LOC	-	Locative
NEC	-	Necessity
NEG	-	Negative
NOM	-	Nominative
NOMIN	-	Nominalizer
OPT	-	Optative
PASS	-	Passive
PFC	-	Perfect
PL	-	Plural
POSS	-	Possibility
PPC	-	Participial
PRED	-	Prediction
PROG	-	Progressive
PROSP	-	Prospective
PRST	-	Present
PST	-	Past
PSV	-	Possessive
R	-	Point of Reference

REP	-	Repetitive
S	-	Point of Speech
SEPP	-	Standard English present perfect
TAM	-	Tense/Aspect/Mood
TNS	-	Tense
TOP	-	Topicalizer
WILL	-	Willingness
XN	-	Extended now

CHAPTER 1

The Semantics of Tense/Aspect/Mood

1.1 Overview

The categories Tense/Aspect/Mood (TAM) are among the most extensively discussed topics in linguistics. Their definition and classification have been subject to a great deal of controversy among linguists. This is mostly due to the fact that they are so closely interwoven that at times it is quite difficult to argue for a definitive classification for some TAM markers. Furthermore, in some cases traditional naming is used although analysis indicates otherwise, such as the perfect being referred to as an aspect type when it actually shows precedence, a temporal relation (Comrie 1976). Given this complexity of affairs, Tense/Aspect/Mood deserve the name Bermuda Triangle as Uzun (2004) suggests. This chapter serves to provide the background of the concepts that will be assumed in the following chapters. §1.2 and §1.3 discuss the fundamental concepts of tense and aspect in semantic terms while §1.4 provides an analysis to account for temporal and aspectual categories using the same basic relations. §1.5 sets out the modal notions that will be assumed in the following chapters. §1.6 examines the two different relations temporal adverbials have with aspectual and temporal categories while §1.7 concludes the chapter with a summary.

1.2 Tense

Tense is the location of the event of a sentence in time. While time is not relative, except in physics, and is experienced in the same way by all humans, tense requires an evaluation point constantly flowing in time so that the event is located relative to it. The evaluation point is the point in time the sentence is uttered and the speaker communicates the message "I evaluate the time of this event relative to the moment in time this sentence is uttered". When this message is somehow coded in the sentence, we have a *tense*, so that whenever the sentence is uttered as it is, the evaluation point in time changes but the tense remains the same. As soon as we have an evaluation point (henceforth point of speech or

speech time), we can argue for three different places in time the event can be pinned to: before the point of speech (past), simultaneous with the point of speech (present) or after the point of speech (future). Even though such a three-way is distinction is possible, languages usually employ a two-way distinction (Comrie 1985). They either have past vs. non-past distinction or future vs. non-future distinction.

According to Comrie (1985), all languages have means of locating the event in time but they vary in how they do it. The lexical category adverb seems to be a universal way, i.e. all languages have adverbs referring to times (Cinque 1999). For example, *yesterday* shows that the event is before the point of speech while *tomorrow* refers to a point in time after the point of speech. But one cannot say that these are tense markers. For one thing, they are neither obligatory nor bound morphemes as seen in the grammatical forms *John left* or *John will leave* which refer to times without adverbials (Lin 2012). Therefore, Comrie (1985) defines tense as the "grammaticalized expression of location in time" whereby the tense marker has to be obligatory and bound, in other words grammaticalized.

There are two major ways of formally representing tense in semantics. First, it is hypothesized that tense is an existential quantifier which ranges over events and locates them in time. Devised this way, tense is an operator external to the event expressed by the sentence. This model was designed by Reichenbach (1947) in an attempt to analyse tense within symbolic logic and has so far dominated the field. The second way of representing tense is to assign the property of denoting a time to the event and argue that it is referentially bound by a time just as a pronoun is bound by a nominal. This idea was pioneered by Partee (1973) and Enç (1987). The following two subsections discuss these approaches to tense. §1.2.1 focuses on the operator model for tense while §1.2.2 discusses the referential model.

1.2.1 *Tense as an operator*

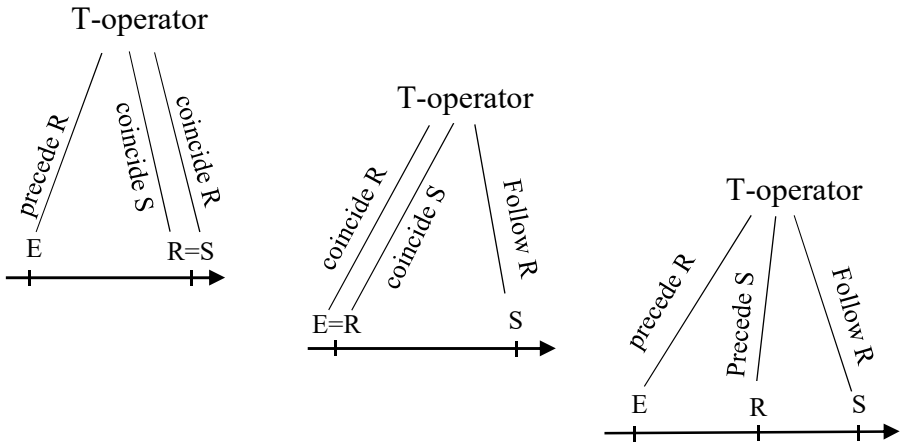
The representation of the time of the event, now tense of the event, is usually visualised as an arrow extending from left to right. The first commonly accepted framework of tense was developed by Reichenbach (1947). According to Reichenbach, there are three points

relevant for the tense of any sentence, the point of Speech (S), the point of Reference (R) and the point of Event (E). Therefore, tense is a three-place predicate which functions outside the event structure of the sentence and orders its three arguments (S,R and E) relative to each other on a timeline, similar to a three-place predicate which establishes the thematic relations between its arguments. The position of R relative to S, i.e. precede, coincide and follow, gives rise to three tenses which are termed as past, present and future, respectively. E is then positioned relative to R to pinpoint the time of the event on the time line. The relation between E and R is the same as the relation between R and S, that is, E may precede, coincide or follow R in time. Consider the sentences in (1) for an illustration of Reichenbach's theory of tense. Note that the tense operator runs three commands at the same time, which will be important below.

(1) a. John has left

b. John left

c. Jane had left



The present perfect tense of English in (1a) is represented as E<R=S, where '<' is read as *precedes* and '=' as *coincides*.[1] The simple past tense in (1b), on the other hand, is represented as E=R<S. The solution of the confusion between these tenses now, Reichenbach claims, naturally falls into place. The difference is due to the viewpoint from which E is monitored. In the past interpretation in (1b), there is a reference point R preceding S and E is simultaneous with R. Since the reference point of the event does not abut the point of speech, the event does not bear any relevance to present. So the event is viewed from past in past tense and (1b) does not entail that John is absent right now. In the present perfect tense, however, the reference point R is simultaneous with S and the

[1] I deviate from Reichenbach's (1947) original notation for the sake of uniformity throughout the chapter since I will be discussing alternative conceptions of temporal relations which require more complicated notations. Reichenbach's original notation is dash '-' for *precedes* and comma ',' for *coincides*.

event precedes both of them (1a). Therefore, the event is viewed from present in the present perfect tense and (1a) is true if John is absent now. The semantics of (1c) seems more complicated since it contains two events and none of the tense coordinates overlap. For (1c) to be uttered there has to be another event to make the reference point, say the past event in (1b). This is either provided in the discourse or anchored by another clause in the same sentence. Logically, Reichenbach's tense model gives us thirteen possible tenses as shown in (2).

(2)

S=R=E	simple present
R=E<S	simple past
S<R=E	simple future
E<S=R	anterior present
E<R<S	anterior past
E<S<R	anterior future
S=E<R	
S<E<R	
S=R<E	posterior present
R<E<S	posterior past
R<S=E	
R<S<E	
S<R<E	posterior future

(Reichenbach 1947: 77)

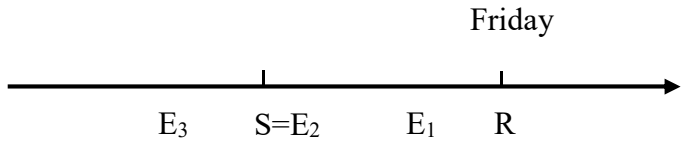
Reichenbach reduces the number of possible tenses to nine by assuming that groups of tenses should be treated as the same form as long as the relationship between S and R on the one hand and the relationship between E and R on the other hand remain the same. Thus, for example, in the forms E<S<R; S<E<R; S=E<R the point of reference always

follows the point of speech and the point of event always precedes the point of reference. Reichenbach (1947) subsumes these forms under *anterior future*.

However, Reichenbach's theory has some drawbacks. The initial and most obvious problem is the future perfect problem noted by Comrie (1985) and Vikner (1985), who point out that the theory overgenerates. Although Reichenbach subsumes the three possible future perfect tenses under anterior future in (2), this is only notational. The theory still generates those semantic representations but natural languages do not have more than one future perfect form. Note the ambiguous future perfect in (3a) and the three possible locations of E shown in (3b). It is possible in (3a) that Jane will finish her assignment in the future but before Friday, say on Thursday (E1). She may be writing her last sentences right now (E2), or she might have already finished it (E3).

(3) a. Jane will have finished her assignment by Friday

b.



In Reichenbach's model the ambiguities of E are represented with three different semantic representations, in all of which the three co-ordinates are ordered by the tense operator at the same time; for example E<S<R; S=E<R and S<E<R. Vikner (1985), on the other hand, argues that Reichenbach's tense theory suffers from over generation for future perfect and is incompatible with the Government and Binding (GB) framework. He offers to create the same ambiguity with a single semantic representation, and instead of a tense operator that runs 3 commands, he proposes a 3x2 system. In Vikner's model, the temporal system has four elements, and they are always handled in two, which means that the tense operator is made up of three two-place predicates in compliance with the binary branching in GB. The system has two reference points, R_1 and R_2 as well as S and E. Vikner (1985) argues that the number of reference points should be more than one to make the future perfect ambiguity simpler and to explain the temporal adverbials in (4)

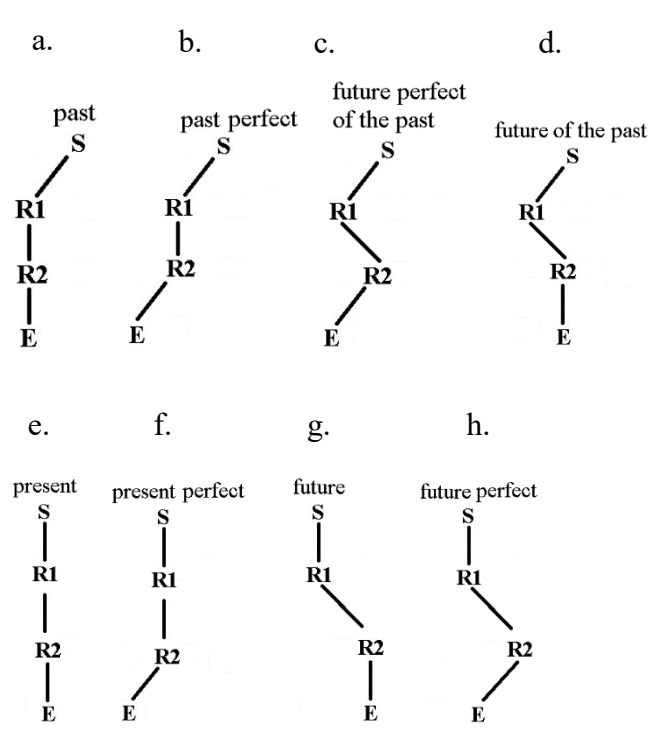
where two adverbials seem to show two different points.[2] *Yesterday* in (4) shows R_1, which precedes S, while *today* shows R_2, which coincides with S.

(4) Yesterday she would hand in her essay today

(Vikner 1985: 95)

Vikner's iconic representation of the future perfect tense is $S=R_1$; $R_1<R_2$; $E<R_2$, as in (5h). There are three tense operators. The first operator specifies that S coincides with R_1 while the second shows that R_1 precedes R_2, followed by the third operator ordering E before R_2. But E is not located relative to S since the three operations are performed separately. Therefore it can be interpreted anywhere between S and R_2, simultaneous with S and before S (E_1, E_2 and E_3 respectively in (3b)). (5) is Vikner's (1985) representation of eight tenses where a vertical line shows coincidence and oblique lines show precedence.

(5)

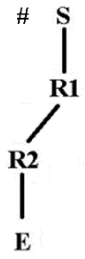


(Vikner 1985: 93)

[2] Vikner (1985) argues that two is the maximum number of reference points since it is the maximum number of clause-mate co-referring adverbs, at least in English, Danish and French.

There is one important aspect of (5) that needs mentioning. Present and future tenses in (5) are marked by the coincidence of S and R_1 (5e,f,g,h) while past results when R_1 precedes S (5a,b,c,d). R_2 doesn't seem to have a role in the past/non-past distinction. Therefore, it superfluously coincides with R_1 for present perfect tense in (5f). And when they are dissociated, R_2 never precedes R_1 (6), which seems to be a stipulation since it wouldn't change the non-past status of present perfect in (5f). The possibility of R_2 preceding R_1 will be important in §1.4 where we will discuss the relation between past tense, present perfect tense and temporal adverbials.

(6)



Apart from the reduction of semantic representation of future perfect, Vikner's (1985), radical contribution to the tense theory is that we now have binary relations between the temporal arguments (S,R and E) instead of a ternary relation. Considering the binary branching principle of the Government and Binding Theory, this version of Reichenbach's tense theory seems more promising for integration with a syntactic theory of tense.

1.2.2 *Tense as a referential expression*

Enç (1987) points to the inadequacy of Reichenbach's (1947) conception of tense as an operator. According to Enç (1987), an operator based theory of tense explains the two-way ambiguous interpretation in (7a) but not the one in (7b).

(7) a. Mary found out that John failed the test

b. John heard that Mary was pregnant

(Enç 1987: 634-635)

The past tense operator in the main clause in (7a) introduces a new time and shifts the evaluation time (reference time) to past. The past tense operator in the complement clause basically serves the same function and shifts the time to a second past time. Therefore, John's failing the test precedes the time Mary found it out. This also successfully applies to the first interpretation of (7b) where pregnancy preceded the time John heard it. But it is possible in (7b) that the two events overlap, i.e. Mary was still pregnant at the time John heard it. This is unexpected since the past tense operator in the complement clause should act as a quantifier affecting every expression in its scope and indicate that E precedes R. Since R has already been shifted to a time which precedes S, E should receive a relative tense (past-in-past) interpretation. The simultaneity of E and R in (7b) resembles present tense. Furthermore, the past tense has to be ambiguous in (7a) if we assume the operator based theory. That is, the same tense form, past form of the verb, is a tense linking E and S in the main clause, but it is a relative tense linking E and R in the complement clause.

Building on Partee's (1973) original idea, Enç (1987) proposes that tense is not a quantifier ranging over the events in its scope, but it is a referential expression that anchors a time like a pronoun is bound by a nominal. She argues that past tense always refers to, or anchors, a time interval that precedes R, and R=S in main clauses. But the fact that R=S in main clauses is only because there isn't a higher temporal antecedent that R can precede or follow, so that R is read as the utterance time, S. Granted, past tense anchors R=S and shows a time interval preceding R=S, as shown in (8).

(8) $R=S_0$ John [$PAST_i$ heard […]]

where $i < 0$

When the complement clause is introduced with its past tense, the referential tense needs a reference point in the clause in which it appears. Since the embedded clause is governed by the main verb, the tense of the main verb binds the R in the complement clause and the complement past tense is interpreted relative to R, which is co-indexed with the E of the main clause. Therefore, it refers to a point in time that precedes the point shown by the main clause tense:

(9) [$R{=}S_0$ John [$PAST_i$ heard [R_i that Mary [$PAST_j$ was pregnant]]]]

where $j < i < 0$

If, however, the R of the complement clause is bound by the R of the main clause, both the main clause tense and the complement clause tense have the same reference point through binding, R=S. Therefore, they both denote a time interval that precedes R=S:

(10) [$R{=}S_0$ John [$PAST_i$ heard [R_0 that Mary [$PAST_j$ was pregnant]]]]

Where $i < 0$; $j < 0$

Now, nothing hinders an interpretation where Mary's pregnancy and John's hearing it are simultaneous. Structured this way, Enç's (1987) tense theory both explains the simultaneous reading which the operator-based theory failed to explain, and yields a uniform tense formulization: past always shows that E precedes R whereby R can be bound by any time or show S. The major advantage of the referential approach is that it accounts for the simultaneous interpretation in (7b), for which the operator theory of tense has to resort to hidden present tense disguised morphologically as past tense in the embedded clause. Also, it doesn't assume an operator working along the derivation. Tense is a nominal expression that refers to a time just like a pronominal refers to an object. Its interpretation does not require any other theoretical mechanism than binding and indexing.

Note that the discrepancy between the operator-based model and the referential tense theory as well as their (dis)advantages will be relevant in chapter 2 where we will discuss the integration of the semantics of tense into a syntactic model.

1.3 Aspect

The category of aspect reflects the "[…] different ways of viewing the internal temporal constituency of a situation" (Comrie 1976: 3) and refers to such notions as completion, iteration and inception. However, this definition is quite broad and intended to cover the two types of aspect: lexical aspect and grammatical aspect. The category of aspect becomes complicated when we consider the difference and interaction between lexical and grammatical aspect. Therefore, it will be handled in three subsections. §1.3.1 is a brief introduction to lexical aspect while §1.3.2 discusses the types of grammatical aspect. §1.3.3 points to a problematic case in aspectual studies: perfect aspect.

1.3.1 *Lexical aspect*

Lexical aspectual types (also known as situation type or aktionsart) relate to the internal semantics of verbs. Aristotle was first to spot the differences in the entailments of some verbs, classifying them as *movements* and *actualities* (*Metaphysics 1048)*. Aristotle's verbs of movement inherently require an end point (telic) while actualities do not (atelic). However, the first comprehensive classification with adverbial tests was offered by Vendler (1967), adopted by Dowty (1979) and contributed to by Smith (1997). In Vendler's (1967) original classification there are four lexical aspect types: States, Activities, Achievements, and Accomplishments.

Smith (1997) uses the [±dynamic], [±durative] and [±telic] parameters to distinguish between them and adds a fifth class: Semelfactives. +dynamic verbs involve movement of (at least) its subject (such as *walk*) while -dynamic verbs are static like the verb *love*. +durative verbs expand in time while -durative verbs (such as *break*) do not. Note that -dynamic verbs are necessarily +durative (such as *love*) since non-dynamic states have to expand in time. Finally, telicity relates to the end point of the event. If the verb, more accurately the verb phrase, has an end point, the verb is said to be telic. For

instance, *walk* is an atelic verb while *walk to school* is a telic verb phrase since the act of walking will reach an endpoint in the latter as soon as the subject arrives at school, but the lack of a target in the former renders the action infinite. Taylan (2001) summarizes Smith's classification as in (11).

(11) i. States: [-dynamic], [+durative] and [-telic]

Ex. *John is tall; John resembles his father.*

ii. Activities: [+dynamic], [+durative] and [-telic]

Ex. *John is playing soccer; He listened to music.*

iii. Accomplishment: [+dynamic], [+durative] and [+telic]

Ex. *John walked to the bus stop; He made that sculpture.*

iv. Achievements: [+dynamic], [-durative] and [+telic]

Ex. *John found that hat; John broke the window.*

v. Semelfactives: [+dynamic], [-durative] and [-telic]

Ex. *John winked; John knocked on the door.*

(Taylan 2001: 99-100)

Lexical aspect types interact with grammatical aspect and adverbials, yielding various tests for their categorisation. States are notoriously incompatible with progressive, for example **John is resembling his father*, while the others have different entailments with progressive. Activities easily allow progressive and the moment pictured in (11ii) represents the whole event of playing football. But the moment expressed with an accomplishment or achievement in progressive excludes its result. That is, *John is walking to school* and *John is breaking the window* do not mean John has arrived at school and the window is broken, but *John is playing football* (activity) means John has played football. Finally, semelfactives are momentary, so that they lead to repetition interpretation in progressive, such as *John is knocking on the door* means John is touching the door with his fist repeatedly.

Adverbials, on the other hand, make a broad distinction between telic and atelic verbs. in-adverbials select telic verbs (accomplishments and achievements) as in (12) while for-adverbials select atelic verbs (states, activities and semelfactives), as in (13).

(12) a. He made that sculpture in an hour (Accomplishment)

b. John found that hat in an hour (Achievement)

c.* John resembles his father in an hour (State)

d.*He listened to music in 10 minutes (Activity)

e.*She winked in 10 minutes (Semelfactive)

(13) a. He listened to music for an hour (Activity)

b. John knocked on the door for 10 minutes (Semelfactives)

c. John was in love with Mary for 2 years (State)

d.*He made that sculpture for an hour (Accomplishment)

e.*John broke the window for 10 minutes (Achievement)

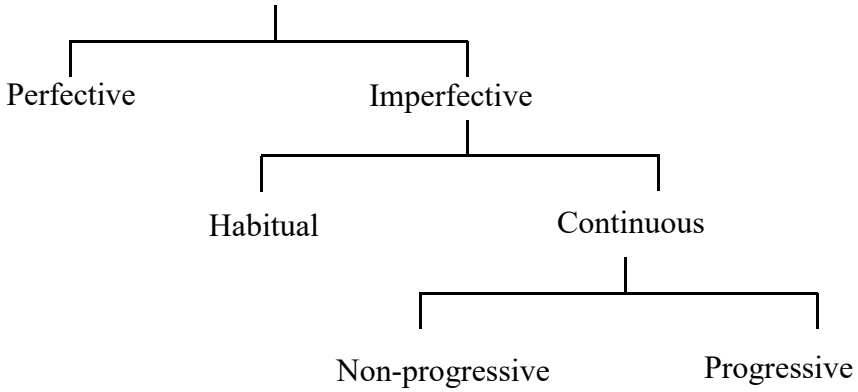
1.3.2 *Grammatical aspect*

Anderson (1973) sees grammatical aspect as "[...] concerned with the relation of an event or state to a particular reference point: it is located before (retrospective), after (prospective), around (progressive) or simply at (aorist) a particular point in time." Hence the relationship between R and S mentioned in §1.2.1 is seen as the tense of the sentence while the relationship between E and R is better categorised as aspect (Anderson 1973, Klein 1994, Demirdache and Uribe-Etxebarria 2004). In other words, aspect is not a deictic category, it is a referential category that links the event to a reference point which is deictically marked by tense. But tense and aspect are probably the two categories that are closest to each other among the inflectional categories. Such that these categories are rarely handled on their own. For example, Lyons (1977) and Dahl (1985) highlight the close relationship between the temporal notions anteriority and past, and the aspectual notions completion and perfectivity. Lyons (1977) argues that if an event is anterior to

present moment, it tends to be interpreted as completed while according to Dahl (1985: 78) past tense is included in the definition of perfective aspect.

There is another point to be raised which concerns the syntax-semantics interface. As is obvious in the definition of aspect by Anderson (1973) and Comrie (1976) (cf. §1.3), it is classified semantically, and matching the aspectual classes with morpho-syntactic forms is a whole different issue. This means that if there isn't a distinct form for each aspect type, which usually is the case, a language may use a single form to represent two or more aspectual distinctions. Furthermore, a temporal notion can be expressed with an aspectual form. As a head start, (14) is Comrie's (1976) aspectual classification. I will, however, add to this generally accepted scheme.

(14) *Classification of aspectual oppositions*



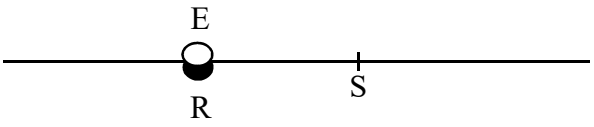
(Comrie 1976: 25)

Grammatical aspect is similar to the lens of a camera and expresses how much of the event the speaker wants to make visible (Smith 1997:61). There are two main modes of this lens.[3] The speaker may zoom out the view so that the event appears as a closed one with its initial and end points specified (perfective) or they may zoom in on the event so that its endpoints are out of sight (imperfective). In **perfective** aspect, the event looks like a small dot in the time line with no internal part visible, and the event (E) and the

[3] The two-way distinction of aspect is the most common distinction found in the languages of the world (Comrie 1976, Dahl 1985, Bybee et al. 1994 among many others).

reference point (R) coincide; hence we can say that it corresponds to Reichenbach's (1947) simple past.[4] This is schematized in (15) and exemplified in (16).

(15)



(16) a. John read a book

b. Jane sent the letter

The events of reading and sending in (16) are presented as a whole, so that we only focus on the initial and the end states. Although the events apparently have internal complexity such as turning the pages or folding the letter, the speaker is not making them visible. The perfective aspect in (16) is conveyed by the simple past tense (perfective past). An important property of the perfective aspect is that it conveys completion interpretation with accomplishment verbs, which cannot be cancelled on Gricean terms (Smith, 1997: 68). Hence the sentences in (16) cannot continue with an assertion that the events were terminated without completion. This is due to the fact that perfective has an end point, or completion interpretation. Note the deviant interpretations in (17a,b).

(17) a.#John read the book but he didn't finish it

b.#Jane sent the letter but she didn't get it sent

Imperfective aspect, on the other hand, focuses on the internal structure of the event without specifying the initial and the end points. While perfective presents the event from outside, imperfective presents the event from inside. In terms of the co-ordinates on

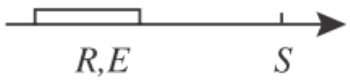
[4] This is the standard definition of perfectivity, i.e. perfective past, found in many formulizations such as Kratzer's (1998): the inclusion of the event time in the reference time. But representation of an event as a single dot without internal constituency is not restricted to perfective past, as we will see in §1.4 where we will also see that perfectivity should only be defined as lack of internal structure of the event. But I will continue here with English perfective past for the sake of convenience. I am also assuming a single reference point for the same reason. See §1.2.1 for Vikner's (1985) alternative based on two reference points, which will reappear in, again, §1.4.

the time line, Reichenbach (1947) argues that the event can be *extended* in the sense that it takes a certain amount of time. But he doesn't provide a specific formulation for the relationship between E and R, marking the relation formally as R=E like perfective aspect:

(18)

Simple Past, Extended

I was seeing John



(Reichenbach 1947: 73)

However, imperfective can be described more specifically. Imperfective aspect is inclusion of the reference point (R) within the event (E) (Klein 1995). E spans between the left and right ends of the horizon the speaker makes visible, as shown in (19).

(19) [E//////////////////// ⬬ ////////////////////]
R

There may be different relations holding between R and E, such as progressive, habitual, and continuous or a language may have a single imperfective form, a grammatical category neutral for these aspectual distinctions. Spanish, for example, has a single imperfective form. The form *Juan llegó* is translated as 'John arrived' in the perfective past tense while *Juan llegaba* is the imperfective form which is translated as 'John was arriving' in the progressive or as 'John used to arrive' in the habitual, both of which are sub-types of imperfective aspect (Comrie 1976: 25). English, on the other hand, has two separate forms of imperfective in the past. (20a,b) are examples of imperfective aspect in English.

(20) a. Jack was reading a book but he had to put it down as Jane walked in

b. Jane used to work on her book, which she never finished

(20a) is the non-habitual imperfective focusing on a single occurrence of the event, but still reflecting its inner structure, i.e. the endpoint interpretation is cancelled by the following sentence. (20b), on the other hand, is **habitual**. It presents working on a book as multiple occurrences and again completion interpretation is cancelled by the following sentence. Habitual is often seen as the synonym of iterative/repetitive aspect, but Comrie (1976) argues that it is a misnomer.[5] He notes that in habitual aspect, there is a specific reference to the characteristic feature of the subject for an extended period of time so that it cannot be viewed "[…] as an incidental property of the moment". Therefore, repetition is neither a necessary nor a sufficient condition for habitual aspect. Note the sentences in (21).

(21) a. John knocked on the door five times

b. Mary used to believe in God

Although knocking on the door is repeated five times in (21a), the event is not even imperfective, let alone habitual. The subject in (21b) did not repeat the event of believing in God with intermissions, yet it is habitual since it makes reference to the subject's character.

If an imperfective aspectual form is not characterised as habitual, there is a further division. It can be dynamic or stative, which also interacts with lexical aspect. **Progressive** aspect is the non-habitual imperfective aspect for dynamic verbs (activities, achievements, accomplishments and semelfactives). States in (11i) cannot be progressive since they are not dynamic. Therefore, they can only appear with non-habitual non-progressive aspect, usually referred to as continuous aspect. In other words, **continuous** aspect is the progressive for states. The periphrastic aspect marker *be+Ving* in English, for instance, is exclusively progressive, so that (22a) is grammatical but (22b) is not.

[5] See Carlson (2012) for other semantic notions frequently confused with habitual, such as frequentative and generic forms.

(22) a. Jane is eating an apple

b.*Mary is knowing me

1.3.3 *A problematic case: the perfect and perfective*

The perfect is probably the most problematic temporal notion in semantics due to the "[…] multiplicity of its meanings/uses within a given language and to the variation […] of what has been labelled "perfect" across languages" (Ritz 2012: 881). There are two major problems with the formulization of the perfect: (i) its connection to perfective past, i.e. both show an event preceding the point of speech, and (ii) the extended now interpretation. Let us start with (i). Since the event precedes the point of speech, present perfect has a close connection to perfective past tense. Though it resembles perfective past, the formal distinction is the location of the reference point, which coincides with the point of speech in present perfect and precedes it in perfective past. But the distinction is lost in some languages, such as German and French, where one took over the other (the infamous present perfect-simple past union, cf. Comrie 1976, Lindstedt 2000) while it persists in some languages, such as Standard English. The German and French perfect allow past temporal adverbials and contrasts the present perfect in Standard English. Note the data in (23)-(25) where the contrast between Standard English present perfect and the German/French present perfect is shown.[6]

(23) a.*Jane has eaten pizza yesterday

b. Jane has eaten pizza

(24) Martin est parti il y a deux jours/le premier décembre

Martin is left ago two days/the first December

'*Martin has left two days ago/on the first of December'

(Ritz 2012: 884)

[6] As a matter of fact, English perfect allows temporal adverbs when combined with past tense, but not deictic adverbs. See §1.6 where they will be analysed as ambiguous between past perfect and past-in-past.

(25) Ich habe vor 20 jahren in Rom jemanden gesehen

I have before 20 years in Rome anyone seen

'Twenty years ago, I saw somebody in Rome'

(Rathert 2012: 246)

The pattern seems to continue in narrative function. Standard English cannot express narrative progression with present perfect (26c), which is reserved to perfective past (26a,b). But German and French can express narrative progression in perfect tense (Swart 2007), as in (27)-(28). Consider (26)-(28).

(26) a. Jane put on her glasses, checked her watch and stepped out

b. Jane stepped out, checked her watch and put on her glasses

c. I have tasted French wine, eaten shrimp and tried Turkish kebab

(27) Martin s'est levé á sept herues. Ensuite, il a déjeûné, puis a pris le bus pour se rendre á son bureau et est arrive á neuf heures

'*Martin has got up at seven. After that, he has eaten breakfast, then has taken the bus to go his office and has arrived at nine'

(Ritz 2012: 884)

(28) Als Johan mich gesehen hat, hat er Angst bekommen

'*When Johan has seen me, he has become scared'

(Swart 2007: 2276)

The perfective past forms in (26a) show the sequence of the events in the order they appeared and the order can be changed (26b). But the English perfect in (26c) does not indicate in which order the subject enjoyed those foods. The difference is due to the formal difference that the perfective forms in (26a,b) present the events as coinciding with a reference point in the past. There is a new reference point established with each perfective form, hence the narration. But the reference point in the present perfect in (26c)

coincides with the point of speech each time it repeats and the perfect only shows that each event precedes the reference point without specifying any other temporal ordering with the other events. However, German and French present perfect can serve narrative function (27)-(28).

It seems that perfect cannot be maintained semantically any longer for French and German. As a matter of fact, Lindstedt (2000: 371) argues that "[w]hen a perfect can be used as a narrative tense […], it has ceased to be a perfect". The problem seems to be aggravated in other languages. The perfect is expressed analytically in European languages with an auxiliary (*have* and *be*) and a past participle (Dahl 2000) where the union with the perfective past can be tracked due to its morphological form. However, in affixal languages it is even arguable whether such a distinction is needed. For example, in agglutinative languages, where a single affix can show the precedence relation in present perfect and perfective past. Turkish seems to be a good example. The morpheme *-DI* shows precedence relation, but its function as a present perfect or perfective past marker is debated, and the glossing and the translation given in a specific environment depends on the availability of a past adverbial. (29) is the common pattern one would find in the Turkish linguistics literature.

(29) a. Gel -di -m
come-**PFC**-1SG
'I have arrived'

b. Dün gel -di -m
yesterday come-**PST**-1SG
'I arrived yesterday'

Considering the perfect in French (27) and German (28), nothing stops us from arguing that (29b) could be a case of present perfect which allows a past adverbial. By the same token, one could equally convincingly argue that (29a) is perfective past without a past adverbial since the same exact verb form can be glossed and translated to English with past tense in an appropriate context, say as an answer to the question *did you come to the office yesterday?* An argument could be raised that German and French perfect are ambiguous between present perfect and perfective past. The same argument can be sustained for Turkish with the mere difference that Turkish perfect is also morphologically ambiguous. However, Swart (2007) argues that such an argument is

voided by the Dutch perfect since it allows temporal modification but cannot express narration, as in (30a,b).

(30) a. Sara is om zes uur vertrokken

'*Sara has left at six o'clock'

b.*Toen Jan me heeft gezien is hij bang geworden

'*When John has seen me, he has got frightened'

(Swart 2007: 2276)

To summarize so far, English seems to preserve the present perfect-perfective past distinction in that only perfective past allows past temporal adverbials and can be used narratively. However, this seems to be too narrow a viewpoint to adopt in any cross-linguistic study since there are present perfect forms acting like perfective past, such as German and French perfect. Furthermore, where morphological distinction is unattainable, the semantic distinction depends on contextual and adverbial clues, which doesn't lend itself to any formal analysis that can be linked to syntax. In other words, the distinction doesn't seem to make sense in syntax when there is no morphological distinction, since the event precedes the speech time in either case. And the Dutch perfect forces us to seek a formal difference between German/French type perfect and English type perfect as well as perfective past.

1.4 Analysis of Tense and Aspect with Vikner's (1985) Tense Model

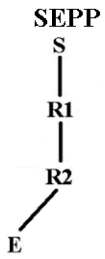
For the problem of perfect aspect outlined in §1.3.3, Ritz (2010) offers an analysis formulable in Vikner's (1985) tense theory for the quirky behaviour of the present perfect in Australian English, which seems to be the equivalent of the case in German/French present perfect regarding past adverbials and temporal progression. Studying Australian police reports, Ritz (2010) shows that present perfect is taking over the functions of showing a deictic time in the past and presenting narration, preserving at the same time its perfect meaning. She reports that sentences such as (31) are grammatical in Australian English.

(31) A male person aged between 25 and 30 years HAS ENTERED the bank at about 12:45 pm on Friday 29th April 2005 and approached staff and made demands. The person HAS then LEFT with an undisclosed amount of money. (Brian Cowie, WA police media, 2.5.2005)

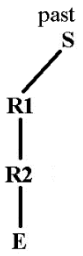
(Ritz 2010: 3401)

Ritz (2010) uses Vikner's (1985) 3x2 tense system where Standard English present perfect (SEPP) and perfective past are represented as in (32a,b) (also see §2.2).

(32) a. I have seen Maggie ($E<R_2$; $R_2=R_1$; $R_1=S$)



b. I saw Maggie yesterday ($E=R_2$; $R_2=R_1$; $R_1<S$)

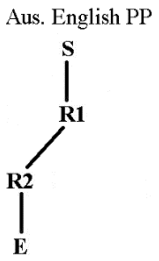


The formal difference between (32a) and (32b) is that the two reference points coincide with S in (32a) while they coincide with E for perfective past in (31b). Ritz (2010) argues that what prevents adverbial modification and narrative function in Standard English present perfect is the lack of a reference point coinciding with the event.[7] Recall from §1.2.1 that in Vikner's (1985) original model R_2 never precedes R_1 as a stipulation. Ritz (2010) offers to exploit this possibility and argues that R_2 is currently undergoing a stage

[7] See Smith (1981: 218-220) who argues that deictic temporal adverbs target the reference point of the sentence.

of shifting to coincide with the event and to precede R_1 as shown by the Australian English example in (33).

(33) I have seen Maggie yesterday ($E=R_2$; $R_2<R_1$; $R_1=S$)



The event is now accompanied by a reference point that can be deictically shown by a past temporal adverbial, a process which we can argue has already been completed in German and French. R_2 also can be the element that allows the present perfect to express narrative progression. Note that tense is still present, not past, since present tense is the coincidence of S and R_1 in Vikner's (1985) model, which is satisfied in (33). The formal distinction between perfective past and present perfect is retained, leaving room for true past tense which still co-exists in German (prateritum) and French (passé simple).[8] But the problem remains with Turkish type languages where morphological distinction is lost. We do not have a reason to argue for the analysis in (32b) or an analysis in (33).

Continuing with the possible prospects of Ritz's (2010) proposal, we can speculate that the Dutch data requires dissociation of the reference points which adverbials and narration anchor. Note in (30) that Dutch present perfect allows temporal modification but disallows narration. This entails that languages differ in the reference point narration anchors, so that Dutch narration anchors R_1 and (30b) is ungrammatical as R_1 coincides with S while (30a) is grammatical since the adverbial anchors R_2, which precedes S. on the other hand, narration in German, French and Australian English anchors R_2, which

[8] Yet the case in French seems slightly different since passé simple is now restricted to formal written French (Sheehan personal communication). This suggests that French is one step closer to Turkish than German since the morphological distinction is slowly disappearing.

allows these languages to express temporal progression (as well as temporal modification) in present perfect.

So far, we have only covered the type of perfect known as anterior perfect, i.e. precedence relation between the event and R_1 and S. However, there is a broad distinction between the perfect defined as **extended now** (McCoard 1978) and the perfect defined as **anterior perfect** (Comrie 1976). McCoard (1978) argues that perfect scans the time line starting from present (in present perfect) to the past where the reference point coincides with the speech point (34). Since perfect is a span from present to past, the event can be located anywhere before the speech point or it can be extended from infinite past to the speech point. This definition allows the sentences like (35a) with the representation in (35b). Comrie (1976), on the other hand, argues that perfect is the anteriority relation between the event and the reference point where the event precedes the reference point as a completed whole, as in (36).

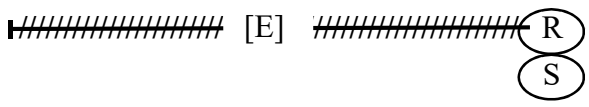
(34)

(35) a. She has lived/has been living here for two years (extended now)

b

(36) a. Jack has eaten a whole chicken (anterior perfect)

b



The major advantage of the extended now definition of perfect (34) is that it provides the necessary conception of tense and aspect to accommodate (35a) and (36a) since E can be an expanded event (35b) or a single point in this temporal area (36b). But the notion of extended now is not a temporal relation between the temporal co-ordinates on its own. Rather it is a state the event can assume. In other words, the event can be extended in this area or appear as a single dot, but the area itself is not an aspectuo-temporal notion. E still

needs to be located with Reichenbach's temporal relations. For example, it is still true that there is a part of the event that precedes R and S in (35), and the whole event precedes R and S in (36). Therefore, once we have the necessary temporal relations that underlie the interpretations in (35a) and (36a), the extended now and anterior perfect are not two competing definitions of the perfect. Such an analysis would have another advantage. The extended now perfect-anterior perfect contrast resembles perfective-imperfective contrast. The event in (35a) includes the reference point as seen in (35b) while the event in (36a) is a single dot without any internal structure. As Comrie (1976) acknowledges, perfect can hardly be defined as an aspectual type. If perfect can actually be defined as a temporal relation, it is expected that it should have the perfective-imperfective contrast (Güven 2004, Rathert 2004, Thieroff 1999).

As a matter of fact, we do have the necessary tools to represent both types of perfect in formal semantics. Rathert (2004, 2012) uses set-theoretic functions to defend the extended now conception of perfect shown in (34) while Swart (2007) uses the same set-theoretic functions to account for the temporal adverbial selection of the perfect cross-linguistically. I will here adopt their approach but simplify it and adapt to Vikner's (1985) three-predicate-based model where every function will correspond to a predicate. Also the formulation I will assume for the extended now present perfect differs from Rathert's (2004, 2012). Rathert's formulation does not allow us to express the difference between general imperfective and extended now type of imperfective since her formulation 'E ⊃⊆ S' reads 'E is the superset of S, and E is the subset of and equal to S' (Rathert 2004: 116-117). Translated into Reichenbach's (1947) temporal relations this means 'E precedes, coincides and follows S', which is basically the definition of general imperfective.[9]

Let us start with the symbols of the functions. I adopt the symbols and their interpretations in (37). Also I will include the general imperfective and progressive, the mirror image of extended now. Therefore, anterior perfect will be handled with other perfective tenses.

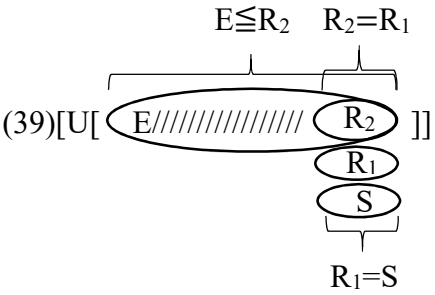
[9] See below for the general imperfective.

(37)

<	Precedes
≦	precedes and coincides
>	Follows
≧	coincides and follows
=	Coincides

(38) is an extended now sentence type of perfect, and (39) is the diagram of the three temporal functions where 'U' represents the universal set, or the left and right unbound time.

(38) She has lived here for two years $E \leqq R_2$; $R_2 = R_1$; $R_1 = S$

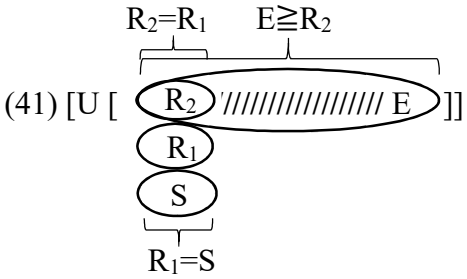


Rathert (2004, 2012) argues that extended now interpretation is the result of an abutting relation between E and S. This abutting relation has to be expressed as 'E precedes and (indirectly) coincides S' since without the coincidence relation E can travel leftward and lose present continuation interpretation. Therefore, E precedes and coincides R_2 directly and S indirectly since $R_2=R_1$; $R_1=S$. This schematically means that the event expands in time so that some portion of it precedes the point of speech while some portion coincides with it. I will refer to this relation as *include in a preceding manner*. The event includes R_2 since it both precedes and coincides with it, the super set relation. Expansion of the event to include the reference point is the definition of imperfectivity as defined by Klein (1995). Set-theoretically, E is a superset that includes two subsets (the reference points) as marked by the square brackets.

I argue that progressive is the mirror image of extended now perfect. In the present progressive in (40)-(41) the event coincides with the point of speech and follows it, but is not future tense. Therefore, R_1 has to coincide with S. The event is interpreted as coinciding with the point of speech, but it is also assumed to continue immediately after now, which is marked by the relation 'E coincides and follows R_2'. The event coincides with the point of speech and follows it, but the reference points are not in future. Therefore, present progressive allows the temporal adverbial showing the point of speech.

(40) a. Jane is eating ice-cream now $E \geqq R_2$; $R_2=R_1$; $R_1=S$

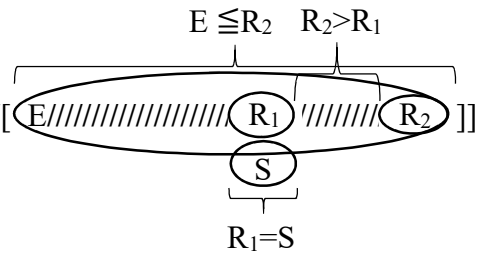
(41)



As for general imperfective, for example simple present tense in English, the event needs to precede and follow the point of speech, *proper inclusion*. When distributed to three predicates and two reference points, the event is represented as $E \leqq R_2$; $R_2>R_1$; $R_1=S$, as in (42). Since E precedes R_2 and R_2 follows R_1, E both precedes and follows R_1, which coincides with S. Therefore, by transitivity E both precedes and follows S, i.e. properly includes S. We now have a formal distinction between the expansion of E in present perfect and simple present, the missing distinction in Rathert's formulation.

(42) Jane reads books $E \leqq R_2$; $R_2>R_1$; $R_1=S$

(43)

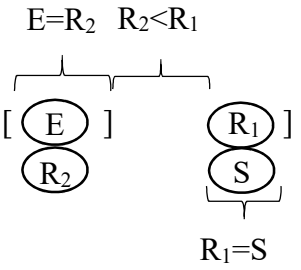


Let us now compare the imperfective tenses to perfective tenses. I will start with the perfective perfect in Australian English, which also represents the case in German and French. I will later examine what I argue to be their mirror images, reaching a formal

representation of perfectivity and imperfectivity. Consider the example in (44) and the diagram in (45).

(44)*I have seen Maggie yesterday ($E=R_2$; $R_2<R_1$; $R_1=S$)

(45)

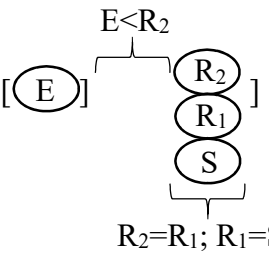


In (45), E coincides with R_2 and R_2 precedes R_1 without coinciding with it. Therefore, E can be anywhere before now, and it can allow past temporal adverbials and narration since there is a reference point preceding S. As for the relation between E and R_2, the event is interpreted as a single point in time without internal structure since it has only coincidence relation with R_2. And lack of internal structure is the definition of perfectivity (Smith 1997).

Turning next to English perfect, (46) is the example we considered above using Vikner's tense theory, and (47) is the diagram that shows the temporal and set-theoretic relations arising. The event (46) is interpreted as lacking an internal structure, a single point in time which precedes R_2 but does not coincide with it.

(46) I have seen Maggie ($E<R_2$; $R_2=R_1$; $R_1=S$)

(47)

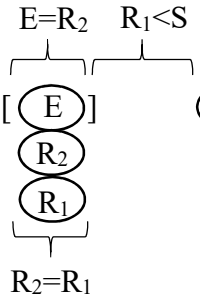


We need to revisit perfective past and future in order to reach a generalisation about perfective and imperfective. (48) and (49) represent the perfective past where E coincides

with R_1 and R_2, preceding S while (50) and (51) show the future tense, basically its mirror image.

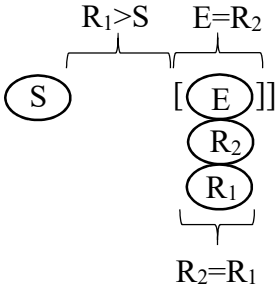
(48) I saw Maggie yesterday ($E=R_2$; $R_2=R_1$; $R_1<S$)

(49) [U [E] S]



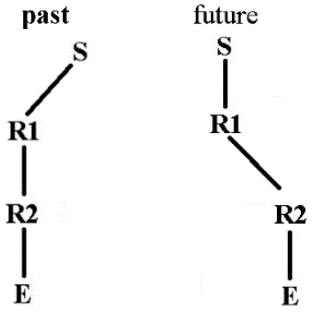
(50) I will finish my assignment next week ($E=R_2$; $R_2>R_1$; $R_1=S$)

(51) [U S [E]]



Note that (51) is not Vikner's (1985) original formulation for future tense since he argues that in future tense S and R_1 coincide, and are followed by the coinciding set of E and R_2 (52b). But for past tense R_1 does not coincide with S (52a), so that past and future tenses are not mirror images of each other in Vikner's (1985) tense model.

(52) a. b.

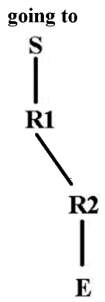


(Vikner 1985: 93)

Although it yields the same result as (51), Vikner's (1985) sole future tense formulation in (52b) fails to account for the doublets *going to* and *will* in English (Vikner 1985: 93). Furthermore, Ritz (2010) assumes the same formulation for the future tense and further argues that this is also the semantic structure of prospective aspect (Ritz 2010: 3414). However, I argue that future tense is the mirror image of past tense as shown in (49) and (51). This will allow us to distinguish between the two future tenses of English and analyse the other future tense (*going to*) as the mirror image of German/French present perfect.

I argue that German/French present perfect as well as Standard English present perfect have mirror images. That is, German and French present perfect allow past temporal adverbials due to the coincidence relation between E and R_2, but R_1 does not precede S (45), and the sentence shows a past event although it is present tense. The mirror image of this notion should be a tense which has future reference although it is present tense. In other words, E and R_2 follow a coinciding set of S and R_1 (Vikner's future tense formulation). The difference between *going to* and *will* in English can be attributed to this mirror image. In other words, German and French have present perfect and preterite (perfective past) that refer to past and allow past adverbials while English has *going to* and *will* that refer to future with future adverbials. Therefore, *going to* in (53) contrasts *will* in the position of R_1 (cf. (51) and (53)). It is also the mirror image of German/French present perfect (cf. (45) and (53)).

(53) I am going to fly to New York tomorrow



The difference in the reference points of the two future tenses of English could account for the discourse-related difference between (54a) and (54b). The truth value of (54b) is

evaluated in the present, so that if John doesn't kill himself (54b) is still true. But (54a) is wrong if John is still alive tomorrow.

(54) a. John will kill himself tomorrow

b. John is going to kill himself tomorrow

Finally, the mirror image of Standard English present perfect was already noted by Comrie (1976). The **prospective** aspect is described as being about to happen (Comrie 1976: 64). It shows an event that is presumed to follow the reference point from the viewpoint of the reference point, and it presents the preliminary stages of the event. The **prospective** can be expressed with various periphrastic forms in English:

(55) a. The ship is/was about to sail

b. The ship is/was on the point/verge of sailing

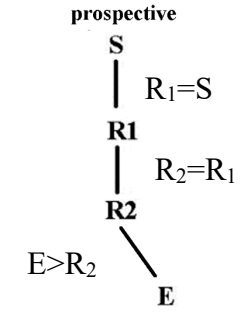
(Comrie 1976: 64)

Standard English present perfect doesn't allow a past temporal adverbial. Therefore, if prospective aspect is actually the mirror image of Standard English present perfect, it shouldn't allow modification by a future adverbial. This prediction is borne out, as seen in the similarity in (56a,b). Therefore, the prospective aspect should have the semantic structure in (57).

(56) a.*I am about to fly to London in 20 minutes

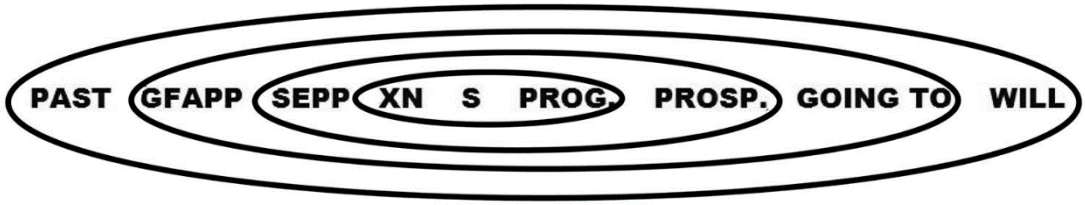
b.*I have seen Maggie twenty minutes ago

(57) I am about to fly to London



In sum, the picture of the mirror images of tenses should be as in (58) where being in the same circle means being the mirror image of each other around the centre S (at least for English, German and French).[10]

(58)



We can now describe perfective and imperfective aspects with a single parameter. Perfective aspect is the result of a singular relation between E and R_2. In other words, if $E<R_2$ as in (46); if $E=R_2$ as in (50), (53) and (44); or if $E>R_2$ as in (57) it is perfective viewpoint where the event has no internal structure and looks like a dot on the timeline. But when E has a compound relation to R_2, the event is imperfective, such as $E \leqq R_2$ (38) and (42), and $\geqq$ (41). In conclusion, perfective-imperfective is an overarching distinction ranging over tenses and other aspectual types.

We saw in this section that perfective and perfect are quite distinct phenomena. Perfect is a temporal notion characterized by the precedence or precedence and

[10] GFAPP=German/French/Australian present perfect; SEPP=Standard English present perfect; XN=Extended now present perfect.

coincidence of E and R_2. Therefore, this temporal notion can be presented in perfective or imperfective viewpoint. In other words, perfect can be perfective or imperfective. Perfective presentation of the event results in what is known as anterior perfect (perfective present perfect) (46) while imperfective presentation results in extended now interpretation (38). Perfective present perfect is a close kin to perfective past since they both express an event preceding the point of speech. Some languages seem to differ in the position of R_2 in present perfect as preceding R_1 and coinciding with E (German and French) therefore being one step closer to perfective past while others are undergoing a change to shift R_2 (Australian English). Assuming that the change argument is real, once R_2 has shifted it is quite difficult to make a distinction between perfective present perfect and perfective past where there is no morphological distinction, such as the case in Turkish, since both tenses will allow deictic temporal adverbials and narration.

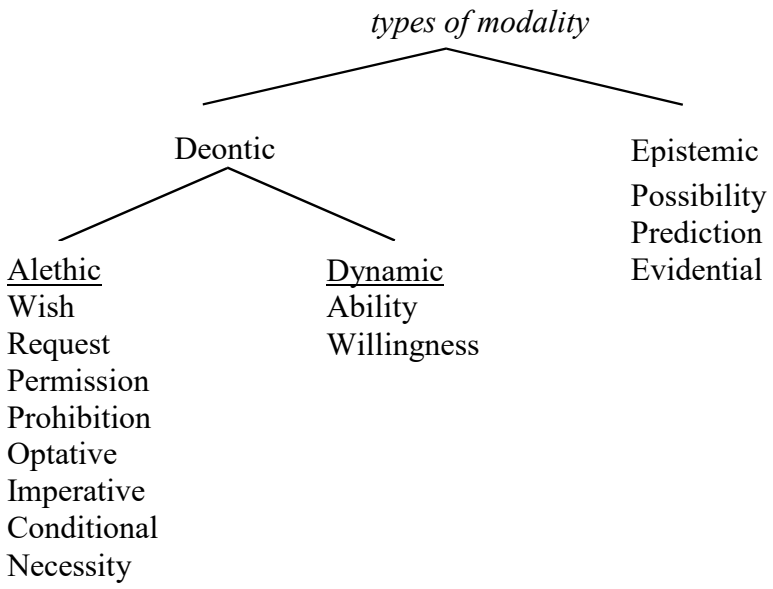
1.5 Mood/Modality

Modality is a more elusive category than tense and aspect. It is widely characterized by the speaker's subjective attitude towards the proposition of the sentence. Though it is mostly expressed by the verbal complex, it is more widely taken as a function of the whole sentence as some adverbials may express the speaker's attitude without changing the verbal complex (Palmer 1986: 2). Though various classifications have been offered for modality[11], usually there is a broad distinction between two types: deontic and epistemic modality. (59) shows the classification of modality I will be assuming.[12]

[11] These include objective-subjective modality (cf. Lyons 1977), agent-oriented modality and subject-oriented modality (Bybee 1985: 166), alethic modality and dynamic modality (Palmer 1986, Kerslake 1990), epistemic, priority and dynamic (Portner 2007, 2009). Also see Portner (2009: 139-141) for some other classifications in the modality literature.

[12] The term necessity is used both for the deontic notion of obligation and the epistemic notion of high probability, which leads to the confusion that necessity is both deontic and epistemic. I use the term necessity here in the deontic sense and the term prediction for high probability under epistemic modality.

(59)



Starting with deontic modality, also known as root modality, this expresses the contrast between the real world and the ideal world in the speaker's mind and indicates the wish that the real world be equated to the ideal world. Hence it refers to an action that the speaker wishes to be taken and encompasses such notions as wish, request, permission, prohibition, optative and imperative. Deontic modality also includes dynamic modality, which expresses the subject's abilities or willingness. Epistemic modality, on the other hand, reflects the speaker's evaluation of the situation or commitment to the truth of the proposition. It covers such notions as evidentiality, prediction and possibility.

Another property associated with modal expressions is that they tend to be ambiguous. In many languages, the same grammatical form expresses different modalities (Kratzer 1981, van der Auwera and Ammann 2013, Lyons 1977, Bybee 1985). For example, *may* and *must* in English are ambiguous between deontic and epistemic functions:

(60) a. You may leave now (Deontic-permission)

b. Jane may be sick (Epistemic-possibility)

(61) a. She must stay at home tonight (Deontic-necessity)

b. It must be raining outside (Epistemic-prediction)

The final point to note about modals is their interaction with tense. Condoravdi (2002) argues that tense-modal interaction arises since modals are both temporal and modal operators. They seem to be able to refer to the three different tenses made available in Reichenbach's (1947) tense theory. Considering that the speaker's opinion comes out at the point of speech, modals can shift the eventuality of the predicate to future, or it may coincide with the point of speech, present tense. Let us start with the future reference of modals. There seems to be an undeniable connection between futurity and modals, both epistemic and deontic. For example, the epistemic notions prediction and possibility as well as the deontic necessity and permission inherently involve futurity (Enç 1996). Note the use of temporal adverbials in (62) showing the future tense interpretation of modals.

(62) a. She is here now, but she may leave tomorrow

b. You may enter the premises after you go through security check

Enç (1996) calls the interpretations of (62a,b) forward-shifting. Although the sentence doesn't have any tense marker, the event time follows the speech time. But it is also possible for a modal not to shift the tense of the sentence, which Enç (1996) calls non-shifting interpretation. This interpretation comes up with stative or progressive verbs:

(63) a. John may be sick now

b. You should be studying right now instead of surfing the internet

For the interpretation of the modals where the event follows the speech time (62a,b), Enç (1996) and Condoravdi (2002) provide similar theoretical accounts. Enç (1996) provides the following interpretation principle for forward-shifting.

(64) *Enç's forward-shifting algorithm*

MODAL [S] is true at <w, i> iff in every world w′ accessible to w there is an interval i′ such that i < i′ and S is true at <w, i′>.

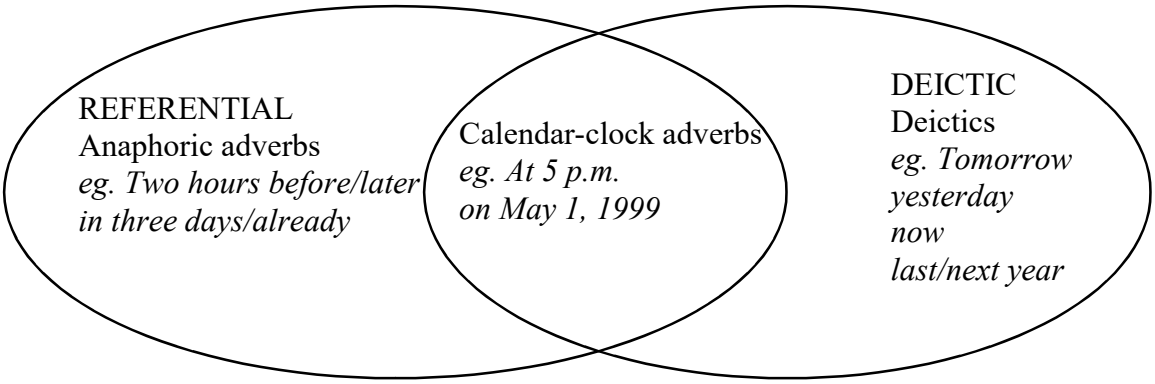
(64), in essence, dictates that the truth conditions of S hold if and only if S is true at a time following the time S is uttered. Condoravdi (2002) offers a formulation that is easier to incorporate into a syntactic theory. She argues that modals introduce a temporality argument whose interpretation starts from the reference point of the sentence (rather than Enç's point of speech) and expands to infinite future, which she shows as [(t, _). The effect of this temporal argument is that a modal's function is true if and only if its proposition holds at a time interval *i* in a world *w* which starts from the reference point and expands to infinite future. This also explains the non-shifting interpretation in (63a,b) where E=S. Since the reference time coincides with the speech time and the temporal argument introduces a time that starts at the reference time, the event, whose time is shown by [(t, _), can coincide with the speech time.[13]

1.6 Temporal Adverbials and Tense/Aspect/Mood

Although temporal adverbials are not categorised as TAM markers, they do refer to intervals of time (Comrie 1985). For instance, in languages without grammatical tense marking, such as Mandarin, temporal adverbials determine the temporal interpretation of the sentence. When grammatical tense marking is available, they enter into a compatibility relation with the TAM markers, and if their features don't match those of TAM markers, the sentence is rendered ungrammatical. Therefore, any investigation into the TAM categories cannot proceed without a classification of temporal adverbials. From a semantic point of view, there seem to be two different anchoring relations between the adverbials that show an interval in time and temporal co-ordinates: deictic and referential. Yet some adverbials are ambiguous between deictic and referential time-denoting. Adapted from Smith (1981: 218-220), (65) is the summary of time-denoting functions of temporal adverbials that I will be assuming.

[13] Obviously, this is a future reference where R_1 coincides with S. See §1.4.

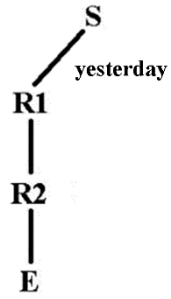
(65) *Time-denoting functions of temporal adverbials*



A temporal adverbial may show the time of R_2 or R_1 viewed from the speech point (deictic function). In the referential function, on the other hand, it may show the time of R_2 viewed from R_1 or the time of (E) viewed from viewed from R_2. In other words, deictic use of an adverbial is the viewing of a reference point from S while referential use is viewing a reference point or the event from a reference point. In the former case, it modifies the tense of the sentence (Smith 1997, Lyons 1977, Rathert 2012). Let us start with deictics in (65). They always refer to the speech time, strictly ordering it relative to R_1 or R_2. For example, *yesterday* refers to a time strictly preceding the speech time while *next year* is always the year following the speech time. (66) shows the temporal relation a deictic adverbial has.[14]

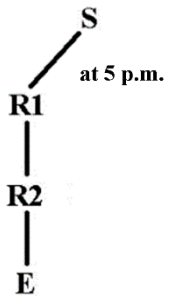
[14] Apparently, languages differ in the way they structure the classification of the morphological forms that function as temporal adverbs. For example, English has the distinction *ago-before* where *ago* is purely deictic, but Turkish lacks this distinction. The word *önce* is ambiguous between *ago* and *before*. Therefore, the expression that corresponds to *two hours ago* is not in the pure deictic category in Turkish. It is referential/deictic. But there may be other morphological forms that serve the same function. For instance, the temporal adverb *demin* in Turkish can only be used deictically to mean *a moment ago*. Granted, the temporal adverbs *yesterday* and *tomorrow* seem to be universal in all languages.

(66) Jane left yesterday/two days ago



Reference time can also be shown as viewed from the point of speech by the ambiguous calendar-clock adverbials (Rathert 2012).[15] Note the deictic relation established by the ambiguous calendar-clock adverbial in (67).

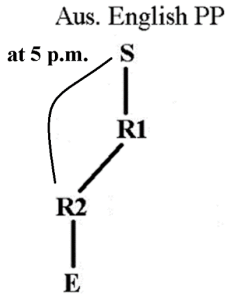
(67) Jane left at 5 p.m.



Following Ritz's (2010) argument that R_1 coincides with S, and R_2 precedes them in perfect constructions that allow temporal modification (French, German and Australian English), I assume that the adverbial deictically links S and R_2, as in (68).

[15] But calendar-clock adverbs are not purely deictic no matter how specific they are. For instance, *at five o'clock on May 19, 1999* may be in the past if the sentence is uttered in 2015 or in the future if the sentence is/was uttered in 1998. In other words, they can't specify the direction of R_1 relative to S.

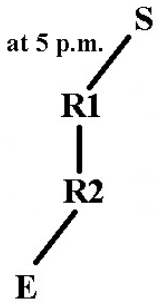
(68) Jane has left at 5 p.m.



Since R and E coincide in (66), (67) and (68) above, the argument that adverbials link S and R_1 or R_2 in the deictic function doesn't seem well-grounded since one could argue that S and E are directly linked by the adverbial. However, E may precede R_1 and R_2 when the sentence has a clock-calendar adverbial and the adverbial may still deictically show the reference time as in (69).

(69) A: I saw Mary in the café at 5 p.m.

B: That is quite unlikely. She had left at 5 p.m.

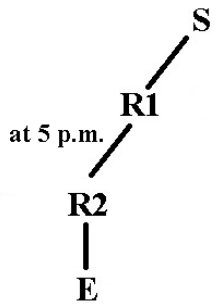


(69) describes the situation at 5 p.m., i.e. that Mary wasn't at the café. Therefore, it relates to the tense of the sentence. Mary's leaving precedes the situation described and shown by the adverbial. Furthermore, this interpretation is even more solid when the adverbial is sentence-initial, such as *At 5 p.m., Mary had (already) left.* However, calendar-clock adverbials are ambiguous between deictic and referential function (Klein 1992: 528-529,

Comrie 1985: 65-69). They may also show the event time in a relative tense situation (past-in-past), as in (70).[16]

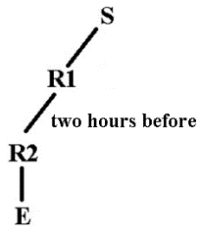
(70) A: I saw Mary in the café at 8 p.m.

B: That is impossible. She had left at 5 p.m.



(69) and (70) show that the periphrastic form *had+past participle* in English is ambiguous between past perfect where E precedes R_2 (69) and past-in-past where the coinciding set of E and R_2 precede R_1 (70). Finally, an adverbial can be purely referential. In other words, it may be restricted to referential function and depict the situation only from a reference point. If this reference point is R_1, it shows the time of R_2 and E since they are co-temporal, as in (71) which is also past-in-past.

(71) John came to see Jane at 5 p.m. But Jane had left two hours before (that)

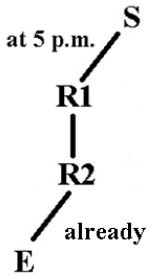


[16] This interpretation becomes unavailable once the adverb is placed sentence initially. Obviously, this calls for a theoretical explanation, but not at this point since the goal of this chapter is to lay the groundwork. See §5.4.2 and Cinque (1999).

However, temporal adverbials which are restricted to referential function seem to come in two flavours. In addition to the temporal adverbial in (71), *already* and *just* show the precedence relation between E and R_2, much like an adverbial marking perfect aspect, as seen in (72).

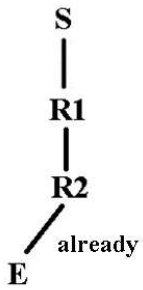
(72) A: I saw Mary in the café at 5 p.m.

B: That is quite unlikely. She had (just/already) left at 5 p.m.



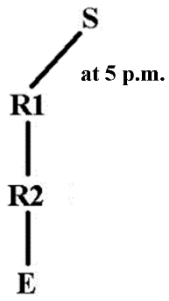
Already and *just* have to be marking an E preceding R_2 since they are the only type of adverbials that can be used with English present perfect, as in (73).

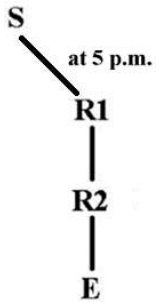
(73) Jane has already left



Note that only pure deictic adverbials and deictically used calendar-clock adverbials show the tense of the sentence since tense is the deictic relation between the speech time and the reference time. But calendar-clock adverbials are not reliable tools for tense diagnosis. For one thing, although they may relate to the reference time (tense) of the sentence, the specific reference point they show can be in the past or in the future depending on when the sentence is uttered, as shown in (74a,b).

(74) a. Jane left at 5 p.m. b. Jane will leave at 5 p.m.





In contrast, the pure deictic adverbial *yesterday* is disallowed by present tense and future tense (75a) while other pure deictic adverbials *tomorrow* and *now* are disallowed by past tense (75b). But referential adverbials can co-occur with past and non-past tense (74).

(75) a.*Jane is leaving/will leave yesterday

b.*Jane left tomorrow/now

This is because deictic function denotes the position of the reference point and the event time relative to the speech time in the timeline. But only pure deictic adverbials specify whether this time follows or precedes the speech time. Therefore, if the lexical content of, for instance, *yesterday* is 'the day before the day the sentence is uttered' (Rathert 2012), this means there is a temporal argument in the sentence referring to a time interval strictly preceding S. In this case, any grammatical tense feature that dictates that the reference time follows the speech time, i.e. the future tense, will lead to incompatibility between the adverbial and the grammatical tense, cf. (75a), and vice versa in (75b).

Turning to the future adverbials that can co-occur with modals, recall that Condoravdi (2002) argues that modals have a temporal argument showing a time span extending from the reference point to infinite future. Therefore, if temporal adverbials are also time-denoting arguments, it is reasonable to argue that the two temporal arguments will have a feature match if the temporal adverbial has the feature specification, for example 'the day following the speech time', for *tomorrow*.

1.7 Summary

In this chapter, we saw that there are two different theories handling tense in semantics: the operator theory and the referential theory. The operator theory locates the temporal information in an operator outside the predicate while in the referential theory tense is a nominal category and refers to a time bound in the discourse. While Reichenbach's (1947) tense theory assumes that there is a single reference point and a single tense operator, Vikner (1985) assumes two reference points and three operators, offering a tense theory that can be translated to syntactic terms. Concerning aspect, we summarised the two major aspectual oppositions (perfective and imperfective) and concluded that grammatical aspect can be handled with the same temporal relations that handle tense, namely precede, follow and coincide. We later added the compound relation 'precede/follow *and* coincide' which locates R within E and accounts for imperfective aspect. Mood, on the other hand, interacts with tense in the sense that a modal expression is interpreted as true if the event takes place after the reference point, which is accounted for by the temporal argument [(t, _) that shows a time interval extending from the reference point to infinite future. Finally, irrespective of their morphological make-up, temporal adverbials seem to be able to mark two different relationships between the time co-ordinates: deictic relation between S and R_1 or R_2, and referential relation between R_1 or R_2 and E. Chapter 2 will discuss the syntactic correlates of the semantic issues discussed in this chapter.

CHAPTER 2

The Syntax of Tense/Aspect/Mood

2.1 Introduction

A central claim of Generative Grammar is that the human mind applies a generative procedure that brings together mental objects that have lexical content (lexical categories) and some functional commands that are used to compute these mental objects (functional categories) (Chomsky 1995). So, in such a sentence as *Jane ate ice-cream* the referential categories are *Jane, eat* and *ice-cream*, and the sentence defines various relations holding between these items via its functional categories. For example, among other things, we know that the event took place in the past (tense), is completed (aspect), and that the speaker commits themselves to the truth of the proposition (mood). Although functional structure also includes agreement and negation, this chapter will dwell on Tense/Aspect/Mood (TAM) categories. The most important questions about TAM categories that will concern us here are (i) how they are represented in phrase structure and (ii) whether they projected when they are not morphologically marked.

Regarding the first question, we will see in §2.2 that there are two mainstream models of how temporal notions are introduced to the derivation. In one of these models, they are represented by categorical features such as [+] / [-] past, which are assumed to have appropriate semantic descriptions in themselves. The other model argues that Reichenbach's (1947) temporal co-ordinates are arguments of temporal phrases. S, R and E appear in the spec positions of three temporal phrases ordered hierarchically. §2.3 investigates the relationship between temporal adverbials and the TAM categories. We will see that the two approaches to IP make different assumptions regarding temporal adverbials. The feature-based model argues that temporal adverbials are feature-bearing elements that enter into a checking relation with the head they are adjoined to via spec-head relation. The argument-based model, on the other hand, argues that they have a complex internal structure and contain a referential predicate that co-refers to a time with the temporal heads. The chapter ends with §2.4 where I discuss the IP structure of the

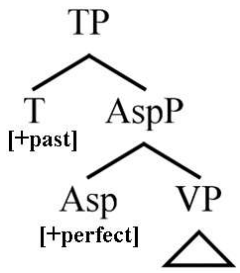
sentences where particular TAM categories are not morphologically represented. The possibility of accommodating the morphologically unmarked categories seems to cause a division in the feature-based model. We will see that one line of research in the feature-based model argues that UG keeps the structure as small as possible by not projecting the phrases unless they are morphologically or syntactically required while another line of research argues that UG has a constant phrase structure organization where every feature of every category projects in all sentences. On the other hand, the argument-based model posits that the TAM categories are always available, but they are not further divided into phrases that represent each feature.

2.2 The Phrase Structure of Tense/Aspect/Mood

The functional categories are subsumed under inflection and shown as IP (inflection phrase) in the phrase structure. However, Pollock (1989) shows that IP is a complex structure made up of tense, agreement and negation. Ever since Pollock's contribution to the study of IP structure, cartographic studies have mostly concentrated on the number and order of the functional phrases, assuming a feature based model offered by Chomsky (1970) for the semantics of tense. According to this model, the functional heads tense, aspect and mood bear distinctive categorical features such as [+]past, [+]perfect, [+]deontic, [+]continuous etc. So, for example, (1a) has the phrase structure in (1b) where the heads tense and aspect bear [+]past and [+]perfect features.

(1) a. Jane had eaten ice-cream

b.

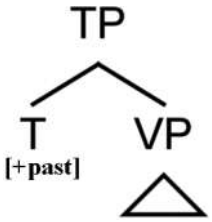


The abstract features *past* and *perfect* are expressed overtly by some lexical items. *Perfect* is expressed, in English, by the auxiliary *have* and past participle while *past* is expressed by the inflection of the auxiliary. Since perfectivity is taken as the coincidence of E and

R (Giorgi & Pianesi 1997, Cinque 1999), perfective aspect is only discussed in the context of perfective past. Therefore, the perfective perfect interpretation of (1a) is not contrasted in the phrase structure to the imperfective interpretation of the extended now perfect discussed in §1.4. Also perfective past is only represented with a past T, assuming that coincidence of E and R do not need phrase structural marking, as in (2).

(2) a. Jane ate ice-cream

b.

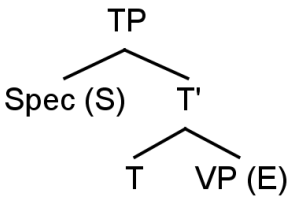


The IP models assuming a feature-based TAM representation only differ in the number and order of the phrases they argue for. Cinque (1999), for instance, argues that IP is made up of several projections each of which bears a [+] or a [-] value depending on morphological marking. Giorgi & Pianesi (1997), on the other hand, contend that feature-based heads only appear in a specific derivation when they are morphologically marked. Although the feature-based TAM models seem simple and straightforward, they have a major drawback. The features do not reflect the temporal semantic components outlined in chapter 1. In other words, pastness of (1a) is assumed to be the result of a categorical feature, but the features do not have descriptions that can be expressed with semantic terms. Therefore, the aspectual and temporal features are assumed to be interpreted by some semantic algorithm.

Zagona (1990 cited by Stowell 2012) proposes a phrase structure that is linked to the semantic theory of tense outlined in chapter 1. She contends that a tense head functions like a transitive predicate. VP is the internal argument of tense and shows the event time (E) while the speech time (S) is its external argument, appearing in its spec position. Therefore, the semantic co-ordinates E and S are turned into syntactic arguments. If Zagona's argument-based theory proves defensible, it should provide a

theory of tense without the assumption that we have the right account of semantic terms for tense since syntax and semantics are directly linked. (3) is Zagona's phrase structure for tense.

(3)



(from Stowell 2012: 207)

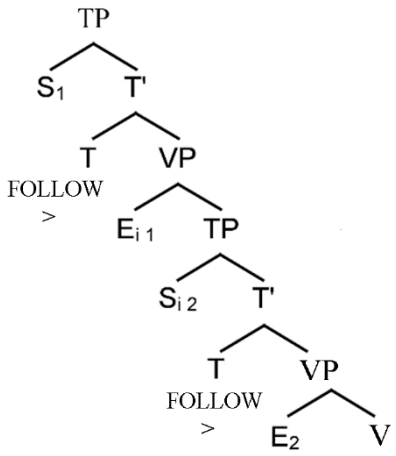
According to Zagona (1990), if the head T selects an anaphoric E, which is bound by S in Spec, TP, then E and S refer to the same time, namely present. On the other hand, a past T selects a pronominal E which is not bound by S – in Binding Theoretic terms – and refers to a time that is not present. Assuming that future tense is a modal, Zagona (1990) explains the past and present interpretations of tenses. Note, however, that in Zagona's (1990) model, tense is neither referential, as in Enç's (1987) model, nor predicative, as in Reichenbach's (1947) model. It is not referential since T itself does not refer to times, but rather its arguments do. Although T is analogous to a verb, this is not a predicative model either in that T does not order E and S in time. The ordering of E and S falls into place as a result of the co-indexing relation holding between them. Also R is not available in Zagona's tense modal. Therefore, there doesn't seem to be a way to account for Enç's (1987) past-shifted interpretation in complement clauses (see §1.2.2).

Stowell (1995, 2007, 2012) modifies two key points in Zagona's model. First, he makes the model truly predicative whereby the T head orders the temporal arguments in its spec (S) and complement positions (E). In other words, T operates as a temporal ordering function in Reichenbach's (1947) theory. However, since Spec, TP (S) is higher than the complement of T (E), the co-ordinates in Reichenbach's theory have been swapped. Therefore the semantics of the functions residing in T has to be reversed, too. That is, past is expressed as 'S follows E' (S>E) rather than 'E precedes S' (E<S). Also,

to solve the past-shifted interpretation problem, Stowell introduces the effect of R without introducing R itself to the theory. He does so by arguing that when S occurs in a complement clause it is controlled – again in Binding Theoretic terms – by the E argument of the main clause, but it refers deictically to the point of speech in main clauses, as in (4).

(4) a. I knew that Jane had already left

b.



T may have three different semantic contents: 'S precedes/follows/coincides with E'. Therefore, in (4b) S_2 is ordered after E_2 by the T head of the complement clause. Since E_1 and S_2 have a coincidence relation due to the control relation, they are both ordered after E_2. So the event of the main clause is ordered after the event of the complement clause. Finally, T of the main clause orders S_1 after E_1, and S_2 via control. Therefore, the past perfect relation $S_1>E_1$; $E_1=S_2$; $S_2>E_2$ is given a syntactic account. S can also be controlled by the E argument of a preceding sentence in the discourse, such as (5).

(5) A: Did you see Mary in the café?

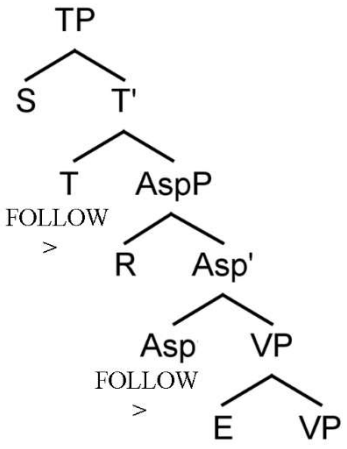
B: No. She had already left.

However, note that perfective aspect (perfective present perfect or perfective past) still lacks a phrase structural representation since reference point is still missing from the

theory. Demirdache & Uribe-Etxebarria (2000, 2004, 2007, 2008) (henceforth D & U-E) offer a phrase structure model for tense and aspect that accommodates the perfective-imperfective distinction. Drawing on the formal similarity between tense and (perfect) aspect, (D & U-E) expand Stowell's (1995, 2007, 2012) tense model to include aspect. According to D & U-E, the temporal predicate occurs twice in each clause, and the higher one orders S and R (tense) while the lower one orders E and R (aspect), providing a syntactic account of Reichenbach's (1947) tense model. This, essentially, actually introduces R into the phrase structure and enables us to account for the past perfect tense without assuming that S is controlled in the discourse. The three different semantic contents of the tense and aspect heads lead to various tense and aspect forms. For example, (6a,b) are the phrase structural representations of the past perfect and the present perfect.[17]

(6) a. *Past perfect*

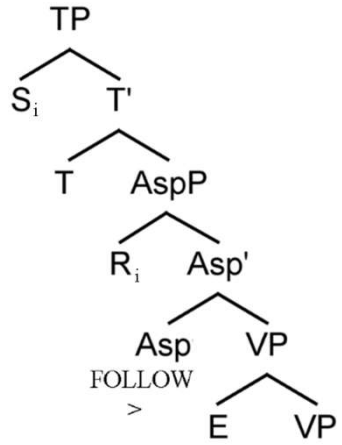
Ikbal had made a ring



[17] Note that the number of the temporal predicates D & U-E assume is neither one as in Reichenbach's (1947) tense model nor is it three as in Vikner's (1985) model (cf. §1.2.1). Also they assume a single R argument shared by Asp and T. This will be important shortly.

b. *Present perfect*

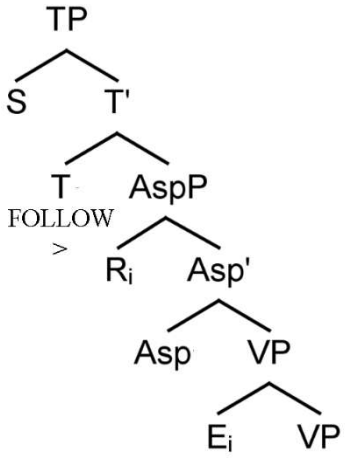
Ikbal has made a ring



(Demirdache & Uribe-Etxebarria 2004: 148)

In (6a) T orders S after R, leading to past interpretation, and Asp orders R after E, eventually leading to past perfect. The aspectual relation is the same in (6b), but the tense is present. D & U-E (2004) follow Stowell (1995) in assuming that coincidence relation between temporal arguments is represented by co-indexing. They further associate the coincidence relation with lack of morphological marking, but still preserving the head position and the phrase. Therefore, according to D & U-E (2004), when T has no morphological head, its external and internal arguments (S and R) are interpreted as coinciding via co-indexing, and the tense is interpreted as present, as in the present perfect in (6b). It is now easy to guess how perfective past interpretation is attained. The head Asp lacks morphological content, and R coincides with E due to the co-indexing between them, as in (7). And the past interpretation results as T orders S after R.

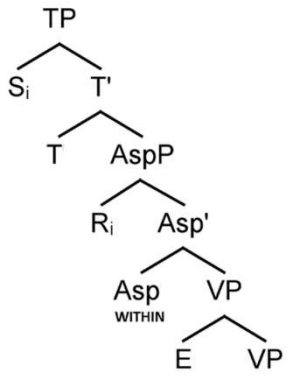
(7) Ikbal made a ring



Therefore, (6b) and (7) syntactically capture the viewpoint difference between present perfect and perfective past which Reichenbach (1947) explains on semantic grounds. In present perfect, speech time and reference time coincide via the co-indexing relation between the temporal arguments S and R, and they both follow the event time shown by E.

Finally, the head Asp may express a third temporal relation. Following the definition of imperfective aspect made by Klein (1995) (cf. §1.4), D & U-E (2004) argue that when the head Asp has the lexical content 'R is within E', the sentence is interpreted as imperfective, as shown in (8).

(8) Jane is cooking

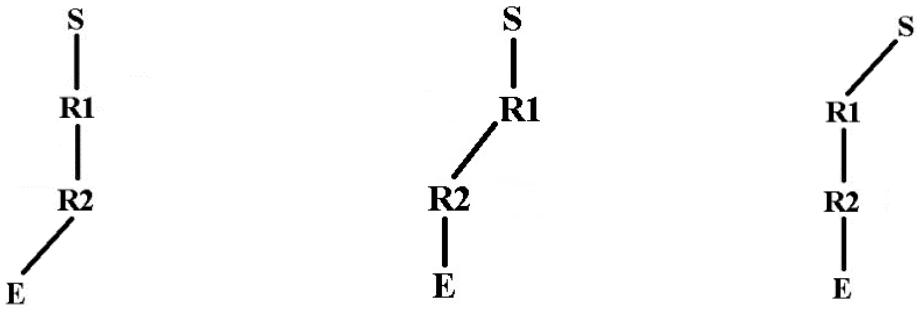


(Demirdache & Uribe-Etxebarria 2004: 150)

However, there are three issues originating from the same design specification that should be pointed out in D & U-E's phrase structure model. First, there are two predicates working on three temporal arguments and sharing R in every instance. Therefore, this cannot be the syntactic account of Reichenbach's (1947) tense model where there is only one predicate that orders three temporal co-ordinates. Also, D & U-E assume a single R, so that this cannot be the syntactic account of Vikner's (1985) tense model, either (cf. §1.2.1). For one thing, Vikner (1985) argues that temporal relations are expressed by three two-place predicates, and there are two reference points, both related to S and E. These two aspects of the design specifications of D & U-E's model result in the assumption that Asp hosts two functions bundled in the predicate WITHIN (8), an unwelcome result in a model which otherwise adopts an analytic approach, such as the projection of an independent AspP for the coincidence relation via co-indexing in perfective past in (7). The other issue with the current model is that D & U-E assume that perfective interpretation only occurs in perfective past, an assumption which we saw in §1.4 suffers from the inability to distinguish anterior perfect from the imperfective extended now interpretation of the perfect. Finally, the predicate WITHIN seems quite ambiguous. We saw in §1.4 that there are three different ways of including R in E: include in a preceding manner (extended now), include and follow (progressive) and proper inclusion (general imperfective).

Furthermore, present perfect has the two different representations in (9a,b), accounting for the Standard English present perfect and the present perfect in French, German and Australian English (Ritz 2010) while perfective past is represented as (9c).

(9) a. Standard English PP b. German, French, Aus. PP c. Perfective past



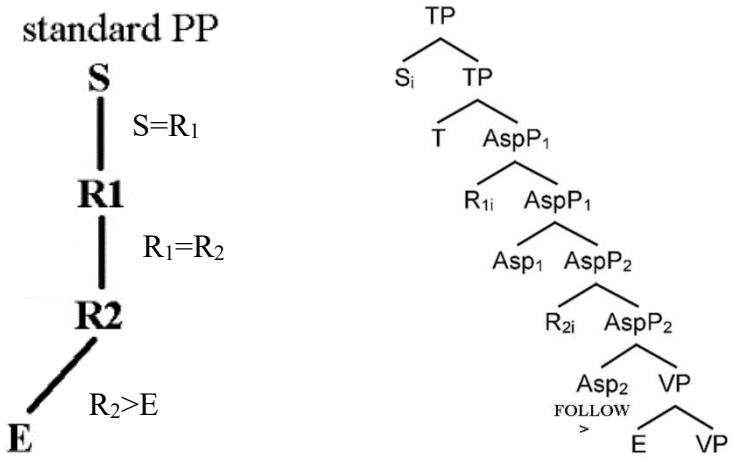
To be able to accommodate the contrast between perfective and imperfective tenses as well as to account for the perfect in German, French and Australian English, we need to introduce the third predicate and redefine the predicate WITHIN to distinguish the types of imperfectivity. Furthermore, since we are adapting Vikner's (1985) model, there should be two reference points (R_1 and R_2) that will appear in the spec positions of two aspect phrases.[18] However, since coincidence is expressed by co-indexing in Stowell's (1995, 2007) and D & U-E's (2004) model, the notation marking the coincidence relation in semantics, i.e. the equal sign in $S= R_1$, does not appear as a head. Note, for example, the discussion on (6a,b) where T lacks any morphological content. As a matter of fact, this is expected given the fact that *equal*, which corresponds to coincidence in semantic terms, is not a function in logic. It doesn't operate on the elements on either side of the equation. In other words, it is only a notation, and therefore coincidence is not morphologically marked. This corresponds to D & U-E's (2004) argument that T is empty in present tense, and R and S are co-temporal due to co-indexing. This will also allow us to account for imperfectivity without postulating an additional head position.

Let us start with Standard English present perfect and its mirror image prospective aspect. Recall that German/French present perfect and Australian English present perfect allow deictic temporal adverbials and express narration, which are related to having a reference point coinciding with the event (9b) (Reichenbach 1947: 294, Vikner 1985: 95). Present perfect (PP) in Standard English, on the other hand, does not allow deictic temporal adverbials and does not express narration since it lacks a reference point coinciding with the event (10b). Therefore, it has the phrase structure in (10c).

[18] I will continue to assume that perfect is an aspectual notion. Obviously, the labels of the phrases are only notational since aspectuo-temporal notions are now expressed with elemental relations.

(10) a. Jane has eaten ice-cream (Standard English present perfect)

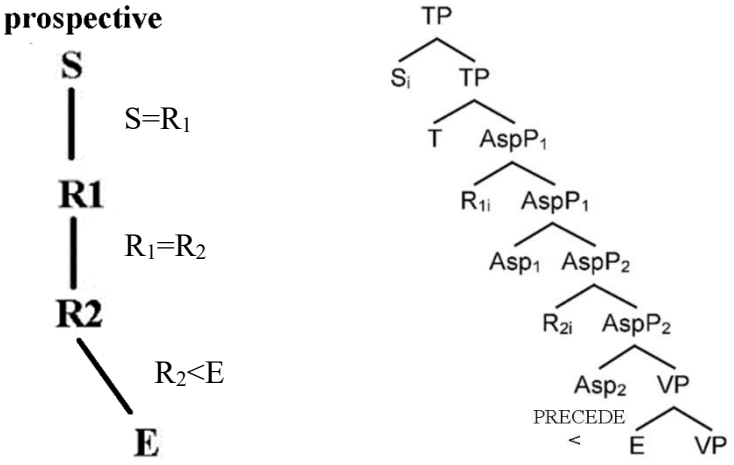
b. c.



The coincidence relations 'S=R_1; R_1=R_2' are expressed by co-indexing in syntax. But, Asp_2 has the semantic function '>'. So it orders R_2, R_1 and S (via the indices) after E, resulting in present perfect tense. Since the prospective aspect is the mirror image of perfect (cf. §1.4), the only difference should be the direction of E relative to R_2. E should precede R_2, as in (11).

(11) a. I am about to fly to London (prospective)

b. c.

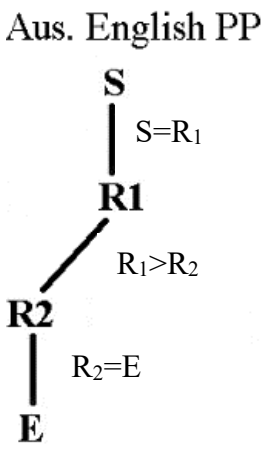


Moving on to the phrase structure of Australian English, which also applies to German/French present perfect, proposed by Ritz (2010), it has two coincidence relations

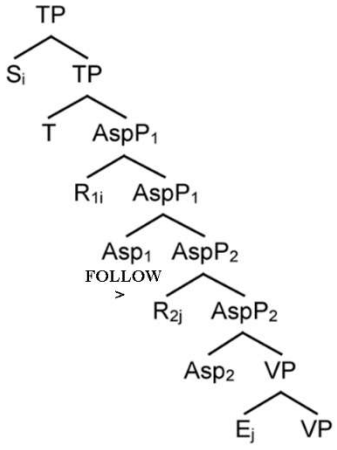
separated by a head that orders R_1 after R_2. Therefore, the semantic structure in (12b) appears as (12c).

(12) a. I have seen Maggie yesterday (German, French, Aust. Eng. present perfect)

b.



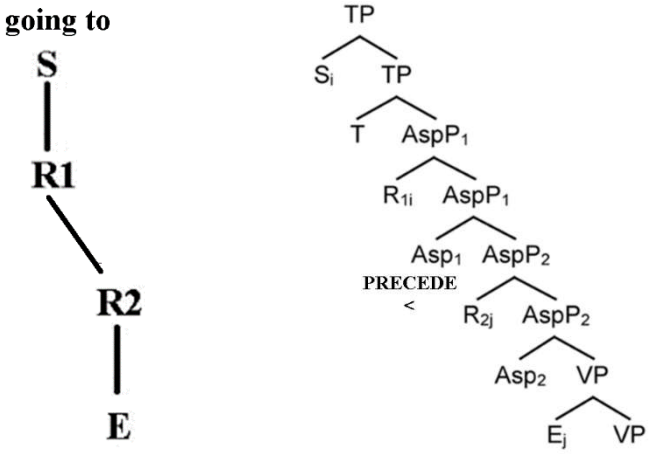
c.



In Standard English present perfect (10), S, R_1 and R_2 coincide as a result of co-indexing. And they are ordered after E by the temporal operator '>' in Asp_2. In German/French present perfect and Australian English present perfect in (12), on the other hand, S and R_1 are co-indexed, and they are ordered by Asp_1 as after R_2 and E, which also coincide due to co-indexing. The mirror image of German/French present perfect and Australian English present perfect is *going to* future tense in English, as in (13) where the mere difference is that Asp_1 temporally orders S and R_1 before R_2 and E.

(13) a. I am going to fly to New York tomorrow

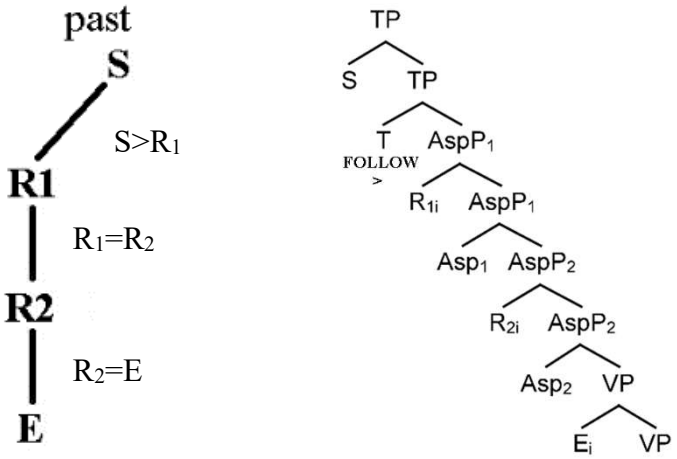
b. c.



Finally, perfective past should have the phrase structure in (14) where S is ordered by T as after R_1, R_2 and E.

(14) a. Jane ate ice-cream (Perfective past)

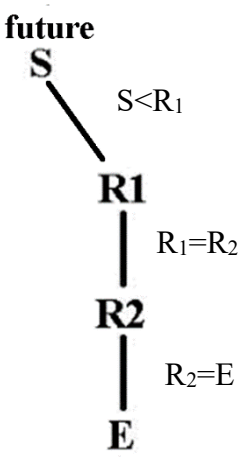
b. c.



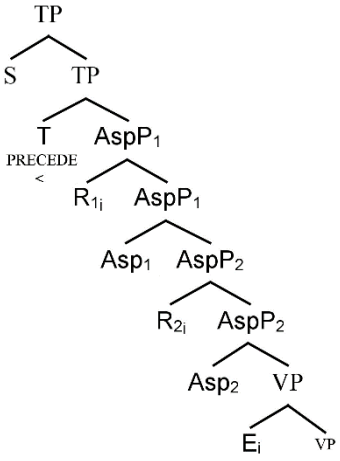
In §1.4, we analysed perfective past as the mirror image of *will* with the semantic representation (15b). Hence the mirror image is reflected in the phrase structure as the reverse relation between S and R_1, as in (15c).

(15) a. I will finish my assignment next week

b.

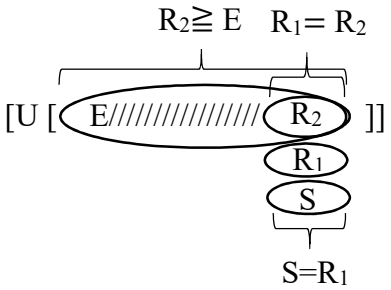


c.



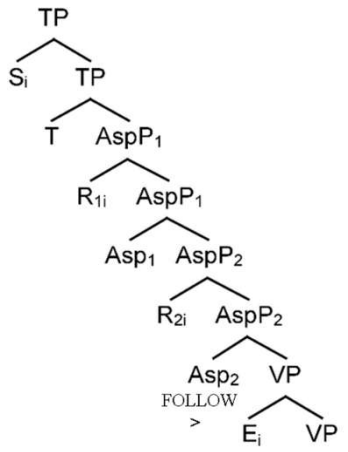
Turning next to imperfective events, we saw in §1.4 that extended now interpretation of present perfect (imperfective perfect) is the result of the compound temporal relation '≧' as in (16), after the co-ordinates have been swapped and the functions have been reversed.

(16) She has lived here for two years



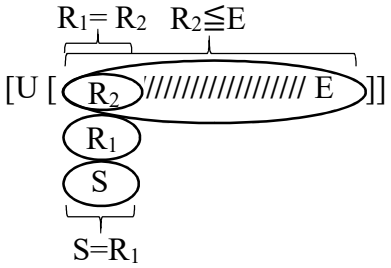
Therefore, it should have the phrase structure in (17) where Asp_2 orders R_2 after E while co-indexing shows that they are also co-temporal. Therefore, the compound relation is divided into two and distributed as a formal temporal predicate and a syntactic mechanism, co-indexing.

(17)

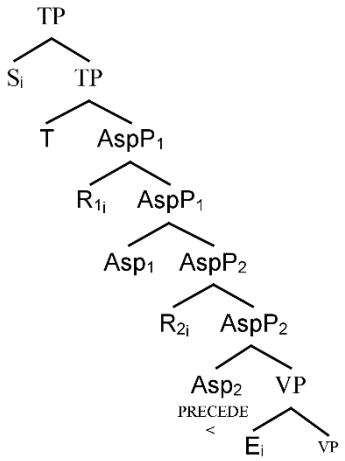


The present progressive, on the other hand, has the semantic structure in (18) and the syntactic structure in (19). Since it is the mirror image of extended now present perfect, Asp_2 has the semantic content PRECEDE instead of FOLLOW, and the coincidence relation is again shown by co-indexing as shown in (19).

(18) Jane is flying to New York now

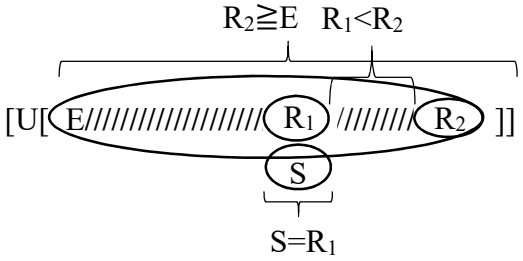


(19)

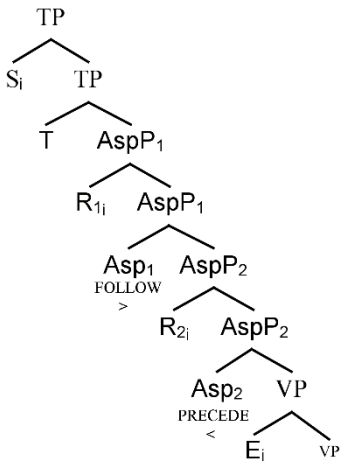


General imperfective has a more complicated representation. The semantic structure in (20), where there are two temporal ordering predicates, appears as (21) in the phrase structure.

(20) Jane reads books



(21)



Both of the aspect heads bear a temporal ordering predicate in (21), and all of the arguments are co-indexed. As a result, E has access to the reference points as well as S, and it coincides, precedes and follows them. Therefore, E has to expand in time so that it can contain two non-coinciding reference points.

(21) also shows that we need to deviate from D & U-E's two assumptions. D & U-E assume that coincidence marking via co-indexing occurs when the temporal head is morphologically empty (see for instance (6b)). But this doesn't have to be a requirement for co-indexing. Instead, co-indexing seems to be an autonomously applying procedure that is constrained by domains (Chomsky 1981). For instance, co-indexing of an anaphor with an antecedent freely applies within its governing domain on condition that they have

matching person-number-gender features. The morphological or lexical content of the anaphor's governor is neither a trigger nor a barrier for co-indexing. Furthermore, Stowell (1995, 2007, 2012) and D & U-E (2004) argue that co-indexing of temporal arguments is similar to co-indexing of pronominals for binding. But pronominal binding doesn't require a co-indexing head position. As a matter of fact, once coincidence is divorced from morphological content there is no reason for not marking it freely by a syntactic mechanism, such as co-indexing. D & U-E's assumption that co-indexing occurs in the absence of morphological marking raises the question of whether temporal ordering is possible without morphological marking. I assume in (21) that it is possible. As a matter of fact, there are two temporal ordering predicates in (21), but there isn't any temporal marking in (20).

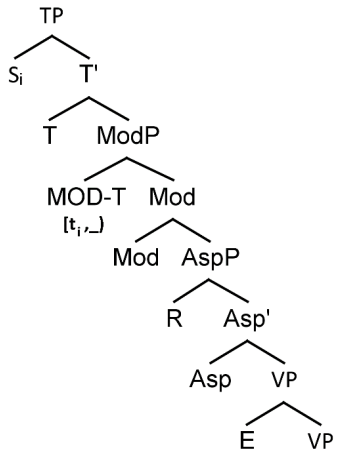
In §1.4, we defined imperfective as a compound relation between E and R2, i.e. '≦' or '≧', while perfective was defined as a singular relation such as '<' or '>'. Since coincidence is represented in syntax with co-indexing (Stowell 1995, 2007 and D & U-E 2004), we should redefine it in syntactic terms. Therefore, I suggest the following definition: imperfectivity is co-indexing over at least one temporal predicate. The two subtypes (extended now and progressive) are the result of co-indexing E and R_2 over the head Asp_2, and the mirror image relation between these viewpoints is the result of the lexical content of Asp_2, '<' or '>'. The sentence is interpreted as extended now if Asp_2 has the lexical content '>' (FOLLOW) (17), but if it has the lexical content '<' (PRECEDE), the result is progressive (19). General imperfective, on the other hand, is co-indexing over two predicates (21). That is, R_1 and R_2 are co-indexed over Asp_1, and R_2 and E are co-indexed over Asp_2 in (21). Co-indexing allows us to have binary opposition in the aspectual heads and maintain a three-predicate tense structure as Vikner (1985) proposed.

Turning next to mood, D & U-E (2008) make use of Condoravdi's (2002) temporal argument [t, _) outlined in §1.5. They argue that in a modally quantified sentence, all three categories, i.e. tense, mood and aspect, project. Modal is both a temporal and a modal expression, called modal-time. Let us repeat the relevant examples for the sake of convenience. (22a) is a non-shifting modal while and (22b) is future-shifted, but D & U-E (2008) propose the phrase structure in (23) for both sentences where [t, _) appears as an argument in spec, ModP.

(22) a. John may be sick now

b. She might leave tomorrow

(23)



(Demirdache & Uribe-Etxebarria 2008: 1800)

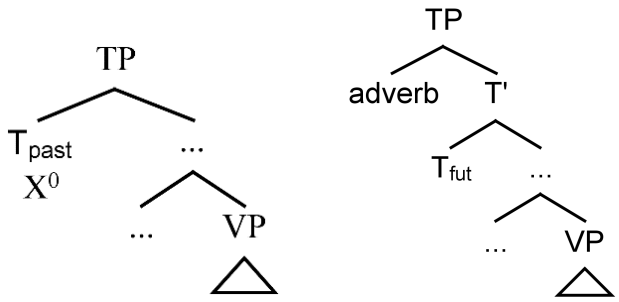
T is related to its complement ModP via co-indexing, which yields the coincidence relation. The function of the head MOD is to relate the temporal content of its external argument [t,_) to its complement AspP. [t,_) shows a time interval starting from *t* and extending to future, and *t* is bound by S in spec, T. Therefore, the semantic interpretation of phrase structure above AspP is that the proposition has to be interpreted in a time interval starting from the point of speech and extending to the future. This allows the event to be interpreted as present or future.

Despite being promising, the argument-based integration of the syntax and semantics of tense has never been developed or discussed in Turkish. Thus, the modules of this model that will relate to the current discussion are the adjunction points of adverbials and the phrase structural status of tense when it is not morphologically marked, i.e. in present tense. The following two section will shed light on the assumptions and arguments of this model.

2.3 Adverbials and Tense/Aspect/Mood Phrases

There are two important issues that will concern us here about temporal adverbials: (i) where do they appear in the phrase structure? (ii) what is the specific mechanism allowing them to check with the TAM phrases of the clause? There are two mainstream approaches to the issue of temporal adverbials and temporal categories: the feature-based theory and the argument-based theory, which differ in the adjunction point of adverbials and their internal structure. The general view of the feature-based IP model on the first question is that they appear higher than VP-oriented adverbials such as *completely*, which are argued to appear in Spec, VP. They are assumed to appear in different spec positions. Specifically, they are assumed to be in Spec, IP in the syncretic model (Costa 2004 and Giorgi and Pianesi 1997), but (Cinque 1999, 2004) argues in his rich IP model that each adverbial is in the spec of a designated projection. As a matter of fact, the position in which they are assumed to appear and the mechanism required for feature checking mutually require each other. For example, Cinque (1999) argues that every TAM feature has an independent projection, and the head positions are assigned default value unless they are morphologically marked by an X^0 or by an adverbial in a spec-head relation, as in (24a,b).

(24) a. b.



The features of the head and the features of the adverbial ([±] future/present/past) are checked via spec-head relation, and compatibility results in grammaticality while incompatibility results in ungrammaticality. It is reasonable to assume, although Cinque (1999) doesn't address the issue, that Spec, TP position is occupied in (24b) by the adverbial in its deictic function where it links the speech time to the reference time, and referentially used adverbials should appear in the spec positions of aspectual phrases

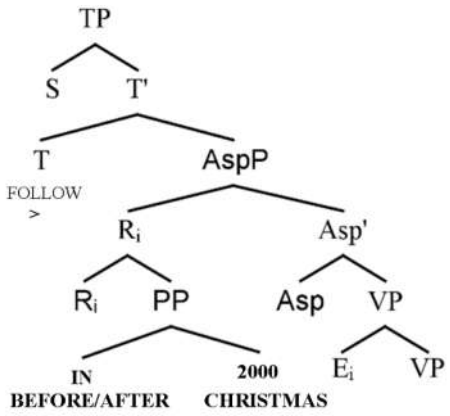
accumulated below the TP area, such as perfect phrase and prospective phrase (see §1.6 for the functions of temporal adverbials).

For the argument-based model, D & U-E (2004) develop a different approach. Starting with feature compatibility, they argue that temporal adverbials are transitive predicates, just like TAM heads. They are adjoined to the R or E argument of the sentence,[19] and the predicate in the temporal adverbial shows the inclusion, precedence or subsequence relation between its time-denoting internal argument and the temporal argument of the phrase it adjoins to. So, for example, the calendar-clock temporal adverbial used deictically in (25a) appears in the phrase structure as shown in (25b).

(25) a. Maddi was born in/before/after 2000

Maddi was born at/before/after Christmas

b.



(Demirdache & Uribe-Etxebarria 2004: 155-156)

In (25b), the temporal predicate T orders its external argument S after R in Spec, AspP, and R binds E. This means (R)eference time and E(vent) time refer to the same time, which is followed by S(peech) time, namely perfective past. The temporal adverbial is adjoined to the temporal argument R of AspP, and the P head IN/BEFORE/AFTER takes R as its external argument. Both R and the time-denoting argument of P (2000 or Christmas)

[19] But not to S since temporal adverbials are co-referential with the temporal argument they adjoin to. Adjunction to S would entail reference to the speech time in all cases, banning past and future reference with an adverbial.

refer to past times and the P predicate indicates that R is included in the year 2000. Different prepositions show different spatio-temporal relations between the time-denoting arguments, for instance before/after Christmas/2000. And the event shares the same time reference due to co-indexing with R. D & U-E (2007) argue that the time-denoting internal argument of P limits the time denotation of R. That is, R denotes any time before S. It ranges over any time interval before the speech time expanding to the beginning of time. But the internal argument of P limits it to the year 2000, and P dictates that R be located in the year 2000. Hence for the sentence to be grammatical, both of the time denotations should be oriented to the same direction.

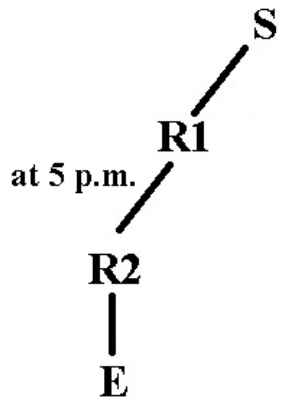
(25) shows the deictic use of the calendar-clock adverbial *in 2000*. We saw in §1.6 that calendar-clock adverbials can be used referentially and that there are pure referential adverbials, such as *before that*, showing the event time relative to the reference point. It is not difficult to tell where they should be adjoined. D & U-E (2004) show that this interpretation obtains when the adverbial is adjoined to the temporal argument of VP, namely to E.

Note, however, that we assumed in §1.4 a semantic model that has two reference points and modified D & U-E's model accordingly in §2.2. We also assumed in §1.6 that deictic adverbials link the point of speech to R_1 in perfective past. Therefore, Asp in (25) should be Asp_1 and R should be R_1. Since referential function is viewing of a reference point or the event from another reference point, the temporal adverbial should be adjoined to R_2 in the former and to E in the latter. (26) is an example of the former case where the adverbial shows the time of R_2 as viewed from R_1, past-in-past.

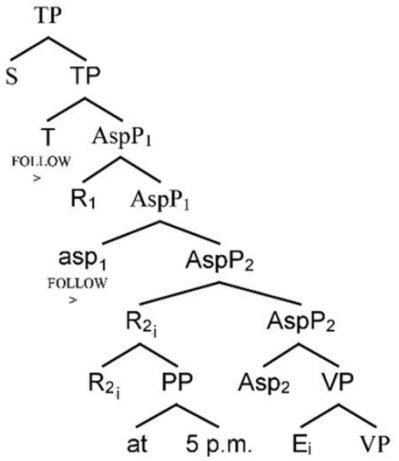
(26) a. A: I saw Mary in the café at 8 p.m.

B: That is impossible. She had left at 5 p.m.

b.



c.

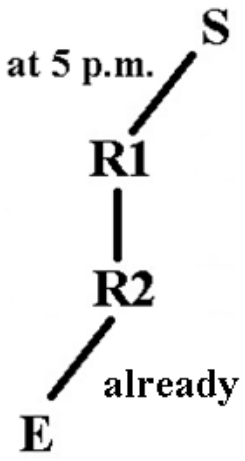


Since R_2 is the external argument of the temporal head *at*, it is co-referential with the internal argument *5 p.m.* And E is co-indexed with R_2. Therefore, E is interpreted to have occurred at 5 p.m. The adverbials *already* and *just*, which are restricted to a relation between R_2 and E (perfect aspect), should appear in Spec,VP. As shown in (27c), S follows R_1, R_1 is co-indexed with R_2, and R_2 follows E, resulting in past perfect. The adverbial phrase adjoins to E and takes it as its external argument, and the perfect adverbial and E are interpreted as co-referential.

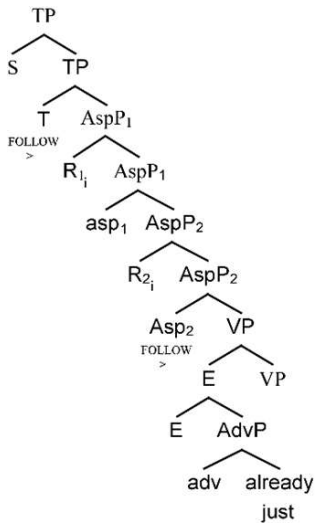
(27) a. A: I saw Mary in the café at 5 p.m.

B: That is quite unlikely. She had (just/already) left at 5 p.m.

b.

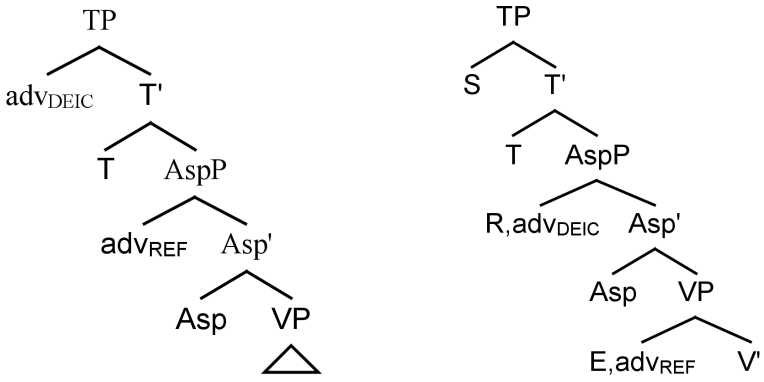


c.



The feature-checking model and the argument-based model seem to differ in two important respects: (i) the internal structure of temporal adverbials (ii) their adjunction points. The feature checking approach assumes that temporal adverbials have [±]future/present/past features (for deictic function) or [±]perfect/prospective/progressive feature (for referential function) which are checked against the corresponding features of the head they appear in the spec of via spec-head relation. Therefore, deictically used adverbials adjoin to Spec, TP while referentially used adverbials adjoin to Spec, AspP. However, in D & U-E's (2004) model, temporal adverbials are referential items. They bear the same index as the temporal argument they are adjoined to and therefore refer to the same time (cf. (25)-(27)). For this reason, if an adverbial adjoins to the temporal argument S in Spec, TP, it cannot refer to any time other than present since S refers to the speech time. Hence for deictic function, adverbials are adjoined to AspP, as in (26c), thus they can co-refer with R to either before or after S since T can order S before or after R. On the other hand, adverbials are adjoined to VP for referential function where they co-refer with E to a time before or after R. (28) is the comparison of the two approaches (see §7.4 for the positions Spec, TP and Spec AspP correspond to in Cinque's fine structure).

(28) a. Feature checking b. Argument based



2.4 Are All TAM Phrases Available in All Sentences?

I stated in §2.1 that I would be interested in three questions relating to the syntax of TAM phrases. I addressed in §2.2 and §2.3 how the semantics of TAM categories are carried over to syntax and how they establish a syntactic relation with temporal adverbials. The last question, i.e. whether they are projected in the derivation when they are not morphologically marked, seems to cause disagreement in the feature-checking model. It

also concerns the representation of present tense and perfective aspect in the argument-based model of D & U-E (2000, 2004, 2007, 2008) and Stowell's (1995, 2007, 2012) theory. The answer cross-cuts the two models, as shown in (29).

(29)

	Feature-based	Argument-based
Always projected	Cinque (1999, 2001)	Zagona (1990) Stowell (1995, 2007, 2012) Demirdache & Uribe-Etxebarria (2000, 2004, 2007, 2008)
Not always projected	Chomsky (1995) Giorgi & Pianesi (1997)	

In a majority of languages, past tense is morphologically marked while present is unmarked (Dahl 1985: 117, Bybee et al 1994: 82). It is natural to ask whether T projects in the absence of morphological marking. Furthermore, note that present tense and perfective aspect have the same temporal relation between the time co-ordinates they relate, namely coincidence. Present tense shows the coincidence of S and R while perfective aspect shows the coincidence of R and E. Hence the same question should be asked for perfective aspect. To illustrate the controversy, I start with Stowell (1995, 2007, 2012), Zagona (1990) and D & U-E's (2004, 2008) obvious answer: Tense and aspect heads are available in all sentences. As a matter of fact, D & U-E (2004) make the following assumptions:

(30) a. TP and AspP are always projected.

b. When either T^0 or Asp^0 lacks morphological content, its external temporal argument binds its internal argument.

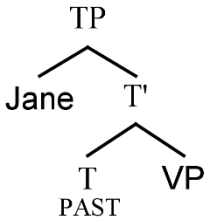
(Demirdache & Uribe-Etxebarria 2004: 149)

Since tense and aspect are temporal predicates, and mood is both modal and temporal, they show a precedence/subsequence relation when their head is occupied by a morpheme. But when the head position is morphologically empty, they show a coincidence relation via co-indexing of their arguments, cf. §2.2. We can call this the default or unmarked interpretation of the predicate. I will, henceforth, refer to this as *the split IP model* since all the TAM categories have an independent projection in all derivations; also see §7.3 where the split IP model will be discussed in the context of Turkish.

On the other hand, there are two opposing positions in the IP model assuming the feature checking approach to tense and aspect. The economy principle *full interpretation* (FI) formalized by Chomsky (1995) dictates that no syntactic object that lacks semantic content, or an interpretable feature, is allowed in LF. Working within the feature checking framework of the Minimalist Program, Giorgi & Pianesi (1997) argue that languages and sentences in the languages differ in the way TAM categories project. In other words, there is no universal TP that is interpreted differently depending on its morphological form or lack of thereof. Giorgi & Pianesi (1997: 41) follow Chomsky (1995) and assume that "only items corresponding to features" are available in syntax. Therefore, "there are no Ø lexical heads — that is, lexical heads devoid of lexical content [...]". They contend that coincidence relation between time co-ordinates is interpreted at LF when there is no morphological marking and, as a result, no projection in the syntax. So, for example, the aspect head does not project in perfective past:

(31) a. Jane left

b.

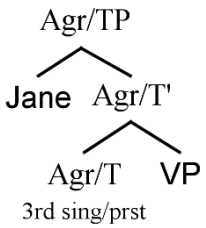


The coincidence relation *R=E* is assigned in LF as the default case since there is no morphological marking for perfective aspect. This model is, however, flexible in that a

language may have a TP in present tense, in other words when R coincides with S, under two conditions. First, if there is a temporal adverbial in the sentence, T has to project for the adverbial to appear in its spec (Bobaljik's (1995) spec-requirement). Second, in languages where tense and agreement are syncretic, in other words when tense and agreement are expressed by the same morpheme, T projects with agreement. English present tense constitutes a good example. The agreement morpheme *-s* in English shows third person singular, but only in present tense. The distinction is lost in past tense. Giorgi & Pianesi (1997) contend that tense and agreement are syncretic heads in English present tense and they project the syncretic phrase Agr/TP, as in (32). I will refer to this model as *the syncretic IP model*.

(32) a. Jane likes apples

b.



Finally, one cannot conclude a section on the IP structure without mentioning Cinque's (1999) cartographic research. In his cross-linguistic survey, Cinque (1999) concludes that every feature of every category (past, future tense; perfect, progressive aspect etc.) projects a phrase. He argues that Universal Grammar (UG) makes available all functional features in every derivation, and these features project an independent phrase. But only the ones that are morphologically marked in that specific derivation contribute to the interpretation of the sentence in LF while the others remain silent. I will be referring to this as *the rich IP model,* an extreme position of D & U-E and Stowell's split IP model (cf. §7.4). Therefore, one would expect Cinque to defend the argument that the split IP model defends – that present tense and perfective aspect project. However, although Cinque (1999) argues for quite a rich IP model, perfective aspect phrase and present tense phrase aren't available in his model. In Cinque's model, R and S are interpreted as coinciding, that is present tense, when the heads T_{past}, T_{future} and $T_{anterior}$ are not morphologically marked and thus receive the default interpretation (Cinque 1999: 88,

130). Likewise, E and R coincide when the head $T_{posterior}$ doesn't specify that E precedes R. Put the way Cinque argues, E and R coincide when the head $T_{posterior}$ has the default interpretation due to lack of morphological marking.

In sum, there are two major approaches to the availability of the TAM phrases in all derivations. Zagona (1990), Stowell (1995, 2007) and D & U-E (2004, 2008) argue that they are always available (Split IP) while Giorgi & Pianesi (1997) and Chomsky (1995) argue that they are projected only under strict conditions, and IP is minimised otherwise (Syncretic IP). Cinque (1999), on the other hand, assumes a mixed approach. For all categories except present tense and perfective aspect, he contends that all features project in all derivations.

2.5 Summary

In this chapter, we covered the syntax of TAM categories as well as their relationship with temporal adverbials. We saw that the semantics of tense, aspect and mood can be syntactically encoded in at least two different ways. Defended by Giorgi & Pianesi (1997), Cinque (1999) and Chomsky (1995), the feature-based approach assumes that tense, aspect and mood are introduced to the derivation as features that are specified as [+] or [-]. Zagona (1990), Stowell (1995, 2007, 2012) and Demirdache & Uribe-Etxebarria (2000, 2004, 2005, 2008) argue, on the other hand, that Reichenbach's temporal co-ordinates are arguments of TP and AspP. They are ordered by the lexical content of these heads, and the temporal relations are the result of these ordering relations.

These approaches also differ in their assumptions concerning the phrase structural status of temporal adverbials. The feature-based approach argues that temporal adverbials have categorical [±] features which are checked under spec-head relation with the head whose specifier they appear in. If a temporal adverbial is adjoined to Spec, IP, it serves the deictic function, showing the reference time, or if it is adjoined to Spec, AspP, it referentially shows the event time. Demirdache & Uribe-Etxebarria (2007), on the other hand, argue that temporal adverbials are predicates that refer to times. They are adjoined to the time co-ordinate R, in Spec, AspP, for deictic function or to E in Spec, VP for

referential function. Then they co-refer to a time with the time co-ordinate they are adjoined to.

Finally, we saw that the question of whether all TAM phrases are available in every derivation causes controversy. The feature-based approach has two positions on the issue. Cinque (1999) defends quite a rich IP organization where the phrases are always available, which is similar to the argument-based model's assumption since the heads T and AspP have to project in every derivation in order to host the temporal arguments in their spec positions. But present tense and perfective aspect seem to present a special case since Cinque (1999) assumes that they are interpreted as such when no other feature is specified, and there are no such heads as $T_{present}$ and $Asp_{perfective}$. The other position in the feature-based approach is defended by Giorgi & Pianesi (1997) and Chomsky (1995), who argue that syntactic projection depends on morphological marking. Hence only morphologically marked tenses and aspects have head positions and projections. Otherwise, human language minimizes every derivation.

To bear on this, the following chapters will attempt to shed light on the controversy between the models concerning this last question by bringing in data from Turkish. Chapter 3 serves as a reference chapter for the reader to familiarize themselves with the morpho-phonology of Turkish and go back to when need be. Chapters 4, 5 and 6 present a description of the morpho-syntactic data of verbal inflection in Turkish and relates the question to Turkish verbal morphology. These chapters also constitute a literature review for Tense/Aspect/Mood in Turkish. Chapter 7 is intended to reveal the mechanisms of the models with a specific emphasis on Turkish data and make visible their assumptions and predictions in order to extract testable hypotheses. Finally, chapter 8 provides original data using the interpretations of a specific type of non-finite adjunct clause in Turkish. The data in chapter 8 enables us to reach a conclusion regarding the controversy over the organization of TAM phrases in Turkish.

CHAPTER 3

Introduction to Turkish

3.1 General Typology of Turkish

3.1.1 *Case system, word order and scrambling*

Turkish is an Altaic language commonly classified as head-final. This means that the complement precedes the head. A safe way to show the underlying order of the head and complement is to look at the Postpositional Phrases (PP) and Noun Phrases (NP) which require that the constituents be ordered in a fixed way. (1) and (2) illustrate the order in PPs and NPs. The subject-verb agreement facts in (2) show that it is the noun to the right that agrees with the verb in NP-NP constructions as well as N-complement constructions. As for the sentential word order in Turkish, the unmarked word order of transitive sentences is SOV (cf. (3)).

(1) Sen-in için
you-GEN for
'for you'

(2) a. [Dilbilim öğrenci-ler-i] ders-e gel-di-ler
linguistics student-PL-AGR lesson-DAT come-PST-3PL
'Linguistics students came to the lesson'

b. [Maç-lar-da şike yap-ıl-dı-ğı iddia-sı] yalanla-n-dı-ø
match-PL-LOC fixing do-PASS-PST-COMP claim-AGR deny-PASS-PST-3SG
'The claim that the matches were fixed was denied'

(3) Tuğçe kitab-ı oku -yor -ø

Tuğçe.NOM book-ACC read-PROG-3SG

'Tuğçe is reading the book'

Turkish allows scrambling to the sentence initial position as well as to the postverbal position. Each position in the preverbal area is associated with a specific function which words assume when they appear in that position while only discourse-linked NPs can be post-verbally scrambled. Let us start with the sentence initial position in Turkish (henceforth S-initial). In her seminal book, Erguvanlı-Taylan (1984) associates the S-initial position with topic in Turkish. As expected, subject is the topic of the sentence in the canonical word order, such as (2) and (3). Also, NPs and adverbs receive a topic interpretation when they are scrambled to the S-initial position over the subject. By topicalizing a word, the speaker sets the relevant framework in the hearer's mind before the proposition is presented. Note the scrambling and the resulting interpretation in (4).

(4) a. Bu kitab-ı ben lise-de oku -du -m

this book-ACC I.NOM high school-LOC read-PST-1SG

'This book, I read at high school'

Focusing is the result of interplay between word order and stress and employs complex strategies. Yet, it is widely accepted that the immediately preverbal position is the presentational focus position in canonical word order (cf. Erguvanlı-Taylan (1984), Butt and King (1996), Kennelly (1997)). The object in (5a) and the indirect object in (5b) are in the presentational focus position, as shown by the fact that they can be uttered as an answer to the widest scope question *what happened?*

(5) A: Ne oldu?

What happened?

B: a. Ayşe kitab-ı kaybet-miş-ø

Ayşe book-ACC lose-EVID-3SG

'It seems Ayşe lost the book'

b. Ayşe kitab-ı Ali'ye ver-miş-ø

Ayşe book-ACC Ali-DAT give-EVID-3SG

'It seems Ayşe gave the book to Ali'

Yet any constituent in the preverbal area can be contrastively focused via focal stress. For instance, in (6) the speaker B can correct A's misinformation of any participant of the event by contrastively focusing the correct form in the canonical word order.

(6) A: Sanırım Ayşe kitab-ı Ali'ye ver-miş-ø

I think Ayşe book-ACC Ali-DAT give-EVID-3SG

'I think Ayşe gave the book to Ali'

B: a. Hayır. MEHMET kitab-ı Ali'ye ver-di-ø

No. Mehmet book-ACC Ali-DAT give-PST-3SG

'No. MEHMET gave the book to Ali'

b. Hayır. Ayşe NOTLAR-I Ali'ye ver-di-ø

No. Ayşe lecture notes-ACC Ali-DAT give-PST-3SG

'No. It was the lecture notes that Ayşe gave to Ali'

c. Hayır. Ayşe kitab-ı BAN-A ver-di-ø

No. Ayşe book-ACC I-DAT give-PST-3SG

'No. Ayşe gave the book to ME'

Another focusing strategy is *defocusing* (Kural 1992). Topicalization of constituents may leave the subject in the immediately preverbal position where it is contrastively focused. For instance, in (7) the subject *Ali* ends up in the immediately preverbal position since the object and the indirect object have been topicalized (see İşsever 2000, 2003 as well as §9.5.3 for focusing in Turkish).

(7) Ban-a para-yı ALİ ver -di -ø

I-DAT money-ACC Ali.NOM give-PST-3SG

'It was Ali who gave me the money'

Finally, there is a widespread agreement in the Turkish literature that the post-verbal field has quite different syntactic and discourse-related features than the preverbal area. Post-verbal constituents, for example, cannot be focused (Erguvanlı-Taylan 1984). (8) is ungrammatical with a focused post-verbal constituent.

(8) *Ali sev -iyor -ø AYŞE'Yİ

Ali.NOM love-CONT-3SG Ayşe-ACC

'Ali loves Ayşe'

What, then, is the function of post-verbal scrambling in Turkish? Erguvanlı-Taylan (1984), argues that postverbally scrambled words are discourse-recoverable. In (9), for example, the NP 'bu evin kirası' *the rent of this house* has been scrambled to the post-verbal position. Since the same NP has been introduced to the discourse in the previous sentence, the hearer easily recovers it.

(9) a. **Bu ev** benim iş yerime uzak,

this house.NOM my work place far,

hem ver -e -me -m ben **bu ev-in kira-sı-nı.**

also afford-ABIL-NEG-1SG I.NOM this house-GEN rent-3SG-ACC

'This house is far from my workplace, also I can't afford it'

Typologically, Turkish is a nominative-accusative language. Both the agentive argument of the transitive verbs and the subject of the intransitive verbs are Nominative while the object of the transitive verb is Accusative unless it is an indefinite object, in which case it appears without case-marking:

(10) a. Köpek uyu -du -ø

dog.NOM sleep-PST-3SG

'The dog slept'

b. Mehmet köpeğ-i besle-di -ø

Mehmet.NOM dog-ACC feed -PST-3SG

'Mehmet fed the dog'

3.1.2 *Null subjects in Turkish*

Due to the rich morphological agreement system in Turkish, the subject pronominal is null unless it is a newly introduced referent or there is a switch of subject referent (Erguvanlı-Taylan 1984, Kornfilt 1997). Although direct object and indirect object don't agree with the verb, they can be null as long as they are recoverable from the context (Öztürk 2001). In (11), for example, the subject, object and indirect object are simultaneously null as a response to the previous sentence where they have already been introduced to the discourse.

(11) A: Çocuk-lar okul-a kitap götür-ecek-ti -ler

child-PL school-DAT book take -FUT -PST-3PL

'The children were supposed to take books to school'

B: Götür-dü -ler

take -PST-PL

'They did'

Null subjects are so common in Turkish that they are regarded as the default case and the cases where the pronoun is overt need specified rules. Göksel & Kerslake (2005) provide an exhaustive list of discourse-related circumstances in which the subject cannot go unexpressed. According to Göksel & Kerslake, the subject cannot be suppressed (i) if it contrasts with the subject of the preceding sentence, (ii) when it is contrastively focused, (iii) "Where a 1st or 2nd person subject is one of a set of people actually or potentially involved in some action or situation", (iv) when the third person is promoted from a non-

subject position in the previous sentence, even if the same subject continues, (v) if the statement moves from a specific event to a generalization, (vi) when the speaker wants to introduce a new topic or argument for discussion (cf. §9.5.3 for further discussion).

3.2. An Overview of Verbal Morphology in Turkish and Resolving the Morphophonological Issues

This section is intended to give an overall idea of how verbal suffixes are organized in Turkish and introduce some morphophonological peculiarities that might cause confusion as the discussion unfolds. Because chapters 4, 5 and 6 will be devoted to the functions of the inflectional suffixes in Turkish the emphasis here will be placed on the suffixes themselves, rather than the inflectional categories they represent or their semantics. So, I will not go into theoretical discussions unless required. I will also build the data step by step.

3.2.1 *The inner slots (1-4)*

Being an agglutinative head-final language, Turkish attaches to the verb the inflectional suffixes, which agree with the base for vowel harmony, in order to represent the inflectional categories.[20] It is, however, difficult to distinguish the derivational morphology from the inflectional morphology since both occur as suffixes on the verb. I, therefore, assume that voice markers, i.e. causative, passive and reciprocal markers, belong to derivational morphology and exclude them from the discussion. They will, also, not be part of the discussion in the following chapters. (12) presents the complete scheme of the suffixes that will be part of this work.[21] Note, however, that the number of slots depends on the perspective one takes. Göksel (2001), for example defines 7 slots, the last

[20] Consonants also assimilate with the final consonant of the base they are attached to. As a consequence of these two processes, the suffixes may appear quite different in different environments. The discussion, however, can be easily followed from the glosses. Also, as an orthographic convention, the consonants and vowels which undergo harmony are written in capitals while the ones that may go assimilation are written in parenthesis.

[21] I ignore here the optative mood *-A* in Turkish which is now limited to first person as well as the continuous aspect marker *-mAktA* which is not in itself a suffix but made of infinitive *-mAk* and the locative *-DA*. I also ignore the question clitic, which occurs after the whole inflectional complex, and the discussion of the complementizer in Turkish.

one being for an optional suffix that encodes probability while Sezer (2001), counting tense suffixes as the only inflectional suffixes, asserts three slots.

(12)

	1	2	3	4	5	6
Verb	*-Abil* (Abil)	*-mA* (Neg)	*-Abil* (Poss)	*-sA* (Cond) *-mAlI* (Nec) *-Ar* (Aorist) *-yor* (Prog) *-AcAk* (Fut) *-DI* (Past) *-mIş* (Evid)	*-(I)DI* (Past) *-(I)mIş* (Evid) *-(I)sA* (Cond)	Agreement

The ability modal seems to be the left-most suffix (13a), followed by the negative marker (13b). Note that the ability modal and the negative marker do not render the sentence finite, and they do not allow for direct suffixation of the agreement. Rather, one of the Tense/Aspect/Mood markers in slot 4 is suffixed before the agreement (cf. (13a,b,c)). Note also the first morphophonological irregularities in (13b). If the verb is further suffixed with negative after ability, the ability marker changes its phonetic form and reduces to a single vowel (13b) (14a-b). The negative marker also triggers the phonetic conditioning of the aorist to its right and changes it from *-Ar* to *-z*, as seen in (13b). This is, however, specific to the ability modal and the aorist. The other suffixes in slot 4 do not undergo any change other than harmony, such as the necessitative in (13b).

(13) a. Bu zor bir iş,

this is a difficult task,

bu iş-i ancak Ahmet yap-abil -ir -ø

this task-ACC only Ahmet.NOM do -ABIL-AOR-3SG

'Only Ahmet can do this task'

b. Ahmet yap-a -ma -z -ø

Ahmet.NOM do -ABIL-NEG-AOR-3G

'Ahmet can't do (this)'

c. Sen yap-a -ma -malı-sın

you.NOM do -ABIL-NEG-NEC-2SG

'You shouldn't be able to do (this)'

The next slot up contains the possibility modal *-Abil*. It may be directly suffixed to the verb stem as in (14a) as well as after the ability modal and the negative marker (cf. (14b,c)). In the former case it is phonetically identical to the ability modal and disambiguation requires contextual clues such as the adverb *any time* in (14a) since ability and possibility modals cannot co-occur adjacent to each other due to phonetic identity (cf. (14d)). The suffix *-Abil* is ambiguous between ability and possibility in the absence of any contextual clues, as seen in (14e). However, co-occurrence is possible if the negative marker intervenes as in (14b) and the phonetic conditioning of the ability modal applies as mentioned above.

(14) a. Öğretmen her an gel -ebil -ir -ø

teacher.NOM any time come-POSS-AOR-3SG

'The teacher may come any time'

b. Leyla gel -e -me -yebil-ir -ø

Leyla.NOM come-ABIL-NEG-POSS-AOR-3SG

'Leyla may not be able to come'

c. Leyla gel -me -yebil –ir -ø

Leyla.NOM come-NEG-POSS-AOR-3SG

'Leyla may not come'

d.*Leyla gel -ebil -ebil -ir -ø

Leyla.NOM come-ABIL-POSS-AOR-3SG

Int. 'Leyla may be able to come'

e. Leyla gel -ebil -ir -ø

Leyla.NOM come-Abil-AOR-3SG

'Leyla can/may come'

Slot 4 contains the most frequently disputed suffixes in Turkish. It contains the so-called Tense/Aspect suffixes as well as the necessitative modal and a conditional, the discussions of which will be provided in chapters 4 and 5. Like the suffixes in the lower slots, the suffixes in slot 4 may be directly attached to the verb (15a) or follow one of the lower slots (15b-g). Note that the ungrammaticality of (15f) is due to the ban on adjacent co-occurrence of the ability and possibility markers (cf. (14d).

(15) a. Yap-malı-ø
do -NEC -3SG
'He must do (this)'

b. Yap-abil -meli-ø
do -ABIL-NEC-3SG
'He should be able to (this)'

c. Yap-ma-malı-ø
do -NEG-NEC-3SG
'He mustn't/shouldn't do (this)'

d. Yap-ma -yabil-meli-ø
do -NEG-POSS-NEC-3SG
'It should be possible that he doesn't do (this)'

e. Yap-a -ma -malı-ø
do -ABIL-NEG-NEC-3SG
'He shouldn't be able to do (this)'

f. *Yap-abil -ebil-meli-ø
do -ABIL-POSS-NEC-3SG
Int. It should be possible that he can do it

g. Yap-a -ma -yabil-meli-ø
do-ABIL-NEG-POSS-NEC-3SG
'It should be possible that he can't

Note, however, that if we try to complete the paradigm in (15g) with the other suffixes of slot 4, not all of them can follow the string ability-negative-possibility. Specifically, necessitative *-mAlI*, aorist *-Ar*, progressive *-yor* and future *-AcAk* may follow this relatively long string in a paradigmatic way (see 16a-d) while the past suffix *-DI*, the evidential *-mIş*, and the conditional *-sA* cannot (16e-g). (17) illustrates the possible combinations of this string.[22]

[22] The aorist in (16b) does not have any semantic contribution, and (16b) and (16c) are translated in the same way. I will expand on this difference in §4.5 and on the theoretical status of the aorist in (16b) in §7.4.

(16) a. Yap-a -ma -yabil-meli-ø
do-ABIL-NEG-POSS-NEC-3SG
'It should be possible that he can't do (this)'

b. Yap-a -ma -yabil-ir -ø
do -ABIL-NEG-POSS-AOR-3SG
'He may not be able to do (this)'

c. Yap-a -ma -yabil-yor -ø
do -ABIL-NEG-POSS-PROG-3SG
'He may not be able to do (this)'

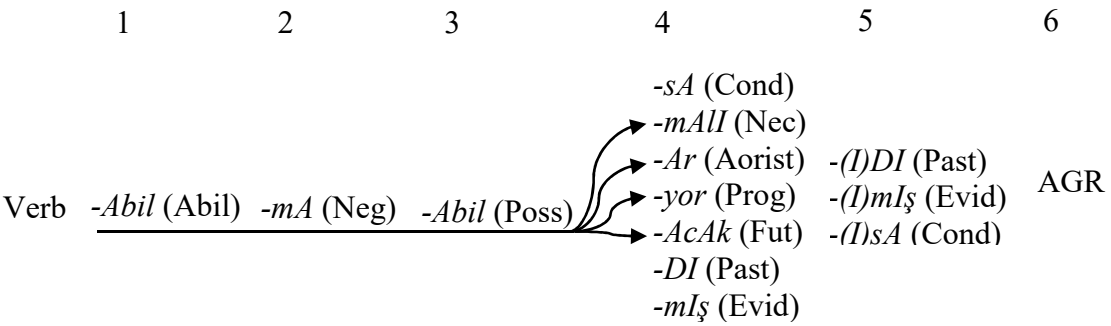
d. Yap-a -ma -yabil-ecek-ø
do -ABIL-NEG-POSS-FUT-3SG
'It will be possible (in the future) that he can't do (this)'

e.*yap-a -ma -yabil-miş -ø
do -ABIL-NEG-POSS-EV/PFC-3SG

f.*yap-a -ma -yabil -se -ø
do -ABIL-NEG-POSS-COND-3SG

g.*yap-a -ma -yabil-di -ø
do-ABIL-NEG-POSS-PST-3SG

(17)



Furthermore, the string negative-possibility has the same restriction. It can only be followed by the necessitative, aorist, future and progressive (cf. 18a-g). (19) is a representation of the possible combinations with the string negative-possibility.

(18) a. Yap-ma -yabil-meli-ø
do -NEG-POSS-NEC -3SG
'It should be possible that he doesn't do (this)'

e.*Yap-ma -yabil-se -ø
do -NEG-POSS-COND-3SG

f.*Yap-ma-yabil -di -ø
do -NEG-POSS-PST-3SG

b. Yap-ma -yabil-ir -ø

do -NEG-POSS-AOR-3SG

'He may not do (this)'

g. *Yap-ma-yabil -miş -ø

do -NEG-POSS-EVID-3SG

c. Yap-ma-yabil -iyor -ø

do-NEG-POSS-PROG-3SG

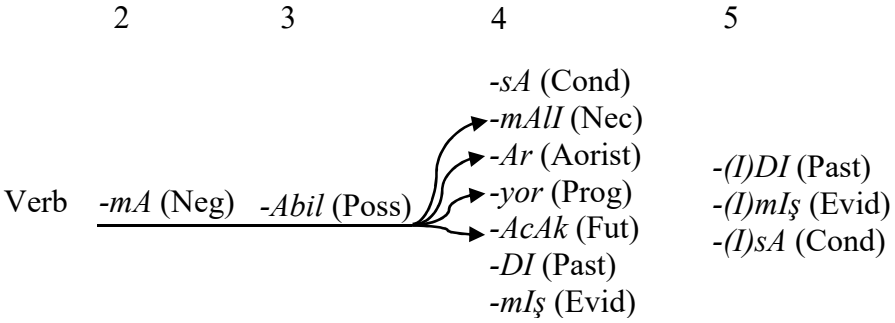
'He may not do (this)'

d. Yap-ma-yabil-ecek-ø

do -NEG-POSS-FUT-3SG

'It will be possible for him not to do (this)'

(19)



Finally, if the possibility modal *-Abil* is directly suffixed to the verb stem without the intervention of the ability and negation markers, [23] it can only be followed by the aorist (cf. (14a) and (20a)) and the progressive marker *-yor*. Necessitative and future markers lead to ability reading in this configuration. Note the data in (20) and the representation in (21).

(20) a. Öğretmen her an gel -ebil -ir -ø

teacher.NOM any time come-POSS-AOR-3SG

'The teacher may come any time'

[23] Recall that this requires contextual clarification since the ability modal and the possibility modal are phonetically the same. Compare (13a) and (14a).

b. Öğretmen her an gel -ebil -yor -ø

teacher.NOM any time come-POSS-PROG-3SG

'The teacher may come any time'

c.*Öğretmen her an gel -ebil -miş -ø

teacher.NOM any time come-POSS-EVID -3SG

d.*Öğretmen her an gel -ebil -se -ø

teacher.NOM any time come-POSS-COND-3SG

e.*Öğretmen her an gel -ebil -di -ø

teacher.NOM any time come-POSS-PST-3SG

f. *Öğretmen her an gel -ebil -meli-ø

teacher.NOM any time come-POSS-NEC-3SG

g.*Öğretmen her an gel -ebil-ecek-ø

teacher.NOM any time come-POSS-FUT-3SG

(21)

	3	4	5
Verb	*-Abil* (Poss)	*-sA* (Cond) *-mAlI* (Nec) *-Ar* (Aorist) *-yor* (Prog) *-AcAk* (Fut) *-DI* (Past) *-mIş* (Evid)	*-(I)DI* (Past) *-(I)mIş* (Evid) *-(I)sA* (Cond)

3.2.2 *The outer slots (5-6)*

Notice that all the examples so far are in present tense. The reason why past reference was avoided is that tense, aspect and mood (TAM) are closely interwoven in Turkish and some TAM markers are arguably multifunctional and ambiguous, i.e. they show more than one TAM category in a given environment and they show different categories in different environments. To start with, ability and possibility, in slots 1 and 3, are inherent modals. Thus the issue of marking indicative mood only arises when a slot 4 modal is directly suffixed to the verb. Furthermore, necessitative and evidential are also inherently

modal in slot 4. This leaves us with the aorist *-Ar*,[24] past *-DI*, progressive *-yor* and the future *-AcAk* as the suffixes which appear in the indicative mood. However, indicative mood doesn't have a dedicated marker in Turkish. Instead, these tense/aspect markers are inherently indicative (Taylan 1996). In other words, it is assumed that they bear the indicative-mood-marking function as well as tense/aspect marking function.

On the other hand, tense and aspect categories have more complicated combinations. For example, the sentences suffixed with *-DI* in slot 4 may be interpreted as perfective present perfect (22a) or perfective past (22b) (see §1.4 for perfective present perfect). The progressive *-yor* and the aorist *-Ar* are also in present tense.

(22) a. Cem iş-i tamamla-dı -ø
Cem.NOM job-ACC complete-PFC.PRST-3SG
'Cem has completed the job'

b. Cem dün gel -di -ø
Cem.NOM yesterday come-PFV.PST-3SG
'Cem arrived yesterday'

c. Cem koş-uyor -ø
Cem.NOM run-PROG-3SG
'Cem is running'

d. Cem her gün burada koş-ar -ø
Cem.NOM every day here run-AOR-3SG
'Cem runs here everyday'

There is a true past tense marker, namely *-(I)DI*, and a slot allocated to it, which is higher than *-DI*, *-yor*, *-AcAk* and the aorist *-Ar*.[25] Note that this is one of the three suffixes

[24] This is true only when the aorist marks repetitive aspect. See §4.3 and §4.4 for the modal functions of aorist, which do not raise any issue at this point.

[25] A clarification is in order here. The slot 5 suffixes are quite similar, in phonetic form, to three of the slot 4 suffixes. If suffixed on a base ending in a vowel, they are phonetically conditioned as *-yDI*, *-ymIş* and *-YsA*

in slot 5 and it can co-occur with all the suffixes in slot 4. The sentence thus formed corresponds to the past perfect tense in English and known as the Pluperfect. It appears that the ambiguous suffix *-DI* becomes the unambiguous perfect aspect marker when the true tense marker is suffixed, as in (23a) while the progressive marker and the aorist retain their functions (23b,c).

(23) a. Cem dün-den önceki gün bura-ya gel -di -ydi-ø
Cem.NOM yesterday-ABL before day here-DAT come-PFC-PST-3SG
'Cem had come here the day before yesterday

b. Cem sokak-ta yürü-yor -du -ø
Cem.NOM street-LOC walk-PROG-PST-3SG
'Cem was walking in the street'

c. Cem her gün burada koş-ar -dı -ø
Cem.NOM everyday here run-AOR-PST-3G
'Cem used to run here everyday'

-(I)mIş occurs in a paradigmatic relation with the true tense marker *-(I)DI* with a single exception. That is, it cannot co-occur with the perfect/past marker *-DI* since their semantic values are mutually exclusive. Use of *-DI* in slot 4 is appropriate if the speaker directly experienced or witnessed the past event while *-(I)mIş* in slot 5 indicates that the speaker is judging from evidence or coding hearsay of a past or present event (Sezer 2001:11). Consequently, the sentence is semantically contradictory when *-(I)mIş* follows *-DI*, as seen in (24). The final point to note about *-(I)mIş* is that it is neutral for tense, which means the event denoted by the verb may be evidential present as in (25a) or evidential past as in (25b).

as in (23a) while they appear as *-DI, -mIş* and *-sA* after a consonant, in the exact form of the three markers in slot 4 (cf. (23b)). It is, however, easy to distinguish the two sets since the suffixes of slot 5 only appear after the suffixes in slot 4. Direct suffixation is banned. Therefore, if the form *-DI* appears alone in any sentence, it is the ambiguous tense/aspect marker in slot 4.

(24) *Cem dün ders çalış -tı -ymış-ø

Cem.NOM yesterday lesson study-PFC-EVID-3SG

no reading

(25) a. Cem şu anda ders çalış -ıyor -muş -ø

Cem.NOM at the moment lesson study-PROG-EVID-3SG

'I heard that Cem is studying at the moment'

b. Sen dün aradığında, Cem ders çalış-ıyor -muş -ø

When you called him yesterday Cem.NOM lesson study-PROG-EVID-3SG

'I heard that when you called him yesterday Cem was studying'

The affix *-(I)sA*, on the other hand, requires more explanation than the two other suffixes in this slot. There are two suffixes with the connotation *conditional* in Turkish, one in slot 4 and one in slot 5 (cf. (21)). Deny (1921) (cited in Sezer (2001)) was the first to make the fine distinction between the slot 4 *-sA* and the slot 5 *-(I)sA*. Deny (1921), Barker (1979) and Kuruoğlu (1986) show that the slot 4 *-sA* is subjunctive while slot 5 *-(I)sA* is indicative. Note the difference in the interpretations of the sentences in (26). Note that the subjunctive conditional in (26a) is attached before the slot 5 suffix *-(I)DI* while the indicative conditional in (26b) is attached after the future marker in the slot 4. The sentence in (26a) is interpreted as counterfactual while the sentence in (26b) is factual.

(26) a. **Subjunctive conditional in slot 4**

Bu yol-u geçen hafta asvaltla-sa -ydı-lar çok iyi ol-ur -du -ø

this road-ACC last week asphalt-COND-PST-3PL very good be-AOR-PST-3SG

'It would be really great if they had resurfaced this road last week'

b. **Indicative conditional in slot 5**

Dışarı çık-acak-sa-n şemsiye-n-i al

out go-FUT-COND-2SG umbrella-2SG.POSS-ACC take

'If you are going to go out, take your umbrella'

As stated in footnote 24, the suffixes in slot 5 are quite similar to three suffixes in slot 4. The minor difference is the weak consonant in the slot 5 suffixes which is phonetically conditioned as */y/* after a vowel or deleted after a consonant. It can, however, be clearly seen when it is not suffixed to the verb as in (27), which is becoming more and more marginal today.

(27) a. Ali yemeğ-i-ni çoktan ye-miş idi

Ali.NOM meal-3SG.POSS-ACC already eat-EVID PST

'Ali had already eaten his meal'

b. Çocuk sokak-ta oynu-yor imiş

child.NOM street-LOC play-PROG PST

'The child was playing in the street'

Historically, *-i* is the remnant of a defective verb from Old Anatolian, namely *-ir/-er* (Sezer, 2001). It is identified as a copular verb meaning *to be* and allows suffixation of *-DI*, *-mIş* and the conditional *-sA*. The other TAM markers or the negative marker cannot be suffixed on this weak auxiliary:

(28) a.*Yapı-yor i -yecek-sin

do-PROG cop-FUT -2SG

Int. 'You will be doing'

b.*gidi-yor i -me -meli-sin

go-PROG cop-NEG-NEC-2SG

Int. 'You shouldn't be going'

Hence one could say that there isn't a fifth slot in Turkish verbal morphology, and these suffixes are simply an auxiliary and a slot 4 suffix combination. I will, however, continue to treat them as suffixes rather than an auxiliary or a verb for two reasons. First, the suffixes in these slots do not bear the same TAM specifications. *-mIş* in slot 4, for example, is evidential past while *-(I)mIş* in slot 5 is neutral for Tense (cf. (25a,b)). Also, if it were an auxiliary or a main verb, we would expect it to carry all of the suffixes that can be attached to main or auxiliary verbs, which is not the case as (28) shows. It seems thus that *-i* cannot mark the beginning of a new lexical domain and the slot 5 forms should be treated as suffixes. Also note the reduced frequency of the periphrastic form, such that (27a,b) sound quite archaic.

There is, however, a genuine auxiliary which can carry all of the functional suffixes. The auxiliary is inserted in Turkish since some semantically possible notions such as future progressive are morphologically disallowed as the future and progressive suffixes compete for the same slot (Göksel 2001). Hence a new lexical domain has to be started with an auxiliary. The auxiliary *-ol*, meaning *to be*, can be suffixed with all of the slot 4 suffixes as well as the negative marker and the possibility modal, as shown in (29).

(29) a. koş-uyor ol-acak-sın
run-PROG be-FUT-2SG
'You will be running'

b. koş-uyor ol-malı-sın
run-PROG be-NEC-2SG
'You must be running'

c. koş-uyor ol-abil -ir -sin
run-PROG be-POSS-AOR-2SG
'You may be running'

d. koş-uyor ol-ma -malı-sın
run-PROG be-NEG-NEC-2SG
'You musn't be running'

e. Koş-ma -mış ol-ma -yacak-sın

run-NEG-PFC be-NEG-FUT -2SG

'You won't be not have run'

I will conclude this brief introduction with the agreement paradigms of Turkish. Apart from the imperative and optative paradigms, Turkish has two distinct verbal agreement paradigms (Good & Yu 2005). The first one, called the *-k paradigm* after the first person plural form, follows verbal bases ending with the *-DI* and *-sA* suffixes of slot 4 and the *-(I)DI* suffix of slot 5:

(30) *Verbal agreement paradigm in Turkish (the -k paradigm)*

a. Ben gel -di -m

I.NOM come-PST-1SG

'I came'

b. Sen gel -di -n

you.NOM come-PST-2SG

'You came'

c. O gel -di -ø

he/she.NOM come-PST-3SG

'She came'

d. Biz gel -di -k

we.NOM come-PST-3PL

'We came'

e. Siz gel -di -niz

you(PL).NOM come-PST-2PL

'You (2pl) came'

f. Onlar gel -di (-ler)[26]

they.NOM come-PST-3PL

'They came'

The other paradigm is called the *-z paradigm* by Good & Yu (2005), again after the first person plural form, and it is attached after all other verbal and non-verbal predicates. (31) exemplifies the -z paradigm with the progressive marker *-yor*.

[26] 3rd person plural agreement can only be triggered by a human subject under some syntactic and discourse related circumstances not fully explored yet. See §9.5.2 for an example.

(31) *Verbal agreement paradigm in Turkish (the -z paradigm)*

a. Ben koş-uyor-um
I.NOM run-PROG-1SG
'I am running'

b. Sen koş-uyor-sun
you.NOM run-PROG-2SG
'You are running'

c. O koş-uyor -ø
we.NOM run-PROG-1PL
'We are running'

d. Biz koş-uyor-uz
he/she.NOM run-PROG-3SG
'She is running'

e. Siz koş-uyor-sunuz
you(PL).NOM run-PROG-2PL
'You (2pl) are running'

f. Onlar koş-uyor(-lar)
they.NOM run-PROG-3PL
'They are running'

In sum, the Turkish verb has the following form when all five slots are represented with a suffix and the agreement is attached.

(32) Bu iş-i yap-a -ma -yabil-ir -miş -sin
this task-ACC do-ABIL-NEG-POSS-AOR-EVID-2SG
'It is said that you may not be able to do this task'

In chapter 4 and 5, I will focus on the functions of Tense/Aspect/Mood (TAM) markers in Turkish, detailing their functions and classification from two different perspectives: the multifunctional model and the monofunctional model. Since TAM marking is a vast literature in Turkish, the labour is divided between the two chapters. Chapter 4 discusses the representation of non-past reference while chapter 5 deals with past reference.

CHAPTER 4

Representation of Tense/Aspect/Mood in Turkish

(Non-past Reference)

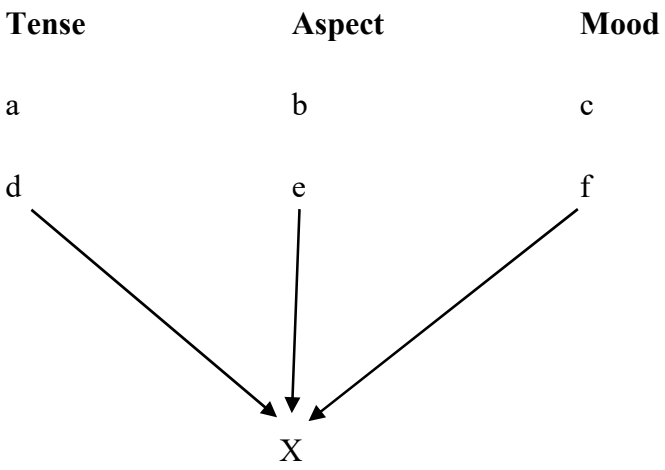
4.1 Introduction

This chapter discusses the three morphemes in Turkish that have non-past reference, i.e. present and future tense markers. §4.2 draws the distinction between multifunctionality and ambiguity of a morphological form. It also defines monofunctionality, reaching the conclusion that monofunctionality of a single form should not be mistaken for the monofunctional approach, which dictates that all forms in a language be monofunctional. §4.3 summarizes the multifunctional literature on non-past reference in Turkish. This section shows the argument of the multifunctional approach that two morphemes, namely *-yor* and *-Ar*, show present tense with different modal and aspectual connotations. These morphemes are also argued to show future tense in an ambiguous environment. §4.4 outlines Uzun's (1998) monofunctional approach with respect to non-past reference in Turkish. It shows Uzun's (1998) counter-arguments for the tense function of these morphemes and his account for their temporal functions. §4.5 expands on the issue of use of temporal adverbs for future reference and the problem raised by treating the aorist *-Ar* as a modal marker when it follows another modal marker in slot 3.

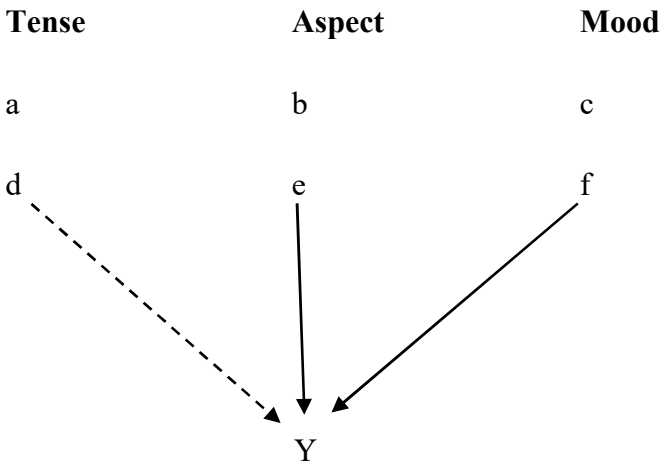
4.2 A Note on Multifunctionality, Monofunctionality and Ambiguity

There seems to be an important theoretical distinction between multifunctionality of a morphological form, also known as syncretism, and ambiguity of a form. I use the term multifunctional to refer to the cases where a morphological form, a suffix in the case of Turkish, shows a feature of more than one syntactic category simultaneously. However, ambiguity is simple homophony, i.e. a linguistic situation where the same morphological form expresses two or more categories in different environments. (1a,b) are the schematic representations of these notions. (1a) is multifunctionality while (1b) is ambiguity.

(1) a.



b.

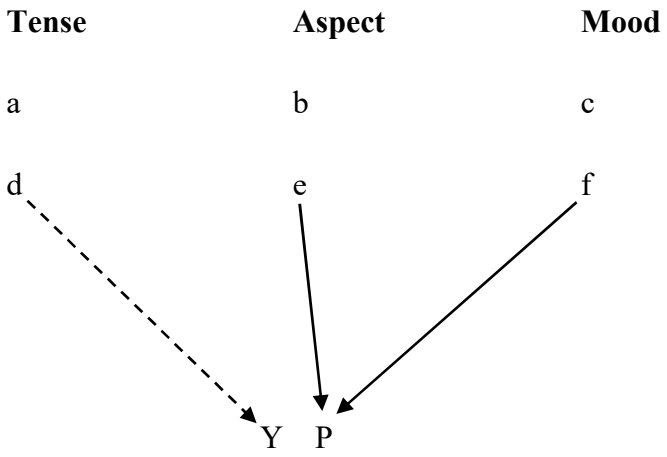


In the hypothetical example (1), there are three syntactic categories (tense, aspect, mood), and each of these categories has two features (a,b,c,d,e,f). Assuming that a main sentence has a feature of each category in (1), these features are to be morphologically marked. The X in (1a) is a three-way multifunctional morphological form. As the solid arrows show, X simultaneously shows a feature of each TAM category. But Y in (1b) is both two-way ambiguous and multifunctional in one of them. Specifically, solid arrows indicate that it shows the feature *e* of aspect and the feature *f* of mood simultaneously, multifunctionality. In this environment, we assume that a feature of tense is shown by another morphological form, say Z. But Y, out of simple homophony, may be the morphological representation of the feature *d* of tense in another environment, as shown by the dashed arrow. This is a completely new usage of Y. It occurs in a different environment and interacts with tense related notions, such as temporal adverbs, whereas in the first usage it interacts with aspectual *and* modal notions. In the second usage of Y

in (1b), the dashed arrow, Y is monofunctional and the other categories are assumed to be shown by other morphological forms.

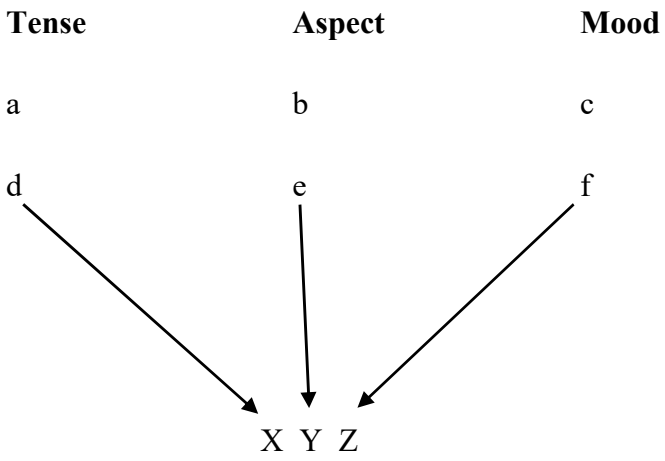
However, there is a crucial difference between the monofunctionality of a specific form in a language and a monofunctional approach to that language. For one thing, as far as a complete scheme of the TAM categories is concerned, the dashed arrow in (1b) is technically not different from the case where Y is unambiguously monofunctional. That is, any line of research can argue that Y is monofunctional and unambiguous, as shown in (2), but there might a multifunctional form, P in (2), in the specific environment Y occurs monofunctionally.

(2)



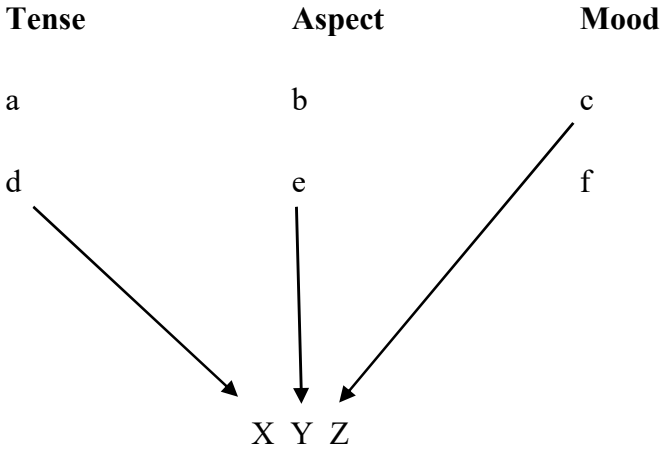
Hence we have to argue that the monofunctionality of Y is only accidental in this approach since the overall organization of the syntactic categories and the morphological forms do allow multifunctionality. We need a distinction between accidental monofunctionality of a form in the multifunctional approach and the monofunctional approach itself where a feature of each category has to be represented by a different morphological form, as in (3).

(3)

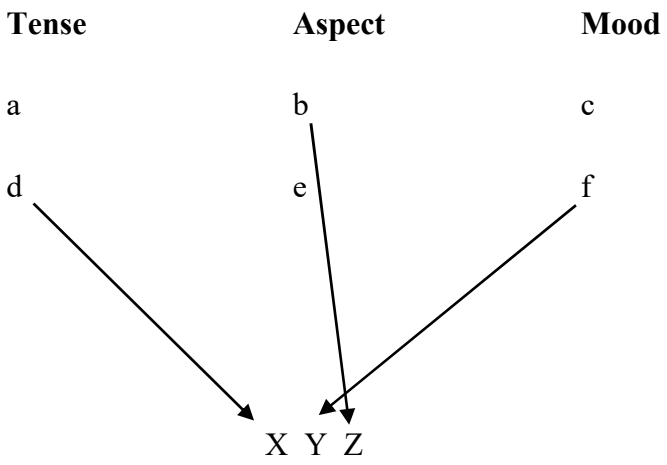


According to the monofunctional approach, (3) is the only possible representation of the features of TAM categories. That is, a form can only show one feature at a time. Finally, ambiguity of forms is also possible in the monofunctional approach. A specific form can show a different feature in two different environments as long as the overall scheme is complete in a one-to-one fashion in either environment. So if we assume that Z is ambiguous between the *c* and *f* features of mood, the second environment can be shown like (4a). It may also be ambiguous between a feature of mood and a feature of aspect, but then Y also has to be ambiguous between a feature of aspect and a feature of mood (cf. 4a-b) since all categories have to be morphologically represented and it has be in a one-to-one fashion, which is the underlying idea of the monofunctional approach.

(4) a.



b.



As is seen, the fundamental difference between the two approaches is not related to multi/monofunctionality of a specific morpheme, but concerns the overall organization of how all of the TAM categories are linked to morphemes. Multifunctionality argues that features of two or more categories may be represented with a single morpheme, and the number of morphological forms may be less than the number of the syntactic categories represented. Overall, the typology of the language in question is closer to inflection than to agglutination where inflection is defined as fusing of semantic elements and agglutination is defined as stringing morphemes linearly so that they don't change their morphological forms (Raible 2001). Monofunctionality, on the other hand, argues that there is always a one-to-one match between the categories and the morphemes. Yet this argument is hard to maintain since the number of functional categories far exceeds the number morphemes available in any language. §4.4 and §5.3 will try to counter this criticism.

4.3 *-Ar, -yor* and *-AcAk* under the Multifunctional Approach

-Ar and *-yor* are the two morphemes in Turkish that are argued to show present tense as well as refer to future in the multifunctional approach while *-AcAk* is the unambiguous future marker. These three morphemes will be handled together in this section and contrasted to the monofunctional approach in §4.4. Since present cannot be perfective (cf. §1.4) *-Ar* and *-yor* are always aspectually marked (Sezer 2001). Although they have an overlapping aspectual function, we will see that the aspectual function of *-Ar* is a subset

of the aspectual functions of *-yor*, and that *-Ar* also has modal functions. Let us start with *-Ar*.

The reader may have noticed in §3.2.1 that use of the term aorist seems incorrect. Thus the suffix *-Ar* needs an immediate clarification at this point. The term originates from the Ancient Greek category *ahóristos* meaning "indefinite" (Liddel & Scott 1883). Although it has a multiple of functions, it is usually associated with perfective past. Smyth (1956: 429) notes that "[t]he aorist expresses the mere occurrence of an action in the past. The action is regarded as an event or a single fact without reference to the length of time it occupied."

However, the use of the term aorist in Turkish is justified with another function of the aorist in Ancient Greek, namely the gnomic aorist in non-indicative moods (Yavaş 1982b). Ancient Greek uses the gnomic aorist, as well as simple present, to refer to general facts that hold independent of time (Smyth, 1956: 431, Goodwin, 1890: 53). Smyth (1956) also mentions the iterative aorist, which in essence resembles the gnomic aorist and the most common description of *-Ar* in Turkish as defined by Lewis (1967), Underhill (1976), Kornfilt (1997) and Taylan (1996). I show in this section that the total sum of the multifunctional literature argues that *-Ar* is three-way ambiguous with different multiple functions attributed in different studies.

One of the earliest treatments of *-Ar* in Turkish is Lewis (1967), which justifies the use of the term aorist based on the fact that it expresses repeated actions rather than a single occurrence, a subtype of imperfective aspect (cf. §1.3.2). Lewis translates the form 'do-aorist' as 'I am a doer'; 'I habitually do'; 'I am ready, willing and able to do', revealing the two options of the ambiguity *-Ar* has. Consider the examples in (5).

(5) a. Ben araba tamir ed-er -im

I.NOM car fix do-AOR-1SG

'I am a car fixer'/'I fix cars'

b. Araban bozulursa, ben tamir ed-er -im

if your car breaks down I.NOM fix do-AOR-1SG

'If your car breaks down, I am willing to fix it'

Underhill (1976) describes the Turkish aorist as the present tense suffix, but in line with Lewis (1967) and Taylan (1996), associates it with such notions as habit/iteration (aspect) and willingness (mood) appearing in different environments such as (5a) and (5b), respectively. In other words, we can say that in the first option of the ambiguity, *-Ar* is the repetitive aspect marker while in the second option it is a deontic mood marker (see §1.5). Although these are not tense-related notions, Underhill (1976) and Lewis (1967) attribute them to the aorist in present tense. Hence their approach might be regarded as multifunctional. More recently, Kornfilt (1997) follows Underhill (1976) and Lewis (1967) in treating the aorist as the present tense marker with "habitual and durative connotations", a clear indication of multifunctionality this time.

On the other hand, Yavaş (1980, 1982a, 1982b) argues that the aspectual function of *-Ar* in (5a) is *characteristic* of the subject which encompasses repetition but also describes the subject's personal attitudes. Yavaş also adds a third option to the ambiguity of the aorist: prediction in the future (Yavaş 1982a: 421, 1982b:47-48). This option is clearly multifunctional since it shows a mood feature (prediction) and a tense feature (future) simultaneously, as in (6).

(6) a. Ayşe her noel-de New York'a gidi-yor

Ayşe.NOM every Christmas-LOC New York-DAT go-PROG

san-ır-ım bu noel-de de gid-**er**

think-AOR-1SG this Christmas-LOC too go-**AOR**

'Ayşe goes to New York every Christmas, I think she will go this Christmas too'

b. Son gün-ler-de erken uyan -ıyor -um; herhalde

last day-PL-LOC early wake.up-PROG-1SG probably

yarın da erken uyan **-ır** -ım

tomorrow too early wake.up-**AOR**-1SG

'I am waking up early these days. I think I will wake up early tomorrow, too'

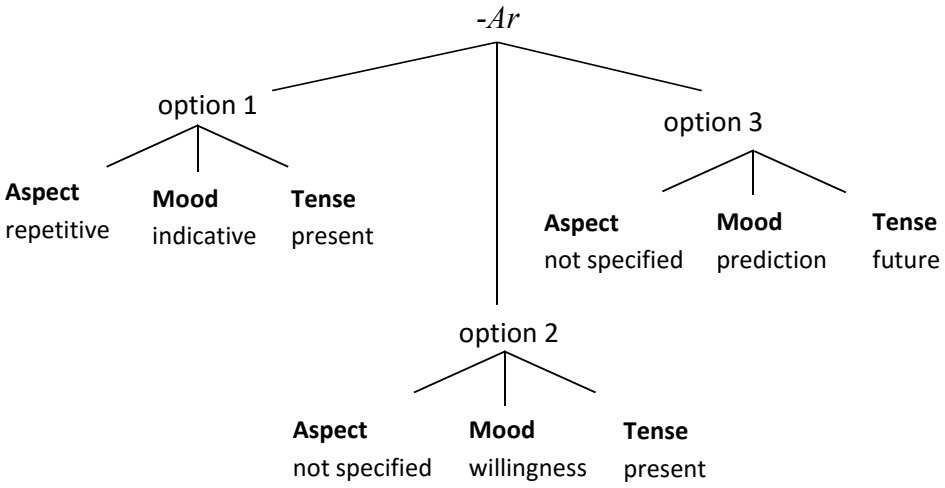
(Yavaş 1982a:421-422)

For the function of *-Ar* in (6), Yavaş (1982a,b) argues that it expresses low possibility in the future.[27] According to Yavaş (1982a,b), among the three suffixes which may refer to future, *-Ar* shows the lowest possibility. For example, (6) shows that the speaker foresees low possibility for a future event. Yavaş (1982a) states that "[...] *-Ar* is possible when the speaker has weaker presumptions about the future event". All in all, (7) is the intersection of the functions of *-Ar* discussed so far.[28]

[27] Recall Condoravdi's (2002) argument in §1.5 that mood markers are both temporal and modal operator.

[28] Note that (7) is the descriptive representation of *-Ar*, i.e. it represents the theory-neutral interpretations of (5a,b) and (6a,b). The source of the present tense interpretation in (5a,b) can be accounted for in different ways depending on the specific theoretical approach assumed. As a matter of fact, the specific line of research that links multifunctionality to the phrase structure in Universal Grammar argues that present tense and indicative mood interpretations of sentences naturally occur when no tense or mood value is specified in the derivation, which we will look into in chapter 7. I will, however continue to mark present tense and indicative mood function of any morpheme that is interpreted present and indicative in order to provide a theory neutral description of Turkish verbal morphology. Nevertheless, option 3 seems to be undeniably multifunctional. The effect of the multifunctional approach will be felt more dominantly in past reference in chapter 5.

(7)



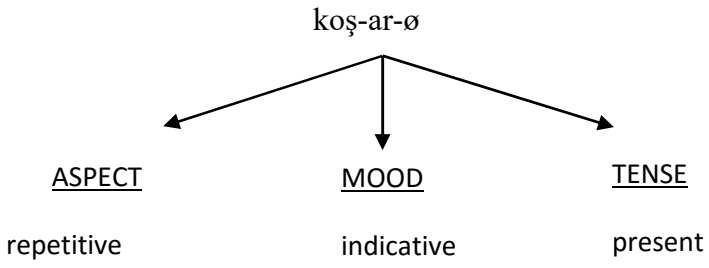
Summarizing so far, the multifunctional approach assumes that the aorist *-Ar* is both ambiguous and multifunctional as it simultaneously expresses Tense/Aspect/Mood features. In the first option, it shows repetitive/habit aspect *and* present tense (Lewis 1968, Underhill 1976, Taylan 1996, Kornfilt 1997). In the second option, it shows willingness *and* present tense. Finally, in the third option argued by Yavaş (1982a,b) *-Ar* shows prediction *and* future tense. (8)-(10) are the representations of the aorist in three different environments.

(8) a. Ali her gün koş-ar -ø

Ali.NOM every day run-AOR-3SG

'Ali runs every day'

b.

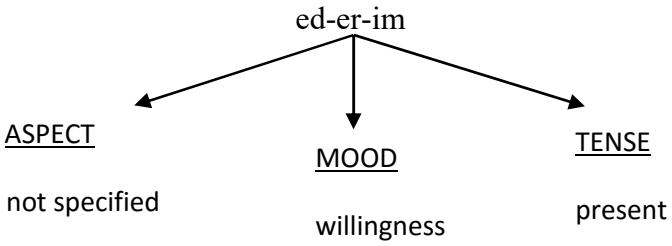


(9) a. Araba-n-ı tamir ed-er-im

car-2SG.PSV-ACC fix do-AOR-1SG

'I will fix your car'

b.

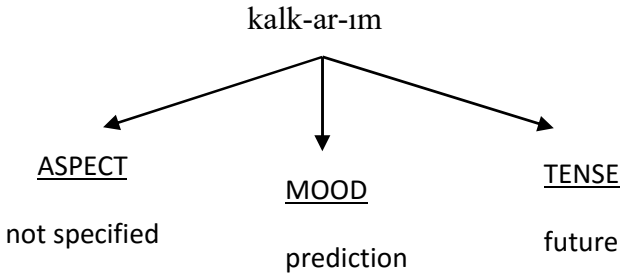


(10) a. Yarın erken kalk -ar -ım

tomorrow early wake.up-AOR-1SG

'I will wake up early tomorrow'

b.



Turning next to the morpheme ***-yor***, Lewis (1967) treats *-yor* as the present tense suffix. But looking at his examples, we see that *-yor* is ambiguous between three aspectual types in present tense: progressive, repetitive and extended now perfect (imperfective perfect).[29] Note the examples in (11).

(11) a. [O] Antalya'da çalışı -yor -ø

[he.NOM] Antalya-LOC work-PROG-3SG

'He is working in Antalya'

b. Kendisi-ni hafta-da iki defa görü-yor-um

he[honorific]-ACC week-LOC two time see-REP-1SG

'I see him twice a week'

c. [O] iki sene-dir bu ev-de oturu-yor -ø

[he.NOM] two years-FOR this house-LOC live -XN-3SG

'He has lived in this house for two years'

(Adapted from Lewis 1967)

[29] Apparently, Lewis is not distinguishing between tense and aspect.

(11b) indicates that *-yor* shows repetition as *-Ar* does. But it also marks present progressive (11a) and extended now type of present perfect (11c), two types of imperfective that we analysed as the mirror images of each other in §1.4. As a matter of fact, there are two more cases where *-yor* can be used: continuous aspect and future reference. Comrie (1976) describes continuous aspect as the progressive for stative verbs, and Turkish allows the use of *-yor* with stative verbs (Yavaş 1980, Taylan 1996, 2001). In (12), for instance, *-yor* seems to mark continuous aspect, and (13) shows that it can be used to refer to future although it is usually accompanied by a future adverb in this sense.

(12) a. Ali Ayşe'yi sevi-yor -ø

Ali.NOM Ayşe-ACC love-CONT-3SG

'Ali loves Ayşe'

b. Ahmet cevab-ı bili -yor -ø

Ahmet.NOM answer-ACC know-CONT-3SG

'Ahmet knows the answer'

(13) a. Baba-m birazdan geli -yor -ø

father-1SG.PSV soon arrive-CONT-3SG

'My father is arriving soon'

b. Mehmet yarın geli -yor -ø

Mehmet.NOM tomorrow come-CONT-3SG

'Mehmet is coming tomorrow'

It seems that we have to argue for a 5-way ambiguity unless we have an overarching classification from which all uses of *-yor* can be deduced. Taylan (1996, 2001) shows that *-yor* better fits the more general term *imperfective*, which is described by Smith (1997) as an aspect type which "[...] focuses intervals of all situation types." Considering the abovementioned uses of *-yor,* this description seems to justify Taylan's (1996, 2001) use of the term imperfective for *-yor*. It focuses on the inner structure of the event without further specification of its endpoints and encompasses the subtypes in (11)-(13). Although Taylan (1996) does not ascribe the future reference of *-yor* to its imperfective nature,

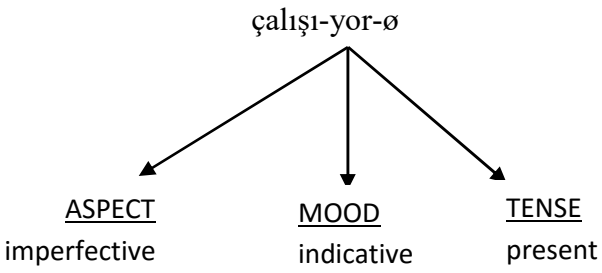
future interpretation is also included in the semantics of imperfective (Dahl and Velupillai 2005). Therefore, the functions of *-yor* should be as in (14b).

(14) a. [O] Antalya'da çalışı-yor -ø

[he.NOM] Antalya-LOC work-IMPFV-3SG

'He is working in Antalya'

b.



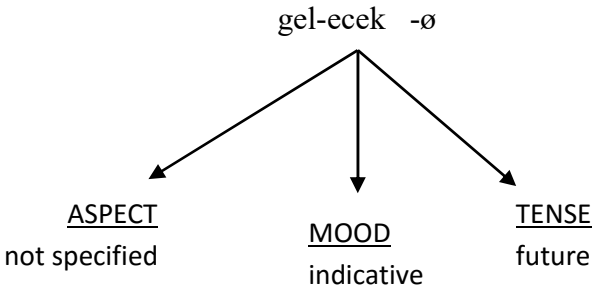
We have seen that both the aorist *-Ar* and the imperfective *-yor* may refer to future for different reasons. To summarize, the multifunctional approach assumes that these suffixes carry the tense, aspect and mood features. For future reference, *-Ar* chooses the option where it shows prediction and future tense while *-yor* is the marker of imperfective aspect which includes futurity. However, *-AcAk* has never been denied as having future reference in the multifunctional approach. There is a unanimous agreement that it expresses future (Lewis 1967, Underhill 1976, Yavaş 1980, 1982a among others). Hence (16) should be the representation of (15) where *-AcAk* is the only morpheme on the verb.

(15) Ali yarın gel -ecek-ø

Ali.NOM tomorrow come-FUT-3SG

'Ali will/is going to come tomorrow'

(16)

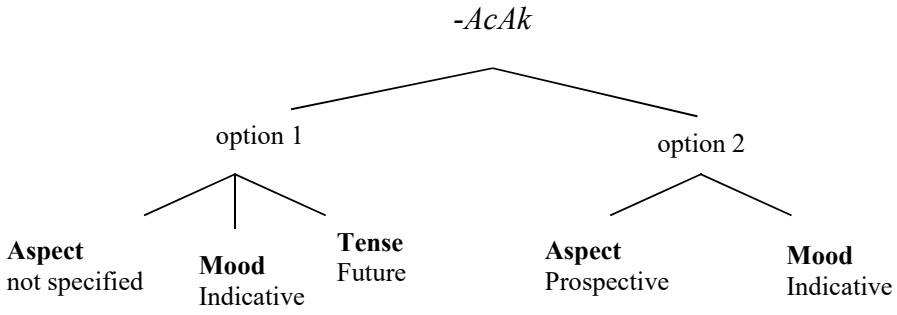


However, it seems that *-AcAk* has to have an option in which it doesn't show tense since it can co-occur with the genuine past tense marker *-(I)DI* in slot 5. When they co-occur, *-AcAk* shows any point in time following the point of reference shown by the tense marker, which may precede or follow the point of speech. Therefore, *-AcAk* must be the marker of prospective aspect in this configuration (Jendraschek 2011). In (17), for instance, the event follows the reference point in the past. Note that the event following the reference point is the definition of prospective aspect we assumed in §1.4.

(17) Çanta-sı-nı hazırla-dı -ø,
bag-3.SG.PSV-ACC prepare-PST-3SG
ertesi gün okul-a gid-ecek-ti -ø
following day school-DAT go-PROSP-PST-3SG
'S/he prepared her bag, she was going to go to school the following day'

Therefore, (18) is the summary of the functions of *-AcAk* I will be assuming for the multifunctional approach.

(18)



4.4 *-Ar*, *-yor* and *-AcAk* under the Monofunctional Approach

The multifunctional approach to Turkish verbal morphology assumes that any given morpheme may show two or three TAM categories simultaneously in a given environment. Uzun (1998), on the other hand, argues that given the agglutinative nature of Turkish this is an unexpected strategy to represent the inflectional categories. For one thing, Turkish is notorious for suffixing morphemes to the verb for each inflectional and

derivational category, thus reflecting a clear morphological structure. And this clarity is arguably only disrupted for TAM categories. He also criticises the multifunctional literature for the way the data is approached. Uzun (1998) argues that categorical judgments concerning the suffixes in Turkish should not be contaminated by world knowledge about the event. In other words, the interpretations of sentences should not be taken as the functions of the morphemes, and the true function of a morpheme should be a category or a description that is not affected by its environment. He offers a monofunctional analysis where each morpheme is linked to a single category and every category is represented in every main clause. He bases his approach on counter-examples to the multifunctional approach and alternative categories for each morpheme.

Starting with the aorist *-Ar*, Uzun (1998) rejects the future tense function of the aorist *-Ar* as claimed by Yavaş (1982a). He further disagrees with Lewis (1968), Kornfilt (1997), Underhill (1976) and Taylan (1996) that it represents habit/repetition aspect and/or present tense. According to him, *-Ar* is a monofunctional mood marker. For one thing, it is a fact in (19) below that the subject is in the habit of smoking, but this is more about the nature of smoking than the morpheme itself.

(19) Ali sigara iç -er -ø

Ali.NOM cigarette smoke-AOR-3SG

'Ali smokes cigarettes'

(Uzun 1998)

Uzun (1998) argues that in the case of smoking or events that tend to repeat, the habitual reading springs from the events, not from the morpheme. The sense of repetition or habit is usually supported by frequency adverbs where the context provided by the verb doesn't help, as in the contrast between (20) and (21).

(20) Ali her gün araba-lar-ı çiz **-er** -ø

Ali.NOM every day car-PL-ACC scratch-**AOR**-3SG

Bu onun ilginç bir alışkanlığ-ı-dır

this his weird a habit-3SG.POSS-EPIS

'Ali scratches cars every day. This is a weird habit of his'

(21) Ali araba-lar-ı çiz **-er** -ø. O-nu otopark-ta yalnız bırak-ma

Ali.NOM car-PL-ACC scratch-**AOR**-3SG he-ACC parking area-LOC alone leave-NEG

'Ali may scratch the cars. Don't leave him alone in the parking area'

Scratching cars is unlikely to be a habit for someone. Hence the frequency adverb in (20) is added to the sentence to help give this unfamiliar reading. (21), where the adverb is omitted, has different presuppositions and entailments. It entails that Ali is mentally unstable and the speaker sees it as probable that he will scratch the cars. According to Uzun (1998), the aorist in (19) expresses the speaker's attitude to Ali's smoking, but the morpheme itself doesn't necessarily show that it is a habit or repetition, referred to as an aspectual category by Taylan (1996). It can be used even if the subject has never done the action shown by the verb, as in (22).

(22) Ali (bu haber-i duy-ar -sa -ø) kendi-ni öldür-ür -ø

Ali.NOM (this news-ACC hear-AOR-COND-3SG) himself-ACC kill -AOR-3SG

'Ali will kill himself (if he hears the news)'

(Uzun 1998)

Hence according to Uzun (1998), the aorist, as shown in (21) and (22), does not show repeated events. If anything, judgments relating to the personal traits of the subject or prediction are closer to the category of modality defined as the speaker's personal attitude to the proposition of the sentence (Palmer 1986).

What, then, is the category of the aorist *-Ar* in Turkish and how are the other categories represented when it is the only TAM marker as in (21) and (22)? In his monofunctional approach, Uzun (1998) argues that the aorist cannot be classified as the present tense or an aspect marker since it combines with the past tense marker *-(I)DI*, and the sense of repetition comes from world knowledge or frequency adverbs in (19) and (20). Hence, there is only one option left. *-Ar* has to be a mood marker in Turkish. Uzun (1998) claims that the aorist in Turkish shows the speaker's attitude as possible and that the subject's behaviour is predicted. As for the characteristic defining feature argued by Yavaş (1982a) as an aspect type, it seems that Uzun (1998) comes very close to Yavaş's interpretation of the content of this suffix. The only difference is that Yavaş (1982a,b) considers a characteristic trait of the subject as an aspect type while Uzun (1998) sees the attitude of the speaker towards the subject's behaviour as the subjunctive mood. Uzun (1998) seems to argue that the notions of expressing the characteristic behaviour of the speaker and expressing personal attitude are very close to each other since describing a trait is subjective enough to be a mood. He argues that the modal feature of *-Ar* also accounts for the future reference since modals quantify over a time spanning from present to future, as outlined in §1.5 and §1.6. Therefore, the future reference of *-Ar* in, for instance, (6) is due to its modal function. This leads him to argue that the so-called future tense marker *-AcAk* outlined in §4.3 should also be a mood marker. According to Uzun (1998), futurity does not refer to reality, so that *-AcAk* only expresses the speaker's expectation that is to come true in a time following the utterance, as in Enç's (1996) forward-shifting algorithm or Condoravdi's (2002) temporal argument [(t,_) for modals. For this reason, *-Ar* does not have to be the marker of prediction and the marker of future tense simultaneously, and *-AcAk* is not the future marker. They are both subjunctive mood markers expressing possibility and expectation.

But there has to be a temporal and aspectual category for the sentences bearing *-Ar* and *-AcAk* since Uzun (1998) argues that all TAM categories are available in all sentences and each one is represented separately. This is quite similar to Demirdache & Uribe-Etxebarria's (2004) and Stowell's (1995, 2007, 2012) arguments discussed in §2.2. Hence this is a good point to give Uzun's (1998) conception of TAM in Turkish since it will also be enlightening for the past morphemes to be discussed in chapter 5. Uzun (1998) offers to classify the values of categories, i.e. types of tense, aspect and mood, based on binary and ternary oppositions. Tense, for example, is represented

by the binary opposition past/non-past where past is represented by a phonologically realized morpheme, *-(I)DI* in slot 5, while non-past is marked by -ø, a phonetically deficient morpheme. Therefore, the tense and mood markers of the sentences bearing *-Ar* and *-AcAk* should be the represented as shown in (23).

(23) a. Ali yarın gel -ir -ø -ø

Ali.NOM tomorrow come-PRED-NONPST-3SG

'Ali will come tomorrow'

b. Ahmet seçim-i kazan-acak-ø -ø

Ahmet.NOM election-ACC win -EXP-NONPST-3SG

'Ahmet will win the election'

But Turkish has more mood-related notions than tense-related notions. To solve this, Uzun (1998) offers an overarching category, subjunctive, to form the contrast with the zero mood marker -ø. Hence subjunctive in Turkish is a bundle category which includes *-Ar* for prediction, *-AcAk* for expectation, *-mAlI* for necessitative and *-sA* for conditional. The zero morpheme -ø, on the other hand, shows non-subjunctive mood, namely indicative mood. (24) is Uzun's (1998) chart of mood markers in Turkish.[30]

[30] For the sake of simplicity, this chart does not include the evidential mood in Turkish. As a matter of fact, Uzun (1998) offers a ternary classification for mood including the evidential. This chart will be updated in §5.3.

(24) *Uzun's chart of mood markers in Turkish (version 1)*

+subjunctive	-subjunctive (indicative)
-mAlI (necessitative)	
-Ar (prediction)	
-AcAk (expectation)	-ø
-sA (conditional)	

Given that *-Ar* and *-AcAk* are mood markers, Uzun (1998) proposes that the aspectual value, and therefore the aspect marker, in such sentences should be the same aspect that appears with the other mood markers. However, it is difficult to talk about the aspect of a modally quantified expression. Furthermore, the mood markers in slot 4 do not co-occur with the aspect markers, as seen in (25a-c).

(25) a.*Ali geli -yor -meli/meli-yor -ø

Ali.NOM come-CONT-NEC/NEC-CONT -3SG

Int. Ali should be coming

b.*Ali geli -yor -sa /sa -yor -ø

Ali.NOM come-CONT-COND/COND-CONT-3SG

Int. If Ali is coming

c.*Ali geli -yor -ar /-ir -yor -ø

Ali.NOM come-CONT-AOR/AOR-CONT-3SG

Int. If Ali is coming

Uzun (1998) proposes that this aspect is neither continuous nor (perfective) perfect since they are represented by the suffixes *-yor* and *-DI*, respectively. Furthermore, the events

in (26a,b) as well as the events in (23) are neither completed nor taking place at the moment of speech.

(26) a. Ali yarın gel -meli-ø -ø

Ali.NOM tomorrow come-NEC-NONPST-3SG

'Ali must come tomorrow'

b. Ali yarın gel -ir -ø -ø

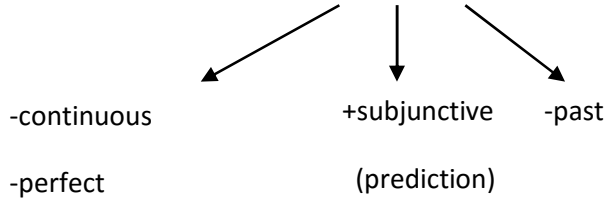
Ali.NOM tomorrow come-AOR-NONPST-3SG

'Ali will come tomorrow'

Therefore, Uzun (1998) argues that the aspect of the sentences where the aorist is the only morpheme on the verb is an unfamiliar type and proposes the zero morpheme -ø specified as [-continuous], [-perfect]. Assuming that *-Ar* and *-AcAk* represent the formal structure of all subjunctive modals, we can show the distribution of the morphemes as in (27) and (28).

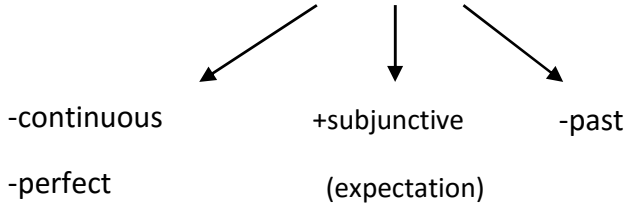
(27) Ali yarın gel -ø -ir -ø -ø

Ali.NOM tomorrow come-ASP-MOOD-TNS-3SG



(28) Ahmet seçim-i kazan-ø -acak -ø -ø

Ahmet.NOM election-ACC win -ASP-MOOD-TNS-3SG



Turning to the morpheme *-yor*, Uzun (1998) argues that it only shows aspect, and the tense and mood of the sentence are shown by two zero morphemes for indicative mood and non-past tense, as in (29a).The tense of the sentence can be shifted to past by *-(I)DI* in slot 5, as in (29b). Uzun (1998) argues that since there is the third type of aspect shown by -ø, the perfective-imperfective contrast cannot be sustained, and *-yor* should be called the continuous aspect marker in Turkish.

(29) a. Ali kitap oku-yor -ø -ø -ø

Ali.NOM book read-CONT-IND-NONPST-3SG

'Ali is reading a book'

b. Ali kitap oku-yor -ø -du -ø

Ali.NOM book read-CONT-IND-PST-3SG

'Ali is reading a book'

4.5 Two Remaining Issues

Two issues remain in the treatment of the non-past morphemes in Turkish: adverbials and the modal status of the aorist *-Ar* after the possibility marker *-Abil* in slot 3. One of the major diagnostics for determining the temporal, modal and aspectual features of a given sentence is adverb compatibility. Adverbs have also been used in the Turkish syntactic literature to determine such features (Yavaş 1980, 1982a, 1982b, Taylan 1996, 2001, Tosun 1998 etc.). Deictic temporal adverbs are related to the tense of the sentence (cf. §1.6), and they are frequently used by Yavaş (1982a,b) as the evidence of the future reference of aorist, (30).

(30) Son gün-ler-de erken uyan -ıyor-um; herhalde

last day-PL-LOC early wake up-CONT-1SG probably

yarın da erken uyan **-ır** -ım

tomorrow too early wake.up-**AOR**-1SG

'I am waking up early these days. I think I will wake up early tomorrow, too' (Yavaş 1982a: 422)

The adverb *yarın* 'tomorrow' in (30) is taken to show that the aorist has future connotations. However, in his major opposition to the multifunctional approach, Uzun (1998) argues that compatibility with future adverbs is not necessarily due to the future tense of the sentence. Modally quantified sentences allow adverbs that refer to future since such events can be interpreted at any time following the utterance. Also Uzun (1998) shows that aorist is not the only modally quantified suffix that allows an adverb referring to future, such as 'tomorrow'. Other modals, like necessitative, imperative and conditional can be used with such adverbs:

(31) a. Bu-nu yarın yap-malı-sın
this-ACC tomorrow do -NEC-2SG
'You must do it tomorrow'

b. Bu-nu yarın yap
this-ACC tomorrow do
'Do it tomorrow!'

c. Bu-nu yarın yap-sa -n
this-ACC tomorrow do-COND-2SG
'If you do this tomorrow'

If one wants to claim that the aorist in (30) is a future marker because it allows the adverb *yarın* 'tomorrow' and the event is construed to take place in the future, as Yavaş (1982a) does, one should also be willing to accept the idea that the necessitative, imperative and conditional in (31) are also future tense markers as well as mood markers. To the best of my knowledge, however, no study has claimed tense status for any mood marker other than *-Ar*. Note also that we saw in §1.5 and §1.6 that modals can refer to future as part of their modal meaning due to Enç's (1996) forward-shifting algorithm or Condoravdi's (2002) temporality argument [(t,_). Citing the grammaticality of modals with future adverbs, Uzun (1998) argues that the temporal adverb is allowed by modality in (30) and (31a,b,c). The future reference of *-yor*, on the other hand, cannot be accounted for with modality since *-yor* is only an aspect marker and the mood of the sentence is indicative in Uzun's model, as shown by -ø (cf. (29a,b)). Uzun (1998) assumes that the

non-past tense marked by -ø is the category that allows the future temporal adverb since non-past includes futurity, as in (32). We can conclude from this assumption that in Uzun's model, temporal adverbs can appear in a sentence as long as there is a category that doesn't specifically exclude the temporal features of the adverb (also see §7.3).[31]

(32) Ali yarın ev-e gel -iyor -ø -ø -ø

Ali.NOM tomorrow house-DAT come-CONT-IND-NONPST-3SG

'Ali is coming home tomorrow'

(Uzun 1998: 12)

As for the issue concerning the aorist *-Ar*, if it is to be treated as a mood marker, there is more to say about it when it follows the possibility marker *-Abil* in slot 3 since *-Ar* is argued to show possibility and future by Yavaş (1982) and possibility without any tense specification by Uzun (1998). It seems that the aorist acts as a purely functional suffix without any semantic contribution when it follows another possibility marker as seen in (33a,b,c,d) (Tosun 1998). As is evident from the identical translations of (33b,c) and the ungrammaticality of (33a), *-Ar* simply renders the sentence finite when it follows the possibility marker.

(33) a.*Köşe-den her an araba çık -abil -ø

corner-ABL any time car come.out-POSS-3SG

b. Köşe-den araba çık -ar -ø

corner-ABL car come.out-AOR-3SG

'A car may come around the corner'

c. Köşe-den her an araba çık -abil -ir -ø

corner-ABL any time car come.out-POSS-AOR-3SG

'A car may come around the corner'

[31] Note that from this point of view, non-past tense could also be the category that allows the future temporal adverbs in modally quantified sentences since tense is also non-past in (31a,b,c).

d. Köşe-den her an araba çık -abil -iyor -ø

corner-ABL any time car come.out-POSS-PROG-3SG

'A car may sometimes come around the corner suddenly'

This may be due to the fact that categorical identity of *-Abil* and *-Ar* renders one or the other redundant. That is, *-Ar* is categorically identical with the preceding suffix and repetition of the categories neutralizes *-Ar*. Hence in the string possibility-aorist, the aorist forms a dual contrast with the progressive marker and shows simple possibility which may come true any time in non-past tense while progressive shows that the speaker considers himself in the middle of the occurrences of possible events (33d).[32] [33] That is, when combined with the possibility marker, *-yor* shows that the speaker bases the prediction on their past experience. Speakers tend to utter (33d) when they are familiar with that specific corner and have witnessed such an event at least a couple of times, specifically so if they are a resident of that neighbourhood. But it is appropriate to utter (33b) or (33c) if the speaker is merely expressing a prediction. In other words, (33b) and (33c) are more appropriate when the speaker doesn't have any specific experience with the corner in question, but probably they are a relatively more experienced driver than the person driving the car at that moment. This suggests that the aorist, in Turkish, is the default suffix which comes into play for finiteness when mood and aspect are carried by some other suffix or suffixes (Tosun 1998). This idea becomes particularly interesting when one compares (33a) to (33b). It seems that the sentence cannot be finite without the aorist *-Ar* and once the aorist is suffixed it is in a contrast with *-yor*.

4.6 Summary

In this chapter, we saw that the multifunctional approach and the monofunctional approach differ in their fundamental assumptions regarding the organization of the functional categories and the morphological classification of Turkish. Briefly, the

[32] Note that *-Ar* and *-yor* are the only suffixes that can follow the possibility marker *-Abil* in slot 3. The other suffixes force the ability reading of the form *-Abil*, which is actually a different suffix in slot 1 (cf. §3.2.1).

[33] I will argue in §8.3 that from a theoretical point of view the contrast is actually between the presence and absence of *-yor* since syntactically the aorist *-Ar* is invisible in this context. It only appears for morphological reasons.

multifunctional approach assumes that the TAM categories can be marked collectively by a single morphological form, and Turkish is typologically closer to inflecting languages than usually assumed. On the other hand, the monofunctional approach argues that there is a way to account for this ostensible irregularity in the functional structure of Turkish that is otherwise quite regular. Turkish uses phonetically invisible morphemes that complete the paradigm. The two approaches also differ in their assumptions regarding the categories of the morphemes and their interaction with temporal adverbs. Starting with the aorist *-Ar*, under the multifunctional approach *-Ar* is three way ambiguous. It may show repetitive aspect or willingness mood in present tense and prediction in the future tense where future tense function is supported by co-occurrence with future adverbs. But Uzun (1998) argues that repetition is the interpretation of the sentence due to the context or the adverb, but it is not part of the meaning of the aorist. Also, co-occurrence with future adverbs does not necessarily show that the tense is future since all modals allow future adverbs. Therefore, *-Ar* is a subjunctive mood marker that describes the event as a possibility. *-AcAk* is the future tense marker in the multifunctional approach since it can co-occur with future adverbs. But Uzun (1998) proposes the same counter-argument for the same reason. He argues that *-AcAk* is another subjunctive mood marker that allows future adverbs with a slightly different meaning, i.e. it shows the expectation of the speaker rather than the possibility of the event. Finally, *-yor* is the imperfective aspect marker in present tense in the multifunctional approach while Uzun (1998) argues that it is only an aspect marker. Also the tense of the sentence bearing *-Ar*, *-yor* and *-AcAk* is non-past shown by the zero marker -ø.

CHAPTER 5

Representation of Tense/Aspect/Mood in Turkish

(Past Reference)

5.1 Introduction

This chapter deals with past reference in Turkish from the perspectives of the monofunctional approach and the multifunctional approach. §5.2 discusses the present perfect and perfective past ambiguity of *-mIş* and *-DI* defended by the multifunctional approach. We will see that the main argument of the multifunctional approach for the past tense function is the co-occurrence with past temporal adverbials. §5.3 outlines the alternative analysis of the monofunctional approach where *-mIş* is analysed as the evidential marker and *-DI* as the perfect aspect marker. The tense in the sentences where *-mIş* and *-DI* appear without any further suffixation is non-past shown by the zero marker. §5.4.1 discusses the relationship between temporal adverbials and the TAM markers in Turkish. Specifically, I present evidence that past temporal adverbials are not reliable tools for tense features since German, French and Australian English shift the time of R_2 in present perfect, which allows these languages to have past temporal adverbials that co-occur with present perfect. Given the lack of morphological distinction between past tense and present perfect in slot 4 and Uzun's (1998) counter-arguments in addition to the type of perfect in German, French Australian English, I conclude that the discussion is inconclusive at this point. Finally, in §5.4.2 I show that *-mIş* and *-DI* can shift the time of R_2 leading to past-in-past interpretation or only shift the time of E leading to pluperfect when they are embedded under the true tense marker *-(I)DI*. This reinforces the possibility that *-mIş* and *-DI* are actually markers of German/French type present perfect.

5.2 *-DI* and *-mIş* under the Multifunctional Approach

-DI is a widely discussed and well described suffix in Turkish. However, there is also a great deal of confusion and disagreement on its function and category. Lewis (1967),

Kornfilt (1997) and Sezer (2001) claim that it may mark perfective past tense or present perfect, i.e. it is ambiguous between the two, while Underhill (1976) and Yavaş (1980) argue that it unambiguously shows past tense. Taylan (1996), on the other hand, argues that *-DI* primarily shows perfective aspect and inherently represents past tense due to the notion of completion in the perfective aspect. Göksel and Kerslake (2005) state that both past tense and perfective aspect are represented by *-DI*.

Let us start with the past tense function of this suffix. There is a very long tradition of treating *-DI* as the past tense marker in Turkish. Lewis (1967) claims that *-DI* corresponds to the perfective past tense of English (simple past). This argument is supported by Yavaş (1980: 8), Kornfilt (1997: 337), Underhill (1976: 48), and Göksel and Kerslake (2005: 285) on the grounds that the sentences bearing *-DI* can collocate with a deictic past adverbial as shown in (1), and disallow a deictic future adverbial, as in (2).

(1) Hasan dün opera-ya git-ti -ø

Hasan.NOM yesterday opera-DAT go-PST-3SG

'Hasan went to the opera yesterday'

(Kornfilt 1997: 337)

(2)*Hasan yarın opera-ya git-ti -ø

Hasan.NOM tomorrow opera-DAT go-PST-3SG

'*Hasan went to the opera tomorrow'

Göksel and Kerslake (2005) write "[t]hese suffixes [*-DI* and *-mIş*] express both past tense and perfective aspect […], that is to say they express past events that are viewed as a completed whole." Recall that we analysed perfective past in §1.4 as the aspectuo-temporal situation where the two reference points coincide with the event and they precede the point of speech. The coincidence relation between the event and the reference points is the reason why the sentence is interpreted as a completed whole, i.e. perfective, but not as a span, i.e. imperfective. Therefore, I take the argument in (1) to claim that *-DI*

shows the precedence relation between the reference points and the speech point as well as the coincidence relation between the event and the reference points.[34]

Tense, however, closely interacts with aspect and *-DI* has also been identified with present perfect tense in addition to its perfective past tense function. For example, Kornfilt (1997: 349) argues that *-DI* shows present perfect in sentences such as (3).

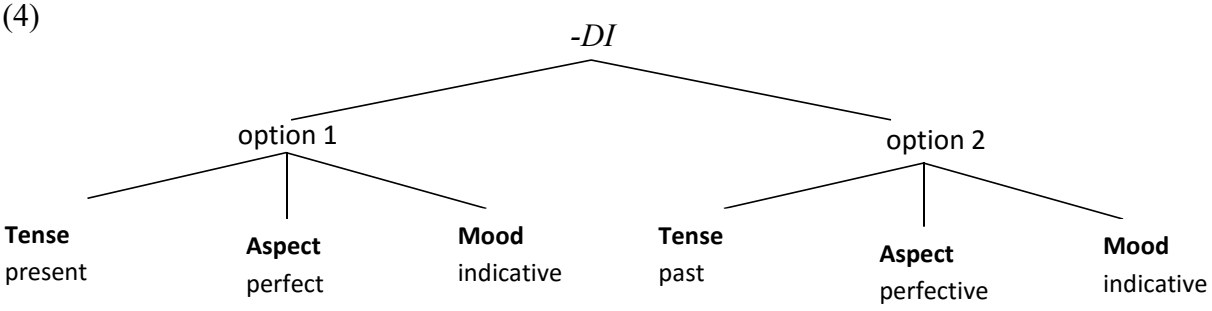
(3) Araba-m-ı kırmızı-ya boya-dı -m
car-1SG.PSV-ACC red-DAT paint-PRST.PFC-1SG
'I have painted my car red'

In (3), *-DI* represents the perfect aspect as well as present tense and the sentence shows the present state of the car due to an event before the reference point, namely now. Therefore, I take the multifunctional approach to argue the following: *-DI* is two way ambiguous. In option 1, it shows present tense, perfect aspect and indicative mood (3). Therefore, it is multifunctional.[35] In option 2, it shows past tense, perfective aspect and indicative mood (1), also multifunctional. Therefore, (4) is the schematic representation of the uses of *-DI*.

[34] However, note that the theoretical problem with temporal adverbials remains. Co-occurrence with past deictic adverbials does not necessarily indicate that the tense of the sentence is past since German and French present perfect also allow past temporal adverbials (see §1.3.3). I will come back to this in §.5.4.1.

[35] Again, this will change slightly when we start discussing the TAM morphemes in the framework of Universal Grammar. Since present tense and indicative mood are argued to occur in the absence of any marking, *-DI* does not have to be treated as multifunctional in (3) and in option 1 (cf. §7.2), but it *is* multi-functional in (1) and in option 2 regardless of the theoretical approach one takes.

(4)



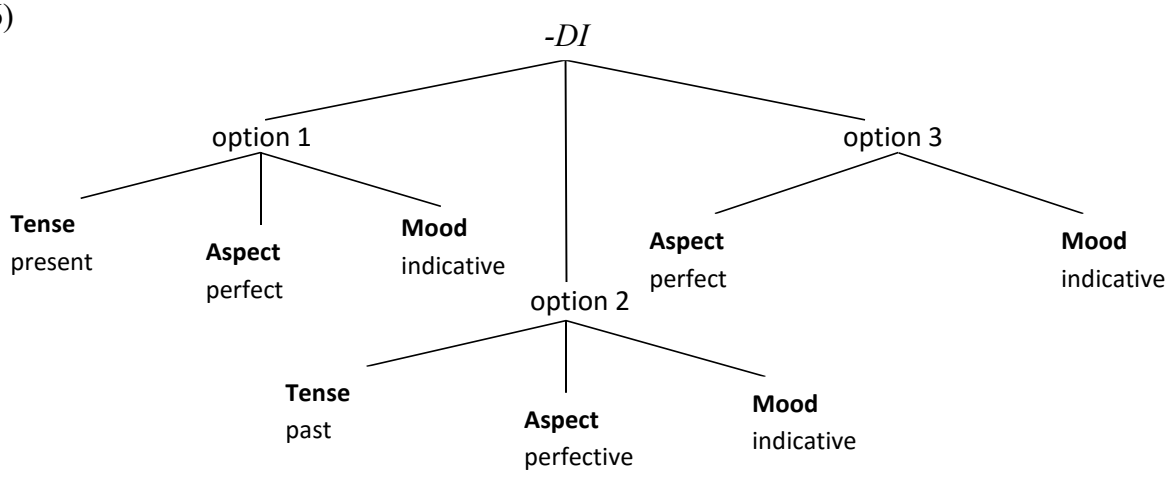
The ambiguity of *-DI* between present perfect and perfective past resembles present perfect/perfective past union in European languages (cf. §1.3.3). It can be argued that the perfective past function in option 2 is the result of a contamination of the present perfect function of the suffix in option 1.

Finally, there is an environment in which *-DI* behaves differently. In addition to the theoretical possibility discussed in footnote 34 that *-DI* might be the perfect aspect marker without tense and mood, there is an empirical argument that suggests *-DI* may not show tense in a specific environment. When slot 5 is filled with the genuine tense marker *-(I)DI*, *-DI* gives up the tense function and only shows perfect aspect (Taylan 1996, Uzun 1998). Taylan (1996: 164) states that Tense/Aspect/Mood are represented by *-DI* in the absence of *-(I)DI* while the function of expressing tense is carried out by this suffix when it is available. (5) is an example of this function changing.

(5) Ayşe çık -tı -ydı -ø
Ayşe.NOM leave-PFC-PST-3SG
'Ayşe had left'

Therefore, we are forced to argue for the third option in the ambiguity of *-DI*, as in (6). This option is empirically supported by (5) and leaves open a possibility for a theoretical approach where present tense is the corollary of lack of any morphological marking in (3). If this proves defensible, then option 3 in (6) will replace option 1 and revert the scheme to two-way ambiguity. Note that if option 3 replaces option 1, it is still possible to create option 2 since sentences such as (3) are still interpreted as present even though tense is not part of the specifications of the suffix.

(6)



Turning next to the treatment of *-mIş*, there are various names, functions and categories attributed to this suffix. Starting with the basics, *-mIş* is known to have been used as a participial suffix marking perfect aspect (Lewis 1967, Tekin 1997, Erdal 2004), where perfect is defined as the description of the present state due to a prior event (Jespersen 1924:269, Comrie 1976: 110). But analysing *-mIş* as the present perfect marker would lead to identical classification with *-DI* in (3). The difference lies in their mood specification. *-mIş* encodes evidentiality in Turkish. So in (7), for example, the speaker describes the present state of the glass, and the event of breaking precedes the point of speech. One might utter (7) with *-mIş* rather than (8) with *-DI* upon entering the kitchen to serve a guest a glass of water to find out that the one picked up first is broken. In this case, the speaker focuses on the present state of the glass, but the appropriate TAM marker is *-mIş* since the speaker didn't witness the event. Therefore, (7) can be translated to English as either an event or as a description of the present state since the speaker emphasizes that they didn't witness the event, but (8) has only event interpretation.

(7) Bu bardak çatla-**mış**, ben san-a başka bardak ver-e-yim
this glass.NOM crack-PRST.PFC.EVID I.NOM you-DAT another glass give-OPT-1SG
'This glass has/is cracked. I will give you another glass'

(8) Bu bardak çatla-**dı**, ben san-a başka bardak ver-e-yim
this glass.NOM crack-PRST.PFC.INDC I.NOM you-DAT another glass give-OPT-1SG
'This glass has cracked. I will give you another glass'

It is often argued that *-mIş* also shows past tense in a manner similar to *-DI* where the difference between the two is, again, the mood specification they carry. Lewis (1967), Underhill (1976) and Slobin and Aksu-Koç (1982) merge the tense and mood functions of *-mIş* and refer to it as *inferential past, narrative past* and *past of indirect experience*, respectively, a clear indication of multifunctionality. Therefore *-mIş* is both multifunctional and ambiguous between two options. Let us now examine the tense and mood functions of *-mIş* and compare them to those of *-DI* before we draw the chart that shows the ambiguity of *-mIş* and its functions in each option.

-mIş in Turkish is said to be the inferential past tense marker in addition to perfect aspect (Lewis 1967, Underhill 1976, Slobin and Aksu-Koç 1982). This is mostly due to the fact that it allows an adverbial referring to past time, as in (9a).

(9) a. Cenk dün gece ev-e gel -miş -ø

Cenk.NOM yesterday night house-DAT come-PST.PFV.EVID-3SG

'It seems that Cenk came home last night'

b. Cenk dün gece ev-e gel -di -ø

Cenk.NOM yesterday night house-DAT come-PST.PFV.INDC-3SG

'Cenk came home last night'

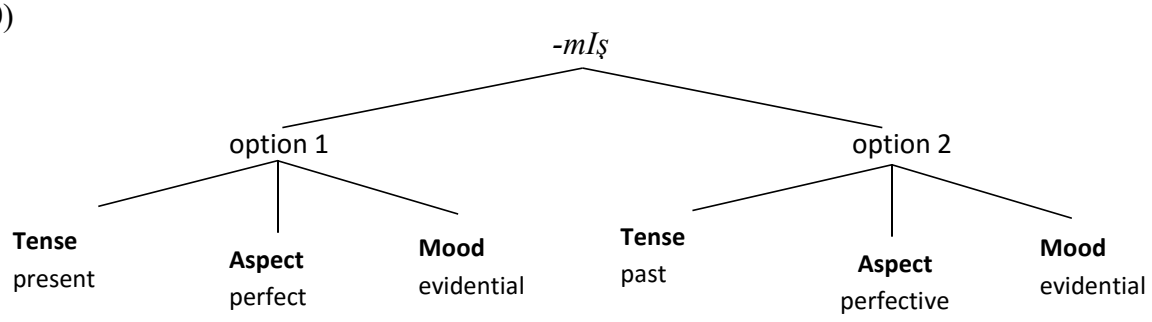
However, the minimal pairs in (9) lead to a distinction in past tense. (9b) is in indicative mood while (9a) is said to mark *inferential* (Lewis 1967), *indirect experience* (Slobin and Aksu-Koç 1982) or *evidential* (Aksu-Koç 1988) mood in past.[36] What follows is a summary of the semantic and pragmatic distinction between (9a) and (9b) one would find in the Turkish linguistic literature. In (9b), the speaker personally witnesses Cenk

[36] Underhill (1976) stands alone in treating *-mIş* as the modally unmarked past tense in Turkish since for Underhill it is the speaker's claim of having personally witnessed the event, carried by *-DI*, that requires modality. Remaining neutral towards the truth of the proposition should not require any additional semantic or syntactic marking. Underhill adds that "[…] it is a more serious mistake to use the definite past [*-DI*] when you did not witness the action than to use the narrative past [*-mIş*] when you did witness it". Personally, however, I find both mistakes equally critical. Hence I will follow the mainstream distinction in the literature in treating *-mIş* as the modally quantified suffix of the two.

coming home and commits himself to the truth of the proposition. The speaker does not have to actually see the event. He, for example, may hear him walking up the stairs and utter (9b). What is required for the speaker to utter (9b) is perception of the event while it is taking place. Hence *-DI* is usually referred to as the definite past (Underhill 1976, Yavaş 1980 etc.), which I take as the indicative mood associated with *-DI*. In (9a), however, the speaker does not witness Cenk coming home, but finds it out later. There may be various ways and various contexts for this, which lead to different names for *-mIş*. Firstly, the speaker does not see Cenk coming home but learns it from someone and utters (9a) to report it to a third party. In this case, *-mIş* is referred to as the hearsay marker. Secondly, if the speaker is Cenk's flatmate and finds his coat on the hanger as they walk in, they may regard the coat as the evidence that Cenk came home last night and utter (9a). This context leads to the term *evidential* for *-mIş*. Finally, the speaker may base their proposition on any kind of sensory evidence and make an inference about a past event. For example, the speaker may smell Cenk's perfume upon waking up and utter (9a) about last night. This is called the inferential function of *-mIş* (Yavaş 1980, Slobin and Aksu-Koç 1982). Note that the descriptions of these functions are quite similar to each other and they are used interchangeably.

So far, *-mIş* is ambigious between two options and multifunctional in either one. In the first option, it shows perfect aspect, present tense and evidential mood while in the second it shows past tense, perfective aspect and evidential mood. That is, the sentence is interpreted as the description of the present state when it is not modified by a temporal adverbial, the present perfect interpretation in (7). But it switches to evidential past tense when it is modified by a past adverbial, such as *last night* in (9a). Therefore, (10) is the representation of the two options of *-mIş* discussed so far.

(10)



But *-mIş* collocates with the genuine past tense marker in slot 5 and the future marker *-AcAk* with the help of the auxiliary verb *ol-* and quits the tense function in these environments (see §3.2.2 on the use of *ol-*). Yavaş (1980) argues that *-mIş* shows only aspect in this environment, for instance (11).

(11) a. Mary ev-e gel-di-ğ-in-de John git-miş -ti -ø

Mary.NOM house-DAT come-PAST-COMP-3SG-LOC John.NOM go-PFC-PST-3SG

'John had left when Mary came home'

b. Hafta-ya John tez-i-ni bitir-miş ol-acak-ø

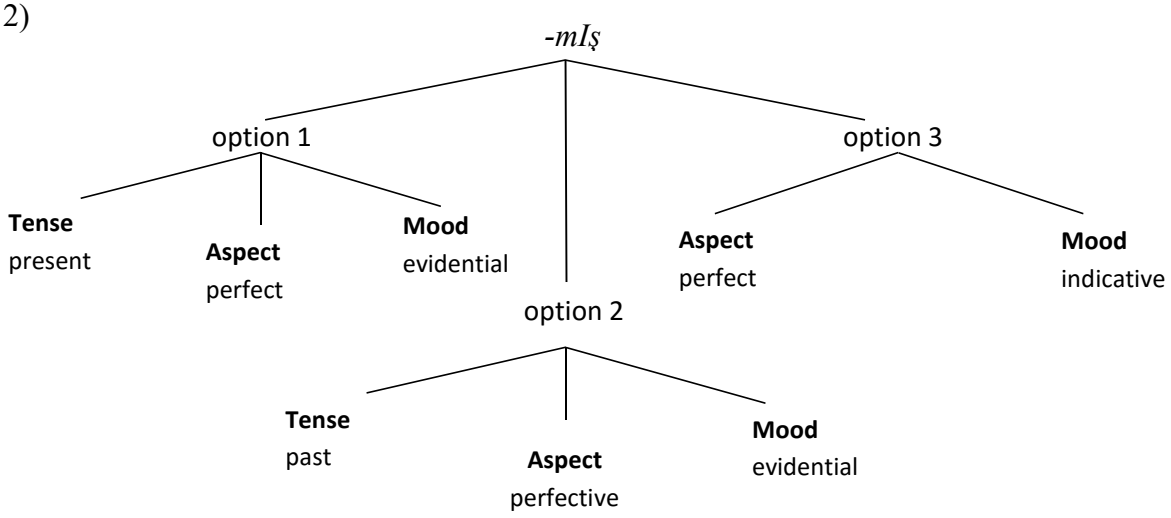
week-DAT John.NOM thesis-3SG.POSS-ACC finish-PFC be-FUT-3SG

'John will have finished his thesis by next week'

(Yavaş 1980: 52)

Note that this is similar to the function switching of *-DI* discussed above. Therefore, it seems reasonable to analyse *-mIş* in a way similar to *-DI* and assume that *-mIş* has an option in its ambiguity in which given the right environment it quits its tense function and shows perfect aspect. On the other hand, whether *-mIş* shows mood in this environment and whether it is evidential or indicative is debatable. Yavaş (1980) argues that *-mIş* does not have evidential function in this environment since evidentiality is the description of a state due to an event the speaker didn't witness. Therefore, the ambiguity and the functions of *-mIş* should look like (12) in the multifunctional approach. We will come back to the modal function of *-mIş* in option 3 when we are discussing Uzun's (1998) monofunctional approach.

(12)



5.3 *-DI* and *-mIş* under the Monofunctional Approach

There is a conceptual counter-argument to the multifunctional approach. Uzun (1998) argues that the confusion in the Turkish syntactic literature is that tense, mood and aspect are classified semantically but the verbal suffixes are classified morphologically. Specifically speaking, Comrie's description of aspect as "[...] different ways of viewing the internal temporal constituency of a situation" (Comrie 1976: 3) is a clear indication of the semantic view of aspect. This means tense, mood and aspect specifications, i.e. past/present/future, subjunctive/indicative and progressive/perfect/perfective, are described independently and a search starts for their markers on the verb. Kornfilt (1997) seems to resolve the confusion in her treatment of tense and aspect. She acknowledges that "[...] Turkish has verbal forms with perfective meaning. Whether it has perfective aspect, i.e. forms that consistently and exclusively have perfective meaning, is debatable. The form that comes closest is the definite simple past suffix *-DI*" (Kornfilt 1997: 355).

Considering the arguments of the multifunctional approach, it seems that there are more TAM categories in language, i.e. perfective, perfect, past, present, subjunctive etc., than there are verbal suffixes in Turkish, which results in condensing them in a single morph. There are two ways around this problem. We can argue that semantic categories are expressed with the linguistic form that readily represents the semantic category closest to them. This would leave us with the question of how that specific form, a suffix in this case, is matched to the semantic category it readily expresses. If, for example, perfective aspect is to be expressed by a suffix, the speaker has to find the category that is

semantically closest to it and link perfective to the suffix that represents this category, past tense in this case. The problem, however, is that nothing stops us from saying that the speaker has to do the same for past tense and find a linguistic form to represent it. The picture of the categories and the linguistic forms, then, would look like several semantic categories asking each other which linguistic form they use for expression. We need an articulate description of the clusters of semantic categories across tense, aspect and mood, which the Turkish syntactic literature seems to lack.

As for the second way around the problem of insufficient number of morphs in Turkish, Uzun (1998) would argue that the problem should actually be phrased as what follows. It seems that there are more TAM categories in language than there are *visible* verbal suffixes in Turkish. Uzun (1998) presents the monofunctional approach for the verbal morphology of Turkish. Regarding *-DI,* he disagrees with Yavaş (1980) and Taylan (1996) that *-DI* shows past tense in (13). According to Uzun (1998), Yavaş (1980) and Taylan (1996) acknowledge that Turkish already has a suffix that exclusively shows past tense, *-(I)DI* in slot 5. However, in the multifunctional approach *-DI* carries tense in, for example, (13) where *-(I)DI* is not available. But tense is carried by *-(I)DI* in (14).

(13) Hasan dün opera-ya git-ti -ø

Hasan.NOM yesterday opera-DAT go-PST-3SG

'Hasan went to the opera yesterday'

(14) Hasan daha önce de opera-ya git-ti -ydi-ø

Hasan.NOM before that too opera-DAT go-PFC-PST-3SG

'Hasan went to the opera before that, too'

Uzun (1998) finds this morphological conditioning of the semantics of suffixes 'interesting' in that *-DI* opts to carry or not to carry the tense of the sentence by checking the availability of the suffix *-(I)DI* in slot 5 and alternating between option 2 and option 3 in (6). Furthermore, he asks "[...] why should Turkish give the function of tense expression to a suffix of aspect while it already has an individual suffix for this category?"

He offers an alternative analysis of the sentences where *-DI* is the only visible TAM suffix on the verb and claims that it doesn't show tense, past or present. More precisely, Uzun (1998) argues that such sentences are always in present tense and perfect aspect where perfect aspect is exclusively represented by *-DI*, and present tense and indicative mood are represented by two zero morphemes -ø for each. (15) is Uzun's (1998) analysis of *-DI* in Turkish.

(15) Dün o dağ-a tırman-dı -ø -ø -m

yesterday that mountain-DAT climb -PFC-IND-PRST-1SG

'I climbed that mountain yesterday'

As seen in (15), Uzun argues that *-DI* is the (perfective) perfect aspect marker even though the sentence is modified by a past adverbial. Counter-intuitive as it may appear, Uzun (1998) addresses and resolves this issue by arguing that temporal adverbials do not have to match with the tense of the sentence, rather they can be allowed by any category that is not incompatible with them. But I will delay the discussion to §5.4 where I expose Uzun's (1998) conception of adverbials for both *-DI* and *-mIş*.

Let us now discuss *-mIş* in Uzun's (1998) monofunctional approach. Uzun (1998) argues that *-mIş* is ambiguous but monofunctional in the environments it may appear. It shows evidential mood when it is the only TAM marker, but due to contamination from the perfect marker *-DI* it assumes perfect aspect function when the slot 5 suffix *-(I)DI* is suffixed. Let us start with the simpler structure where it is the pure evidential marker. Recall from §4.4 that Uzun (1998) initially classifies mood markers as [+]subjunctive and [-]subjunctive. In order to give a formal account of the data, Uzun (1998) later adds [±]evidential feature specification to his mood paradigm. Consider the paradigm in (16).

(16) *Uzun's chart of mood markers in Turkish (version 2)*

+subjunctive -evidential	-subjunctive -evidential	-subjunctive +evidential
-mAlI (necessitative)		
-Ar (prediction)		
-AcAk (expectation)	-ø (indicative)	*-mIş* (evidential)
-sA (conditional)		

Evidential *-mIş* is similar to indicative -ø since both are [-]subjunctive. Hence in a purely arbitrary manner, it can be argued that the initial distinction is between subjunctive mood markers on the one hand (left column in (16)) and the non-subjunctive mood markers on the other (the middle and right column in (16)). The non-subjunctive mood markers, indicative and evidential, are further distinguished by evidentiality. The indicative mood marker -ø is [-]evidential while *-mIş* is [+]evidential. Hence (17a,b) shows the analysis of *-mIş* and *-DI* in Uzun's view.

(17) a. Cenk dün gece ev-e gel -ø -miş -ø -ø

Cenk.NOM yesterday night house-DAT come-ASP-MOOD-TNS-3SG

'It seems that Cenk came home last night'

-continuous -subjunctive -past

-perfective +evidential

b. Cenk dün gece ev-e gel -di -ø -ø -ø

Cenk.NOM yesterday night house-DAT come-ASP-MOOD-TNS-3SG

'Cenk came home last night'

-continuous -subjunctive -past

+perfect -evidential

(indicative)

In (17a), tense and aspect are represented by zero suffixes (see §4.4 for the zero representation of tense and aspect). Hence the morphological structure of the sentences where *-mIş* is the only TAM marker is the same as the sentences where the subjunctive mood markers *-Ar* and *-AcAk* are the only TAM marker (see §4.4) since Uzun (1998) considers them as mood markers with different values.

(17b) is intended to show Uzun's (1998) view of the difference between the modality of *-DI* and *-mIş*. Comparison of (17a) and (17b) shows that *-DI* is the perfect aspect marker in (17b) while aspect is represented by -ø in (17a), which is neither perfect nor continuous, rather the elsewhere aspect. Hence in Uzun's view, TAM categories are available in all main clauses (Uzun 1998, 2000, 2004). Aspect, for example, may be overtly marked and positively valued as in (17b) or represented by a phonetically null zero marker and negatively valued as in (17a). As for mood, (17b) is uttered to inform the hearer, so it carries the indicative mood expressed negatively by -ø and valued as [-]subjunctive and [-]evidential. In (17a), on the other hand, mood, namely evidential mood, is positively expressed by *-mIş*.

As for the more complicated structure where *-mIş* appears under the slot 5 suffix *-(I)DI*, since Uzun (1998) analyses *-mIş* as a pure mood marker it has to retain its function in any environment. This, however, contradicts Yavaş's (1980) observation in (11a,b) in §5.2 that *-mIş* only marks perfect aspect under *-(I)DI*. As a matter of fact, Uzun (1998) argues that*-mIş* is ambiguous under *-(I)DI*. He initially acknowledges that *-mIş* is interpreted as the perfect aspect marker in such sentences as (18) where it is further suffixed with *-(I)DI*.

(18) Geçen yıl Amerika'ya git-miş-ti -m

Last year United States-DAT go-PFC-PST-1SG

'Last year I went to the USA'

(Uzun 1998)

Note that (18) is parallel to Yavaş's (1980) example in (11a) in §5.2 regarding the perfect aspect function of *-mIş* under *-(I)DI*. Uzun adds, however, that there are sentence where *-mIş* allows evidential interpretation in the past tense, contra to Yavaş (1980). (19), for example, is ambiguous between an evidential and perfect reading for *-mIş*.

(19) Ali geçen yıl Amerika'ya git-miş -ti -ø

Ali.NOM last year United States-DAT go-EVID/PFC-PST-3SG

'Last year, Ali had gone to USA'

According to Uzun (1998), the speaker may have overheard the talk of Ali's going to USA after he left or have personally witnessed his departure in (19). In the former reading *-mIş* is a mood marker while it is the perfect aspect marker in the latter. Uzun suggests using a follow-up sentence to specify the context. The sentences in (20a,b) specify the contexts for the different functions of *-mIş*.

(20) a. Ali geçen yıl Amerika'ya **git-miş -ti -ø**

Ali.NOM last year United States-DAT **go-EVID-PST-3SG**

Bunu ilk duyduğumda çıldıracak gibi olmuştum

when I first heard it, it drove me mad

'Last year, Ali had gone to America. It drove me mad, when I first heard it'

b. Ali geçen yıl Amerika'ya **git-miş -ti -ø**

Ali.NOM last year United States-DAT **go-PFC-PST-3SG**

Onu yolcu ederken ne kadar üzülmüştüm

I was so sad while seeing him off

'Last year, Ali had gone America. I was so sad while seeing him off'

(Uzun 1998:15)

Uzun (1998) accounts for the aspectual function of *-mIş* in (20b) by suggesting 'contamination' from the perfect aspect marker *-DI* in slot 4. The reason for the

contamination to occur is that when *-DI* is followed by *-(I)DI* in slot 5, the speaker resorts to a phonetic constraint against the sequence /dıydı/.[37] Hence *-mIş* assumes aspect function, and the speaker gets around this constraint by using the string *-mIş-IDI*. Uzun (1998) shows the parallel interpretations of (20b) and (21) below as the evidence that *-mIş* in the *-mIş-IDI* string assumes an aspectual function via contamination. As a matter of fact, it is true that (20b) and (21) have parallel interpretations and the string *-DI-IDI* is being slowly replaced by the string *-mIş-IDI*.

(21) Ali geçen yıl Amerika'ya git-ti -ydi -ø

Ali.NOM last year United States-DAT go-PFC-PST-3SG

'Ali had gone America last year'

5.4 Temporal Adverbials and Past Reference in Turkish

5.4.1 *-mIş, -DI and temporal adverbials*

The multifunctional approach assumes that *-DI* and*-mIş* are past tense markers on the grounds that they co-occur with deictic past temporal adverbials, as repeated below in (22) where the difference lies in their modal feature.

[37] Known as the *stuttering prohibition*, this was originally proposed by Kornfilt (1986) for repeating agreement markers in Turkish. A noun complementing another noun requires an agreement marker (i), which is phonetically identical to the 3rd person possessive marker (ii). Therefore, when such a complementation occurs in a possessive construction it requires two agreement markers (iii). But only one is realized (iv).

(i) Müzik kutu-su

music box-AGR

'Music box'

(ii) Ayşe'nin kutu-su

Ayşe-GEN box-3SG.POSS

'Ayşe's box'

(iii)*Ayşe'nin müzik kutu-su-su

Ayşe-GEN music box-AGR-3SG.POSS

Int. Ayşe's music box

(iv) Ayşe'nin müzik kutu-su

Ayşe-GEN music box-3SGPOSS

'Ayşe's music box'

(22) a. Cenk dün gece ev-e gel **-miş** -ø

Cenk.NOM yesterday night house-DAT come-**PST.EVID**-3SG

'It seems that Cenk came home last night'

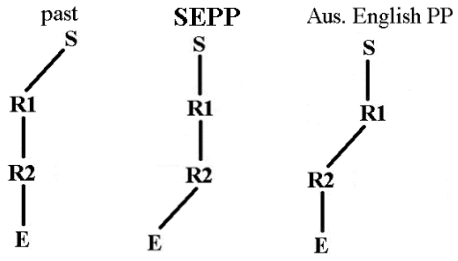
b. Cenk dün gece ev-e gel **-di** -ø

Cenk.NOM yesterday night house-DAT come-**PST.IND**-3SG

'Cenk came home last night'

Although this seems to be a reasonable assumption when we consider the fact that only past tense allows past temporal adverbials in English, cross-linguistically this doesn't seem tenable. For one thing, we saw in §1.3.3 that past temporal adverbials can co-occur with present perfect in German, French and Australian English since R_2 precedes S and R_1, coinciding with the event. (23a) and (23b) are the formal representations of past tense and present perfect in Standard English while (23c) is the present perfect which Ritz (2010) offers for Australian English, an analysis inspired by Vikner's (1985) tense model.

(23) a. b. c.



In the multifunctional approach *-DI* and*-mIş* are argued to be morphologically ambiguous forms between perfective past and present perfect (see §5.2). This raises the theoretical possibility that (22a,b) have Australian English type present perfect illustrated in (23c) that allows past temporal adverbials, and due to lack of morphological distinction in Turkish, temporal adverbials don't give us any insight into the tense category. For one thing, (23c) shows that R_2 may coincide with E and precede S. This might be what allows temporal adverbials and narrative function, which both *-DI* and*-mIş* have, as seen in (24).

(24) a. Ali dün gece ev-e gel **-di**, duş al **-dı** sonra çık **-tı** -ø

Ali.NOM last night house-DAT come-PFC shower take-PFC then leave-PFC-3SG

'Last night, Ali came home, took a shower and then left'

b. Ali dün gece ev-e gel **-miş**, duş al **-mış** sonra çık **-mış**-ø

Ali.NOM last night house-DAT come-PFC shower take-PFC then leave-PFC-3SG

'Apparently, last night Ali came home, took a shower and then left'

Given the lack of morphological distinction between past and present perfect in Turkish, we can argue that the sentences in (22a,b) and (24a,b) have the type of present perfect in (23c). And when there is no past temporal adverbial or when a perfect aspect marking adverbial such as *just* and *already* modifies the sentence, it has the English type present perfect (23b), as shown in (25).

(25) Cenk (az önce) çık -tı -ø

Cenk.NOM just leave-PFC-3SG

'Cenk has just left'

This would mean that *-DI* and-*mIş* are ambiguous between German/French type present perfect which shifts the time of R_2 and E, and the English type present perfect which shifts the time of E only. On similar grounds, Uzun (1998) argues that co-occurrence with past temporal adverbials does not necessarily mean past tense. He shows that *-DI* and-*mIş* also allow collocation with non-past temporal adverbials, as shown in (26).

(26) a. Ali şimdi/şu anda ev-e gel -ø -miş -ø -ø

Ali.NOM now at the moment house-DAT come-ASP-EVID-NONPST-3SG

'Ali is said to have just come home'

b. Ali şimdi/şu anda ev-e gel -di -ø -ø -ø

Ali.NOM now at the moment house-DAT come-PFC-IND-NONPST-3SG

'Ali has just come home' (Uzun 1998: 12)

The adverbials *şimdi* 'now' and *şu anda* 'at the moment' are, strictly speaking, present tense adverbials, and in terms of function they correspond to the *just* in English which marks perfect aspect, i.e. they mark the events that precede R_2. One could argue that *-DI* and *-mIş* are ambiguous and that they show past tense with past adverbials in (22a,b) and present perfect with present adverbials in (26a,b). But Uzun (1998) shows that past temporal adverbials in (22a,b) can be accounted for even when we assume that the sentence is in present tense. He argues that temporal adverbials can be licensed by any TAM category that doesn't exclude their semantics. For example, (22a,b) should actually be analysed as (27a,b) where the past temporal adverbials are licensed by the evidential mood and perfect aspect markers. Note the difference between the multifunctional analysis in (22) and Uzun's analysis in (27). *-mIş* and *-DI* are not past tense markers. They show evidential mood and perfect aspect while the tense of the sentence is non-past shown by the zero marker -ø.

(27) a. Cenk dün gece ev-e gel -ø **-miş** **-ø** -ø
Cenk.NOM yesterday night house-DAT come-ASP-**EVID**-**NONPST**-3SG
'It seems that Cenk came home last night'

b. Cenk dün gece ev-e gel **-di** -ø **-ø** -ø
Cenk.NOM yesterday night house-DAT come-**PFC**-IND-**NONPST**-3SG
'Cenk came home last night'

Since evidential mood shows lack of sensory perception of the event as it took place, the event is assumed to have occurred before the point of speech. Also the perfect aspect is the precedence relation between the event and the reference point. Therefore, past temporal adverbials can be licensed by these categories.

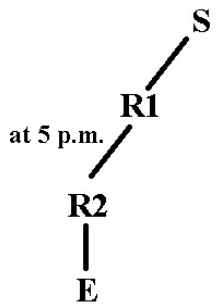
5.4.2 *-mIş and -DI under the slot5 suffix -IDI and their relationship with temporal adverbials*

We saw in §1.6 that calender-clock adverbials are ambiguous between deictic and referential function. When used in past context, they can show the time of R_2 and E as

viewed from R_1 (past-in-past in (28)) or the time of R_1 as viewed from S where E precedes R_1 and R_2 (past perfect in (29)).

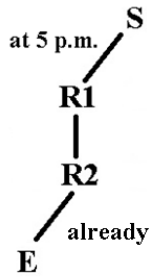
(28) A: I saw Mary in the café at 8 p.m.

B: That is impossible. She had left at 5 p.m.



(29) A: I saw Mary in the café at 5 p.m.

B: That is quite unlikely. She had (just/already) left at 5 p.m.



(28) indicates that the past perfect in English seems to be able to shift the time of R_2 to a time preceding R_1 just as we assumed for German and French present perfect in §1.4. On the other hand, (29) is parallel to the function of perfect in present perfect, i.e. it only shows the precedence relation between E and R_2.

Recall from §5.4.1 that the status of *-mIş* and *-DI* as past tense markers is disputable. In addition to Uzun's (1998) counter-arguments, it is possible that they merely shift the time of R_2 when they co-occur with past temporal adverbials, as in (23c). In other words, they have the same ambiguity as the English past perfect. Their ambiguity seems to continue when they appear under the true tense marker *-(I)DI*. They may be interpreted

as shifting R_2 to a time before R_1, or they may show the precedence relation between R_2 and E. For example, *-mIş* in (30) is ambiguous between pluperfect and past-in-past.

(30) John sekiz-de yemeğ-i-ni ye-miş-ti -ø

John.NOM eight-LOC dinner-3SG.PSV-ACC eat-PFC-PST-3SG

'John had eaten his dinner at eight o'clock'

(Yavaş 1980: 52-53)

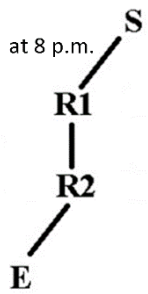
It is also possible to disambiguate (30) in favour of either interpretation. For instance, the position of the temporal adverbial interacts with the interpretation of the sentence. When positioned sentence initially, the deictically used calendar-clock adverbial shows the time of R_1 and leads to pluperfect interpretation, as in (31).

(31) a. Sekiz-de John yemeğ-i-ni ye-miş -ti -ø

eight-LOC John.NOM dinner-3SG.PSV-ACC eat-PFC-PST-3SG

'At eight o'clock, John had eaten his dinner'

b.



Use of the adverbial *çoktan* 'already' that marks the perfect aspect also forces the pluperfect reading, as in (32) which has the same interpretation as (31).

(32) Ali sekiz-de çoktan çık -mış-tı -ø

Ali.NOM eight-LOC already leave-PFC-PST-3SG

'At eight o'clock, Ali had already left'

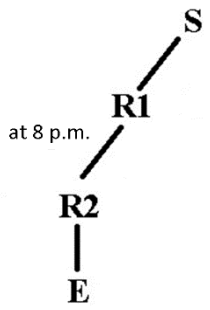
But when the calendar-clock adverbial appears in the pre-verbal position it only shows the event time and the result is past-in-past interpretation where the time of R_1 is assumed or specified in the context. Consider (33).

(33) a. John yemeğ-i-ni sekiz-de ye-miş -ti -ø

John.NOM dinner-3SG.PSV-ACC eight-LOC eat-PFC-PST-3SG

'John had eaten his dinner at eight o'clock'

b.



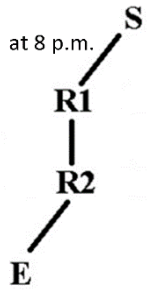
-DI also has the same ambiguity. (34) is the pluperfect interpretation of *-DI* under *-(I)DI* while (35) is the past-in-past interpretation.

(34) a. Ali sekiz-de çoktan çık -tı -ydı -ø

Ali.NOM eight-LOC already leave-PFC-PST-3SG

'At eight o'clock, Ali had already left'

b.

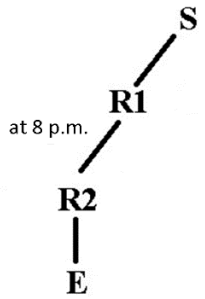


(35) a. Ali sekiz-de yemeğ-i-ni ye -di -ydi -ø

Ali.NOM eight-LOC dinner-3SG.PSV-ACC eat-PFC-PST-3SG

'Ali had eaten at eight o'clock'

b.



The deictically used calendar-clock adverbial in (34a) shows the time of R_1 which coincides with R_2, and E precedes R_1 and R_2. But in (35a) the speaker assumes a time for R_1, presumably specified in the context, and shifts the time of R_2 again where the adverbial shows the time of R_2 and E.

The data in (30)-(35) shows that *-DI* and *-mIş* can shift the time of R_2 and E or only the time of E under the tense marker *-(I)DI*. This resembles the temporal functions ascribed to Standard English present perfect and German/French present perfect in (23b,c). Note that we found the same ambiguity of these morphemes in §5.4.1 where they appeared without *-(I)DI*. Therefore, we can argue that *-DI* and *-mIş* might be ambiguous between shifting the time of R_2 (German/French type) and shifting the time of E (Standard English type) when they appear with or without *-(I)DI*, and that they might not be past tense markers where past is defined as shifting the time of R_1.

5.5 Conclusion

In this chapter, we saw two different ways of analysing the data involving past reference in Turkish. The multifunctional approach argues *-DI* and *-mIş* are both ambiguous and multifunctional. *-DI* may be the marker of present tense, perfect aspect and indicative mood as well as past tense, perfective aspect and indicative mood. *-mIş*, on the other hand, can be the marker of past tense, perfective aspect and evidential mood or the marker of present tense, perfect aspect and evidential mood. Arguing against multifunctionality and ambiguity, the monofunctional approach proposes that *-DI* only shows perfect aspect, and *-mIş* is only the marker of evidential mood. In essence, the discussion relates to the use of past temporal adverbials with these morphemes. The assumption of the multifunctional approach is that *-DI* and *-mIş* can bear the past tense feature since they can co-occur with past temporal adverbials while the monofunctional approach argues that the same data can be analysed differently where the sentences carry present tense feature and the temporal adverbials are licensed by perfect aspect and evidential mood. We also saw that there is an intermediate way, a present perfect tense that can act like perfective past. However, given the lack of morphological distinction in Turkish it is not possible at this point to determine which analysis reflects the specific feature these morphemes carry. In other words, *-DI* and *-mIş* may actually bear the past feature and shift the time of R_1 as in (23a). The cases where they show present perfect situations such as (7) and (8) might be the result of ambiguity. It is also equally possible to defend the opposite position, i.e. the specific tense feature in the sentences where *-DI* and *-mIş* appear (without *-(I)DI*) can be non-past marked by the zero marker *-ø*. Although the assumptions of both approaches seem to fit the data, they do not refute each other's arguments. For one thing, they make two assumptions at a time, i.e. the morphological assumption that present perfect and perfective past in Turkish are associated to different forms and the semantic assumption that they are associated to one or the other on the grounds that they have semantic compatibility with them.

The two different approaches detailed in chapter 4 and in this chapter to the data concerning TAM representation make different theoretical predictions. The multifunctional approach predicts that functional projections are syncretic in the IP area of Turkish while the monofunctional approach assumes that each category has its own projection in each sentences. To test and compare these predictions, we need a syntactic

tool. I will argue in chapter 8 that such a tool exists. I will suggest using the varying interpretations of a functionally empty adjunct clause. However, before we discuss the theoretical issues and apply the test we need to see briefly how adjunct clauses function in Turkish. Chapter 6 is a very brief outline of adjunct clauses, including TAM marking and clause structure.

CHAPTER 6

Embedded Clauses

In this chapter, I discuss the inflectional morphology on embedded verbs and the sentential structure of the embedded clauses in Turkish. The insights provided here will be particularly important and necessary in chapter 8 since I use in chapter 8 a specific type of embedded clause in order to ascertain the theoretical status of the TAM markers in Turkish. Specifically, non-finite adverbial clauses seem to lack certain categories and take on the values of the categories available on the main clause. However, sharing options are varied and provide insight into the structure of the TAM categories of main clauses.

I will start the classification with complement clauses and move on to adverbial clauses serving various functions and lacking some TAM values. As with main clauses, embedded clauses in Turkish mark the inflectional categories they bear as suffixes on the verb. Apart from the two well-known cases, they are nominal in nature, as can be observed from the agreement paradigm they bear and the case marking on the complement clauses (George and Kornfilt 1981). Again, the majority of them lack tense, aspect and mood markers. Let us start with the ones that show main clause features, i.e. the ones that have TAM markers and choose from the verbal agreement paradigms outlined in §3.2.2.

(1) a. Bil-iyor-sun ki [biz dün bütün gün çalış -tı -k]
know-IMPFV-2SG COMP we.NOM yesterday all day work-PST-1SG
(k-paradigm)

'You know that we worked all day yesterday'

b. [Sen dün okul-a git-me-miş-sin] diye duyu-yor -uz

you.NOM yesterday school-DAT go-NEG-PST-2SG COMP hear-IMPFV-1PL

(z-paradigm)

'We are hearing that you didn't go to school yesterday'

Note the different tenses of the embedded clauses and the main clauses in (1a,b). Besides, both the embedded clauses and the main clauses bear verbal agreement suffixes. The clauses in (1a,b) are, however, in the minority compared to the embedded clauses that have nominal characteristics. The majority of the embedded clauses in Turkish are non-finite and their predicates are referred to as *converb* and *gerund* (Johanson 1988, 1995; Slobin 1995 etc.) For example, gerundive complement clauses look exactly like a possessive noun phrase. As seen in (2a,b), the subject carries genitive case both in possessive noun phrases and nominalised embedded clauses. Furthermore, agreement marker for third person singular is the nominal *-sI*, unlike the main clause agreement marker -ø. Finally, nominalised complement clauses in Turkish carry the appropriate case assigned by the main verb (cf. (2a)).

(2) a. [Ayşe-**nin** bizim-le gel -me **-si**] -ni iste -mi -yor -um

Ayşe-GEN us-COM come-GER-3SG-ACC want-NEG-IMPFV-1SG

'I don't want Ayşe to come with us'

b. Ayşe-**nin** araba-**sı**

Ayşe-GEN car -3SG

'Ayşe's car'

Factive complement clauses, on the other hand, bear suffixes similar to the past tense suffix *-DI* and the future marker *-AcAk*. These suffixes can, however, hardly be seen as tense markers since their time denotation is not solely dependent on the time of speech (Yavaş 1980). Note the sentences in (3).

(3) a. Ben [sen-in kitap oku-duğ-un]-u bil -iyor -du -um

I.NOM you-GEN book read-NOM-2SG-ACC know-IMPFV-PST-1SG

1 'I knew you used to read books'

2 'I knew you had read books'

3 'I knew you were reading a book'

b. Ben [sen-in onun-la evlen-eceğ-in]-i düşün-mü-yor -du -m

I.NOM you-GEN him-COM marry-NOM-2SG-ACC think -NEG-IMPFV-PST-1SG

ama evlen-di-n / ama yarın evlen-iyor-sun

but marry-PST-2SG but tomorrow marry-IMPFV-2SG

'I never thought you would marry him, but you did/ you are marrying (him) tomorrow'

Yavaş (1980) argues that the distinction between *-DIK* and *-AcAk* in embedded clauses is that *-AcAk* shows posteriority while *-DIK* shows non-posteriority. This can be relative to the moment of speech or the reference point set by the main clause. For example, the first continuation of (3b) clarifies the interpretation where posteriority is interpreted relative to the tense of the main clause since the embedded clause in this interpretation is future in the past. In the second continuation, on the other hand, it is relative to the moment of speech and the embedded clause is interpreted as future. Moreover, although *-AcAk* is always aspectually simple, *-DIK* has underspecified aspectual features. As the three different interpretations of (3a) indicate, the embedded clauses with *-DIK* can be imperfective [1] perfect [2] or continuous [3]. Thus the embedded verbs in (3a,b) are non-finite/gerundive converbs, too (Johanson 1995: 318-319).

While the complement clauses in (1)-(3) bear agreement suffixes, nominal or sentential, agreement is obligatorily found in only some adverbial clauses while the others lack agreement. In (4a), for example, the adverbial clause bears an agreement suffix while the one in (4b) lacks any agreement. Furthermore, the embedded clause in (4b) does not have a subject; instead its subject is understood to be co-referential with the main clause subject (Brendemoen and Csato 1987). Some agreementless adverbial clauses, however, may have an independent subject, as in (4c).

(4) a. [Ben gel -diğ -im-de] Ali çoktan çık -mış-tı -ø

I.NOM come-NOM-1SG-LOC Ali.NOM already leave-PFC-PST-3SG

'Ali had already left when I came'

b. Ben [okul-a başla-**yalı**] çok değiş -ti -m

I.NOM school-DAT start-CONV much change-PST-1SG

'I have changed a lot since I started the school'

c. [Ben içeri gir **-ince**] Ahmet ışığ-ı aç -tı -ø

I.NOM in enter-CONV Ahmet.NOM light-ACC turn.on-PST-3SG

'When I walked in, Ahmet turned on the light'

To summarise so far, non-finite embedded clauses of Turkish do not bear tense features. What comes closest to tense is the posterior/non-posterior distinction in two complement clauses, which is relative either to the moment of speech or to the tense of the main verb (cf. (3)). Similarly, adverbial clauses are dependent on the tense of the main verb and contribute to the meaning of the sentence in various ways depending on the converbial suffix they carry. Let us see the tense dependence first. Note the examples in (5).

(5) a. [Ben içeri gir **-ince**] Ahmet ışığ-ı aç **-tı** -ø

I.NOM in enter-CONV Ahmet.NOM light-ACC turn.on-**PST**-3SG

'When I walked in, Ahmet turned on the light'

b. [Ben içeri gir-**ince**] Ahmet ışığ-ı aç **-acak**-ø

I.NOM in enter-CONV Ahmet.NOM light-ACC turn.on-**FUT**-3SG

'When I walk in, Ahmet will turn on the light'

Comparison of (5a) and (5b) shows that when the tense of the main verb is shifted from past to future, the tense of the embedded verb also shifts accordingly. The dependence of the adverbial clause on the main clause for tense is also shown by the fact that they cannot

be modified by time adverbials showing different tenses. Note the grammaticality contrast between (5b) and (6).

(6)*[Ben dün içeri gir **-ince**] Ahmet birazdan ışığ-ı aç **-acak**-ø
I.NOM yesterday in enter-CONV Ahmet.NOM soon light-ACC turn.on-FUT -3SG
'*When I walked in yesterday, Ahmet will turn on the light tomorrow soon'

We have so far narrowed down the types of embedded clauses from fully finite complement clauses with verbal agreement (1) to non-finite/gerundive adverbial clauses without agreement (5). Continuing with adverbial clauses, there are various aspectual and adverbial notions that can be expressed by the suffixes on adverbial clauses. All of them are, however, underspecified regarding tense. For example, the function of the adverbial clause in (5a) is to set the reference point in the past or in the future for the main clause to be interpreted, i.e. it acts as a time adverbial. The suffix *-IncA* in (5a) acts as the perfective aspect marker, indicating that my entering the room completed and preceded Ahmet's turning on the light. Below are a few examples of the converbial suffixes that form adverbial clauses with different semantics.[38] [39] Note that the converbial suffix *-A* in (7a) requires reduplication.

(7) a. Ahmet [pencere-ye vur-**a** vur-**a**]
Ahmet.NOM window-DAT hit-CONV hit-CONV
cam-ı kır-dı-ø / kır-acak-ø
glass-ACC break-PST-3SG/break-FUT-3SG
'Ahmet broke/will break the glass by hitting the window again and again'

[38] See Aydın (2004) for a complete list the adverbial clauses and their subjects in Turkish.

[39] Semantic contributions of the converbial suffixes have been observed repeatedly in Turcological literature using varied sets of terminology. See Johanson (1995:319-232), Slobin (1995) and the references therein. I will refer to these suffixes as converbial suffixes and the clauses as adverbial clauses.

b. [Ben ağla-**dıkça**] Pelin de ağla-dı-ø / ağla-yacak-ø

I.NOM cry-CONV Pelin.NOM too cry-PST-3SG / cry -FUT -3SG

'As I cried, Pelin cried along with me/As I cry, Pelin will cry along with me'

c. Adam kadın-ı [öl-dür -**esiye**] döv -dü -ø / döv-ecek-ø

Man.NOM woman-ACC die-CAUS-CONV beat-PST-3SG / beat-FUT-3SG

'The man beat/will beat the woman as if he meant to/means to kill her'

d. Ali [Ayşe-yle konuş-**arak**] sorun-u çöz -dü -ø

Ali.NOM Ayşe-COM speak-CONV problem-ACC solve-PST-3SG

çöz -ecek-ø

solve-FUT-3SG

'Ali solved/will solve the problem by speaking to Ayşe'

Apparently, all converbial suffixes in (7) contribute to the semantics of the sentence without having any distinct tense features than the main verb. For example, the suffix *-A* in (158a) indicates that the action is repeated while *-DIkçA* in (7b) marks the parallelism between two actions where the one in the embedded clause breeds the one in the main clause. *-AsIyA* in (7c) shows the impression the speaker gets from the subject's behaviour as to his intention while *-ArAk* in (7d) shows how the action denoted by the main verb is achieved, that is it is a manner adverbial. Embedded clauses can carry the ability and negative markers in slot 1 and 2, as in (8).

(8) a. Ben İngilizce-yi [konuş-ma-**ya** konuş-ma-**ya**] unut-muş -um

I.NOM English-ACC speak-NEG-A speak-NEG-A forget-EVID-1SG

'It seems I forgot English over the years as I didn't speak it'

b. [Ben bu konu-yu aç-ma-**dıkça**]

I. NOM this topic-ACC open-NEG-DIKÇA

Ahmet sorun-u göz ardı ed-ecek-ø

Ahmet.NOM problem-ACC eye behind do-FUT-3SG

'As long as I don't bring it up, Ahmet will overlook this problem'

c. Ahmet [soru-yu doğru cevapla-ya-ma-**yarak**]

Ahmet.NOM question-ACC correctly answer-ABIL-NEG-ARAK

yarışma-dan ele-n-di-ø

contest-DAT disqualify-PASS-PST-3SG

'Ahmet was disqualified by being unable to correctly answer the question'

d. Ahmet [sorun-u hemen halled -iver-**erek**]

Ahmet.NOM problem-ACC quickly deal with-CEL-ARAK

becerikli biri ol-duğ-u-nu kanıtla-dı-ø

skilful someone be-NOM-3SG-ACC prove-PST-3SG

'Ahmet proved skilful by quickly dealing with the problem'

As for the argument structure, there are two types of agreementless adverbial clauses in Turkish. The first group cannot have a lexical subject. The subject of these adverbials is abstract and understood to be co-referential with the main clause subject (Brendemoen and Csato 1987). The abstract subject of the non-finite clauses is a pronoun referred to as PRO (Chomsky 1981). If PRO is co-referential with the subject or object of the finite clause, it is said to be *controlled* and it is marked with coindexation of the pronominals (9a). For example, the suffixes *-A...-A* (9a,b), *-AsIyA* (9c,d) and *-ArAk* (9e,f) obligatorily share the subject with the main clause (Aydın 2004: 12).[40]

(9) a. Ahmet$_i$ [PRO$_i$ pencere-ye vur-**a** vur-**a**] cam-ı kır -dı -ø

Ahmet.NOM window-DAT hit-CONV hit-CONV glass-ACC break-PST-3SG

'Ahmet broke the glass by hitting the window again and again'

b. *Ahmet [Ali pencere-ye vur-**a** vur-**a**] cam-ı kır -dı -ø

Ahmet.NOM Ali.NOM window-DAT hit-CONV hit-CONV glass-ACC break-PST-3SG

'*Ahmet broke the glass by Ahmet hitting the window again and again'

[40] Aydın (2004) and Brendemoen and Csato (1987) note that subject sharing rule loses its force with unergative and unaccusative verbs and that agreementless embedded clauses can have non-specific lexical subjects with these verbs.

c. Adam$_i$ kadın-ı [PRO$_i$ öldür-**esiye**] döv-dü -ø

man.NOM woman-ACC kill -CONV beat-PST-3SG

'The man beat the woman as if he meant to kill her'

d.*Adam kadın-ı [adam öldür-**esiye**] döv -dü -ø

man.NOM woman-ACC man.NOM kill -CONV beat-PST-3SG

'The man beat the woman as if he meant to to kill her'

e. Ali$_i$ [PRO$_i$ Ayşe-yle konuş-**arak**] sorun-u çöz -dü -ø

Ali.NOM Ayşe-COM speak-CONV problem-ACC solve-PST-3SG

'Ali solved the problem by Ahmet speaking to Ayşe'

f.*Ali [Ahmet Ayşe-yle konuş-**arak**] sorun-u çöz -dü -ø

Ali.NOM Ahmet.NOM Ayşe-COM speak-CONV problem-ACC solve-PST-3SG

'*Ali solved the problem by Ahmet speaking to Ayşe'

On the other hand, some agreementless adverbials may have PRO or a lexical item in the subject position. The suffixes *-DIkçA* and *-IncA* are two prototypical examples of this group. They may have PRO or a lexical subject as the grammaticality of the pairs in (10) shows (Aydın 2004: 12).[41] [42]

[41] This seems problematic here since arguably the subject position of these adverbial clauses may license overt subjects and PRO arbitrarily. Ideally, this should be a position that either licences Case and therefore an overt subject or it should lack Case-assigning features and overt subjects should lead to ungrammaticality. The second option would lead us to conclude that the subjects in (10a) and (10c) are obligatorily dropped pros. I will return to this problem in §9.5 where I will focus on a similar converbial suffix, namely *-Ip*, and defend the conclusion that option 2 suggests. Also note that the problem is not confined to Turkish and that there are many problems in many other languages for linking finiteness co Case. See Landau (2004, 2006) and Sheehan (2015).

[42] Note that Turkish has unambiguous PRO in complement clauses, such as the infinitival in (i).

(i) Ben$_i$ bugün [PRO$_i$/*Ali dışarı çık-mak] isti-yor-um

I today Ali out go-INF want-IMPFV-1SG

'I want to go out today'

(10) a. Ali$_i$ [PRO$_i$ yarışma-yı kazan-**ınca**] çok mutlu ol-du -ø

Ali.NOM contest-ACC win-CONV very happy be-PST-3SG

'Ali was very happy when he won the contest'

b. Ali [Ayşe yarışma-yı kazan-**ınca**] çok mutlu ol-du -ø

Ali.NOM Ayşe.NOM contest-ACC win-CONV very happy be-PST-3SG

'Ali was very happy when Ayşe won the contest'

c. Ali$_i$ [PRO$_i$ para kazan-**dıkça**] mutsuz ol-du -ø

Ali.NOM money earn-CONV unhappy be-PST-3SG

'Ali got more and more unhappy as he earned more and more money'

d. Ali [Ayşe para kazan-**dıkça**] mutsuz ol-du -ø

Ali.NOM Ayşe.NOM money earn-CONV unhappy be-PST-3SG

'Ali got more and more unhappy as Ayşe earned more and more money'

Both obligatory and optional PRO clauses, however, can share the object with the main clause (11a) or have lexical objects (11b). This sharing is also possible when the embedded clause has PRO in the subject position (10a,b) or a lexical subject (11c). Furthermore, the object shared by the embedded clause and the main clause may surface in either one of them, or in the appropriate context in both of them (cf. (11a)).

(11) a. Ali$_i$ [PRO$_i$ (para) kazan-**dıkça**] (para) harca-dı -ø

Ali.NOM money earn-CONV money spend-PST-3SG

'Ali spent money as he earned it'

b. Ali$_i$ [PRO$_i$ Ayşe-yle konuş-**arak**] Ahmet-i kızdır-dı -ø

Ali.NOM Ayşe-COM speak-CONV Ahmet-ACC annoy-PST-3SG

'Ali annoyed Ahmet by speaking to Ayşe'

c. Ben [Ayşe getir-**ince**] yemeğ-im-i hemen ye-di -m

I. NOM Ayşe.NOM bring-CONV food-1SG.POSS-ACC immediately eat-PST-1SG

'When Ayşe brought it, I immediately ate my food'

We saw in this very brief chapter that with the exception of two complement clauses embedded clauses of Turkish are tenseless although they may mark aspectual and modal notions such as perfective. The adverbial clauses that have agreement can license a subject while agreementless adverbial clauses have two types. Some obligatorily have PRO (9a-f) while the others may have PRO or an overt subject (10). We will see in chapter 8 and 9 that Turkish has an exceptional adverbial clause which lacks TAM specification and is otherwise semantically bleached. Furthermore, it is an agreementless adverbial clause and it acts in a way similar to the adverbial clauses in (10).

CHAPTER 7

Projection of TAM Features

in Turkish

7.1 Overview

Chapter 4 and 5 show that there are two main approaches to the verbal inflection in Turkish, the multifunctional and the monofunctional approach. The former argues that morphemes may carry the features of more than one TAM category, for example tense and aspect features.[43] This suggests that Turkish is closer to inflectional languages than so far assumed. The monofunctional approach, on the other hand, argues that there is a one-to-one relationship between morphemes and the TAM categories, and each TAM category has a feature in its feature paradigm that is linked to a phonetically empty morpheme. The difference between the analyses is best exemplified with the morpheme *-DI*. Note (1) and (2) for the different analyses of the same sentence.

(1) Ali git-ti -ø
Ali.NOM go-PFV.PST-3SG
'Ali left'

(2) Ali git-ti -ø -ø
Ali.NOM go-PFC-PRST-3SG
'Ali has left'

As (1) and (2) show, the difference in analysis stems from the different tense interpretations of the sentence. According to the multifunctional approach, the sentence is perfective past, and both perfective aspect and past tense are shown by *-DI*. On the other hand, (2) suggests that the sentence is actually present tense and *-DI* only shows

[43] For the time being, I am putting aside the ambiguity of morphemes, which means having different functions in different environments, for the sake of simplicity. Theoretically, what concerns us here is having two or more functions in the same environment. See chapters 4 and 5 for the full data.

perfect aspect while present tense is linked to a phonetically empty morpheme. Naturally, both parties have their arguments for the different analyses in (1) and (2). The multifunctional approach argues that *-DI* should be past since it can co-occur with past temporal adverbials (3a), while it is ungrammatical with future adverbs (3b).

(3) a. Ali dün git-ti -ø
Ali.NOM yesterday go-PFV.PST-3SG
'Ali left yesterday'
b.*Ali yarın git-ti -ø
Ali.NOM tomorrow go-PFV.PST-3SG
'Ali left tomorrow'

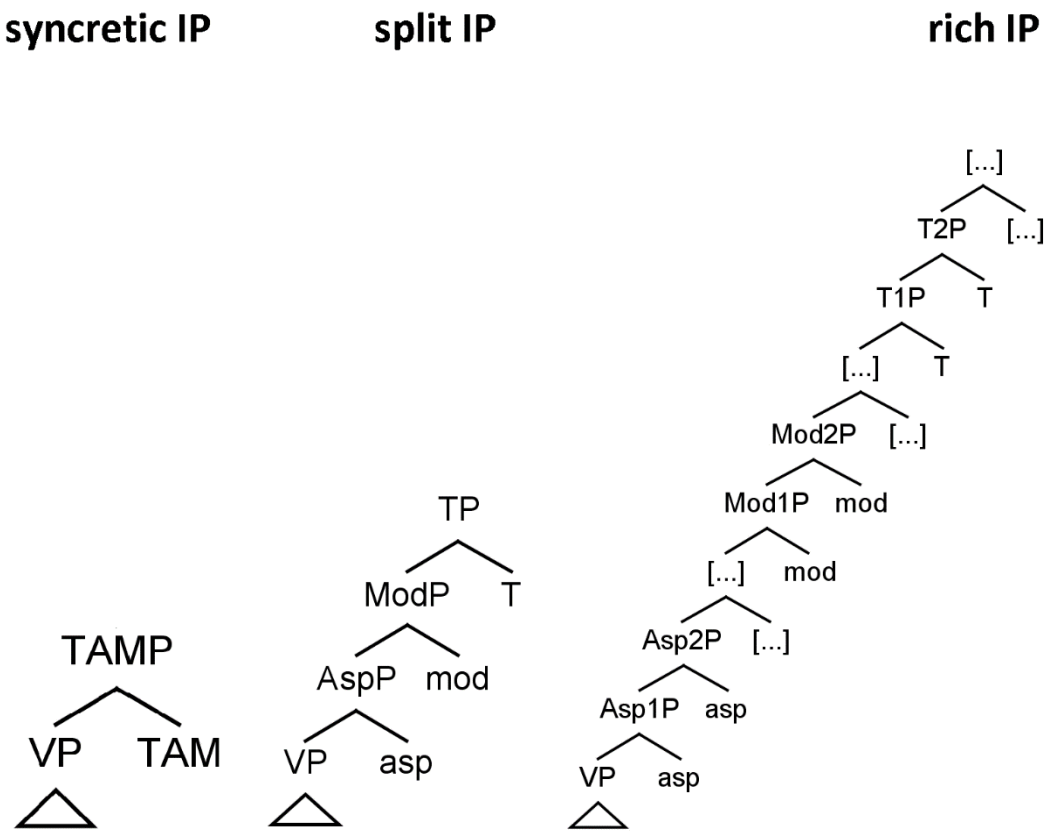
Defending the monofunctional approach, Uzun (1998) questions the reliability of the adverb test in (3). If *-DI* shows past tense then it should not allow any adverbial other than the ones that are strictly past. But (4a) shows that it co-occurs with an adverb that literally means 'now'. Furthermore, whatever makes (3b) ungrammatical can be overruled with a simple expression that shows supposition (4b).

(4) a. Ali şimdi git-ti -ø -ø
Ali.NOM now go-PFC-PRST-3SG
'Ali has just left'
b. Diyelim ki Ali yarın git-ti -ø -ø
Let's suppose Ali.NOM tomorrow go-PFC-PRST-3SG
'Let's suppose Ali actually leaves tomorrow'

When generalised to the whole IP area, the two analyses draw quite different pictures. Given the ban on projecting empty heads (Chomsky 1995), the multifunctional approach predicts that a multifunctional morpheme heads a single syncretic phrase which bears the labels of the categories it carries the features of. I will hereafter refer to this model as the *syncretic model*. This model is defended by Tosun (1998) in Turkish based on the IP model developed by Giorgi & Pianesi (1997). The monofunctional approach, on the other hand, suggests that every derivation has an IP organisation where each TAM head projects its features, *the split IP model*, since the silent heads in (2b) and (4a,b) are not syntactically empty. In other words, with respect to the organization of the IP, Uzun's (1998, 2000, 2004) monofunctional approach corresponds to the IP model defended by

Zagona (1990) Stowell (1995, 2007, 2012) and Demirdache & Uribe-Etxebarria's (2000, 2004, 2007, 2008) discussed in chapter 2. This chapter also includes an IP model where each feature of each TAM category is argued to project a phrase, namely Cinque's (1999) *rich IP model*, which Cinque (2001) specifically defends for Turkish. (5) is a broad representation and comparison of these models.[44]

(5)



Recall that in chapter 2 we mentioned two divisions that differentiate the IP models; they are differentiated based on how syncretic/split their projections are and on how they interact with semantics. The first division results in the three models in (5) while the second division results in the feature-based models and the argument-based model. Since

[44] There are alternatives ways to approach the issue at hand, such as Distributed Morphology where morphological items are inserted after the syntactic operations (Halle and Marantz 1993) and spanning where morphemes can be the lexicalization of multiple adjacent heads (Svenonius 2012). I will, however, not pursue those ideas here, leaving possible analyses to future work.

all the IP models based on Turkish data assume the feature based approach in the first division, the overall classification of the models looks like (6).

(6)

	Feature-based	**Argument-based**
Syncretic	Tosun (1998) Chomsky (1995) Giorgi & Pianesi (1997)	
Split	Uzun (1998, 2000, 2004)	Zagona (1990) Stowell (1995, 2007, 2012) Demirdache & Uribe-Etxebarria (2000, 2004, 2007, 2008)
Rich	Cinque (1999, 2001)	

The following three sections of this chapter detail the *syncretic*, *split* and *rich* IP structures in (5), noting the testable predictions they make regarding syntactic operations that may apply to IP. The arguments are based on two different kinds of data throughout the chapter. One is co-occurrence restrictions among morphemes, which indicate the maximum number of phrases to be assumed in the multifunctional approach. We will also use adverb compatibility data, carrying the assumptions of the multifunctional and the monofunctional approach from the chapters 4 and 5. This will help us see how the IP models interpret the relation between temporal adverbials and the TAM features via the spec-head relation. Note that the syncretic and split IP models assume two different approaches to the analysis of the TAM morphemes, i.e. multifunctionality and monofunctionality, respectively, while Cinque (2001) shares the multifunctional approach with the syncretic model. Therefore, any given morpheme may have different glosses depending on the approach assumed in that particular part of the text. I will provide reference to the relevant parts of chapter 4 and 5.

After I examine the details of each model, I provide in §7.4 a complete comparison of the models as well as their assumptions and predictions regarding the IP in Turkish. Ultimately, this chapter serves to answer the following question: How does each model depict the IP organisation in Turkish and how should they respond to syntactic operations

targeting portions of it? The second part of the question is particularly important since in chapter 8 I show how such an operation can provide a new insight into the debate on the IP organization of Turkish.

7.2 Syncretic Phrases in Turkish IP

In this section, I show how the multifunctional approach to Turkish verbal morphology can be related to the phrase structure of IP based on Tosun's (1998) model and arguments. Multifunctionality is more commonly referred to as *syncretism* in morphology. Therefore, I first show the parallelism between the interpretation of TAM morphemes in Turkish and morphological syncretism. Then I move on to demonstrate how morphological syncretism translates to phrasal syncretism in Turkish as suggested by Tosun (1998) within the framework drawn by Giorgi & Pianesi (1997) and later examine the strengths and weaknesses of the model, offering an alternative methodology.

First, let us see two commonly used descriptions of syncretism and an example of it. Spencer (1991: 45) describes syncretism as "[…] a single inflected form may correspond to more than one morphosyntactic description". According to Baerman, Brown & Corbett's (2005: 2) definition of the phenomenon, syncretism is "[…] the failure to make a morphosyntactically relevant distinction". For example, person-tense syncretism in Chichimeco shows syncretism between tense and agreement. Note the example in (7).

(7) a. Tu -nu
1SG.PST-see
'I saw'
b. Ki -nu
2SG.PST-see
'You saw'

(adapted from de Angulo 1933: 165)

The prefixes *tu-* and *ki-* in (7) specify a value of the person paradigm, first and second person singular respectively, and a value of the tense paradigm, i.e. past, simultaneously.

Therefore, they are prime examples of syncretism since they correspond to two morphosyntactic descriptions and fail to make a distinction between tense and person.

Let us now summarise the multifunctional properties of the most controversial TAM morphemes in Turkish and the verbal slots detailed in the chapters 4 and 5 to see how syncretism relates to the case of Turkish. It was argued in §5.2 that the morphemes *-mIş* and *-DI* in Turkish are multifunctional. Specifically, in the multifunctional approach *-mIş* is an ambiguous morpheme and it is multifunctional in either option (Cinque 2001). It shows evidential mood, perfective aspect *and* past tense (evidential past) or perfect aspect, evidential mood *and* present tense while *-DI* may show perfective aspect in past tense or perfect aspect in present tense. (8) is the representation of verbal slots in Turkish showing the complete sets of ambiguities of the morphemes.[45] [46]

(8)

	1	2	3	4	5
Verb	*-Abil* (Abil)#	*-mA* (Neg)	*-Abil* (Poss)#	*-mIş* (Evid.Pst.PFV) *-mIş* (Pfc.Evid) *-mIş* (Pfc/Evid)* *-sA* (Cond) *-DI* (Pfv.Pst) *-DI* (Pfc) *-Ar* (Pred.Fut) *-Ar* (Willing) *-Ar* (___)# *-Ar* (Rep) *-mAlI* (Nec) *-AcAk* (Fut) *-AcAk* (Prosp)* *-yor* (Impfv)	*-(I)DI* (Past)*

[45] Here, we are moving from the descriptive methodology of the chapters 4 and 5 to a theoretical methodology. In the syncretic phrase structure developed by Giorgi & Pianesi (1997), present tense naturally falls into place when no tense feature is available in the derivation. Therefore, no morpheme has a present tense feature in slot 4.

[46] Asterisk shows the options which can only be selected when the past tense morpheme *-(I)DI* is available. The hash sign shows the option of the aorist that is selected after the possibility marker in slot 3 or the ability marker in slot 1, which are phonetically identically. See §3.2.1. The aorist is semantically empty after these morphemes.

Now consider the examples in (9) and (10).

(9) a. Ayşe dün tavuğ-u pişir-di -ø
Ayşe.NOM yesterday chicken-ACC cook-PST.PFV-3SG
'Ayşe cooked the chicken yesterday'

b. Ben O dağ-a tırman-dı -m
I.NOM that mountain-DAT climb -PFC-1SG
'I have climbed that mountain'

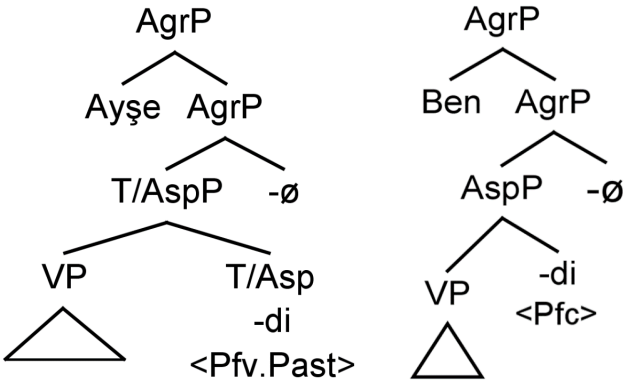
(10) a. Ali ev-e gel -miş -ø
Ali.NOM house-DAT come-PFC.EVID-3SG
'Evidently, Ali has come home/is at home'

b. Ali dün ev-e gel -miş -ø
Ali.NOM yesterday house-DAT come-EVID.PFV.PST-3SG
'Evidently, Ali came home yesterday'

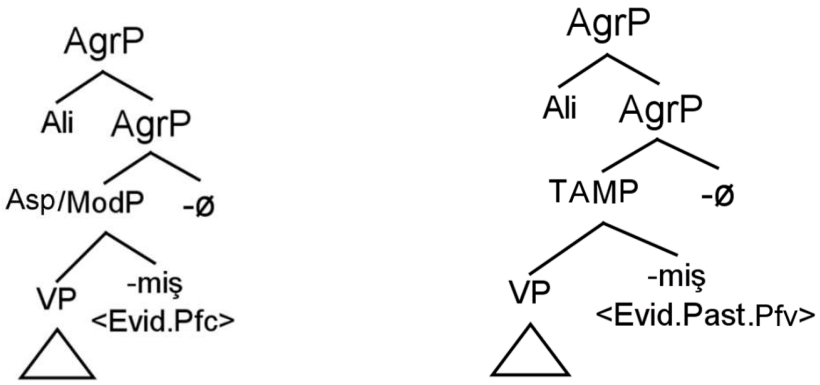
-DI shows the perfective and past features available in the derivation in (9a). However, in (9b), the derivation doesn't have past tense and *-DI* only specifies the perfect aspect feature. Likewise, *-mIş* carries the evidential, perfective and past features available in (10b). But the derivation (10a) lacks a tense feature and *-mIş* shows only perfect aspect.[47] Therefore, (11a,b) should be the phrase structures of (9a,b) while (12a,b) show the phrase structure of (10a,b).

[47] Note that *-DI* and *-mIş* contrast in their evidentiality, i.e. *-DI* is indicative while *-mIş*is evidential (see §5.2). Therefore, we may say that *-DI* shows indicative mood in addition to past tense and perfective aspect (Taylan 1996). This, however, leads to another problem. If *-DI* is a syncretic form showing perfective aspect, past tense and indicative mood, then all of the aspect markers in slot 4 should be treated similarly since sentences bearing only an aspect marker are interpreted as indicative. But it is only *-DI* that is argued to carry indicative mood. Furthermore, indicative mood is usually argued to be the default mood in the absence of any mood marking.

(11) a. b.



(12) a. b.

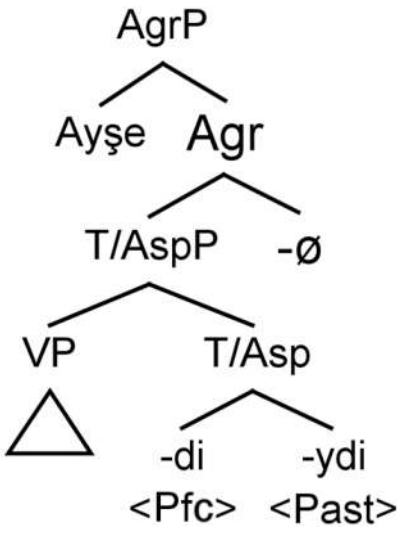


In their defence of a syncretic phrase structure, Giorgi & Pianesi (1997) argue that if the features of two or more functional categories such as tense and aspect are represented by one morphological form ((9a), (10b)), there is only one head position and the morpheme occupies this position, projecting both features ((11a), (12a,b)). However, if two features are distributed to two morphemes, there can be two head positions.[48] Therefore, if *-(I)DI* is available in the derivation, it projects past tense and the aspect marker only projects aspect. Naturally, *-(I)DI* co-occurs with the option where the morpheme under Asp/ModE shows only aspect. Consider (13).

(13) a. Ayşe tavuğ-u pişir-di -ydi-ø
Ayşe.NOM chicken-ACC cook-PFC-PST-3SG
'Ayşe had cooked the chicken'

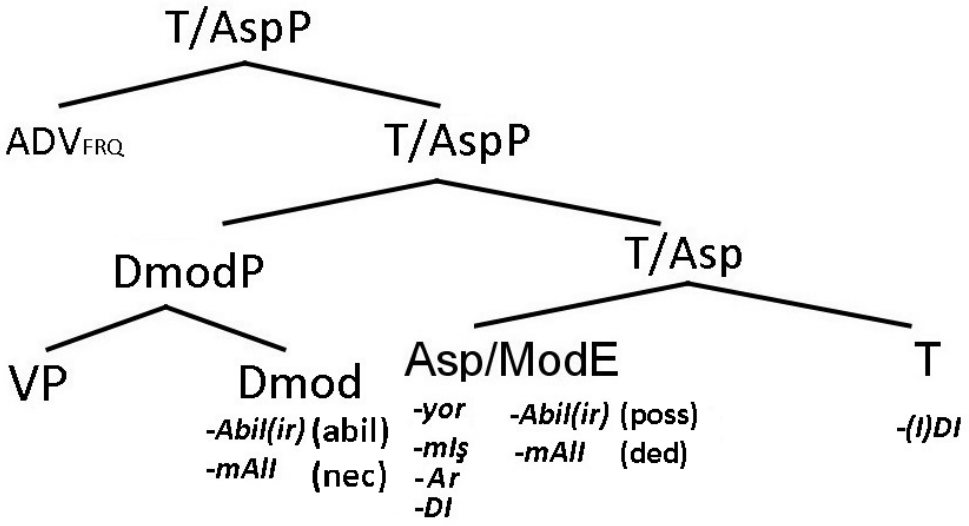
[48] Note that two heads does not necessarily mean two projections in the syncretic model since Tosun (1998) argues that tense and aspect co-head the phrase T/AspP. I will come back to this below.

b.



Based on the argument above, in the rest of this section I will present a syncretic IP model. But according to the fundamental logic of the syncretic model, a complete picture of IP is not the phrase structure of any given derivation since the number of heads and projections in a derivation depends on the number of morphemes available in that specific derivation. A complete picture is only union of the possible phrase structures. Adapted from Tosun (1998), (14) is the complete phrase structure I will be discussing in this section.

(14)



In (14), Asp/ModE and T are the co-heads of the node T/Asp, which projects the syncretic phrase T/AspP and hosts the temporal adverbial in its spec position. Asp/ModE is a *hybrid* node, which means the aspect and mood markers listed under this node are in complementary distribution, and only one of them can appear in a given derivation.[49] Note that the co-heads Asp/ModE and T appear at the same time only when the past tense morpheme *-(I)DI* is available because no empty head can project (Chomsky 1995).

However, the model in (14) requires justification, i.e. why do T and Asp/ModE co-head a phrase while Dmod projects an independent phrase? Tosun (1998) uses adverbial co-occurrence data to answer the questions above. Let us start with the first question. Tosun (1998) assumes, along with Cinque (1999, 2004), that adverbials are in the specifier positions of the functional phrases they are semantically related to. Since both tense and aspect are temporal notions, they are semantically closely related. Therefore, they are both related to frequency adverbials. According to Tosun (1998), frequency adverbs appear in the spec of the syncretic phrase T/AspP co-headed by T and Asp/ModE, as in (14). Consider (15).

(15) Ben sık sık kek yap -ar -ım / yap-acağ-ım
I.NOM often cake make-REP -1SG / make-FUT-1SG
yap -ıyor -um / yap -tı-m /yap -mış-ım
make-IMPFV-1SG / make-PFV.PST-1SG /make-PFC-1SG
'I often make/will make/am making/made/have made a cake'

(Tosun 1998: 16)

The frequency adverb in (15) has to be in the spec of a syncretic phrase, namely T/AspP which accommodates the multifunctional TAM morphemes. A separate projection is not necessary, hence not licensed under the *Spec Requirement* (Bobaljik 1996). In other

[49] This node is supposed to correspond to slot 4 in (5). However, note that (14) contradicts the data presented in §3.2 as a very brief overview of the co-occurrence possibilities of the morphemes. That is, *-mAlI* under the hybrid node Asp/ModE can actually co-occur with *-Abil*.*-Abil* can also co-occur with *-yor*. See (8). But the problem is only empirical at this point since the goal of this section is to introduce syncretism. In chapter 8, I will provide data that complies with the slots I have discussed so far and present a conclusive model based on the results of some original tests.

words, the frequency adverb is compatible with the tense/aspect head, and there isn't a modal adverb in the derivation. Therefore, the frequency adverb appears in Spec, T/AspP and no modal phrase is projected since there isn't a modal adverb. Although Tosun's (1998) semantic relatedness argument is defensible, we should make sure that the frequency adverb actually appears in T/AspP. Since we assume that the derivation doesn't arbitrarily have split phrases in the TP area unless another spec is required for a temporal adverbial, a VP oriented adverb such as *tamamen* 'completely' can help us ascertain that the frequency adverb *sık sık* 'frequently' in (15) is in Spec, T/AspP. When they co-occur, the order should be *frequency adverb > VP adverb*, showing that the frequency adverb is in the spec of a phrase dominating VP. (16) shows that this is borne out.

(16) a. Jack ben-i sık sık tamamen yanlış anla -r -ø
Jack.NOM I-ACC often completely wrong understand-REP-3SG
'Jack often completely misunderstands me'

b.*Jack ben-i tamamen sık sık yanlış anla -r -ø
Jack.NOM I-ACC completely often wrong understand-REP-3SG
'*Jack completely often misunderstands me'

As for the second question, i.e. why does Dmod project an independent phrase? The co-occurrence data of adverbials and the TAM morphemes distinguishes the deontic and epistemic mood markers and assigns an independent phrase to deontic mood while epistemic mood markers appear in the syncretic phrase T/AspP, forming a hybrid node with aspect, as seen in (14). Tosun argues that the mood markers *-Abil* and *-mAlI* are ambiguous between a deontic (ability and necessity respectively) and epistemic (possibility and deduction respectively) interpretation (see also Lyons 1977 and Cinque 2001).[50] But modal adverbs such as 'perhaps' and 'definitely' define a modal domain where they specify the underspecified mood markers. Tosun shows that when there is either an epistemic or deontic adverb, the ambiguous mood markers *-Abil* and *-mAlI* favour the deontic interpretation. Note the lack of ambiguity in (17a,b) and the

[50] See §3.2.1 for the ambiguity of *-Abil*. But the epistemic function of *-mAlI*, that is deduction, sounds quite unnatural in my dialect. I believe that this is a contamination from English via translation of such sentences as 'That must be John knocking the door' since 'must' is ambiguous in English. But I keep to Tosun's (1998) original data here.

ungrammaticality of (17c) where *-Abil* is forced to have epistemic sense and adverb collocation leads to ungrammaticality.

(17) a. Ali bu-nu kesinlikle/muhtemelen yap-abil -ir -ø (deontic)
Ali.NOM this-ACC definitely/possibly do -ABIL-AOR-3SG
'Ali can definitely/possibly do this'

b. Ben geldiğimde Ali kesinlikle ev-de ol-malı-ø (deontic)
when I arrive Ali.NOM certainly house-LOC be-NEC-3SG
'Ali is supposed to be at home when I arrive'

c. Işık açık. *Ali kesinlikle/muhtemelen ev-de ol-abil -ir -ø (epistemic)
the light is on. Ali.NOM certainly/probably house-LOC be-ABIL-AOR-3SG
'The light is on. Ali may certainly/probably be at home'

Therefore, there has to be an independent projection for the modal adverb to appear in the spec of. And this phrase should exclude epistemic modal markers in its head position since any modal adverb in its spec leads to deontic interpretation under the spec-head relation, which we can interpret as incompatibility between modal adverbs and epistemic heads. As a result, Tosun (1998) argues that modal adverbs are in the specifier position of the Deontic Modal Phrase (DModP). The mood markers *-Abil* and *-mAlI* are not argued to be multifunctional since they don't show deontic and epistemic modality simultaneously, but are ambiguous with respect to their feature specification. Yet we still have an appropriate analysis in Tosun's (1998) work for their phrase structural status, one that actually fits lack of multifunctionality. And this suggests a testable hypothesis. DModP in (14) should be able to perform or be involved in syntactic operations independently of T/AspP.

To summarise, Tosun (1998) argues that Turkish has a tense projection syncretic with aspect on the grounds that frequency adverbs can co-occur with both tense and aspect markers (15). Since only one spec position is required, there should be only one phrase. Therefore, tense and aspect have to be syncretic under the same node. Furthermore,

Turkish has an independent Deontic Modal Phrase which licenses a spec position for modal adverbs.

Let us now see why Tosun (1998) argues that epistemic mood markers and aspect markers share the hybrid node Asp/ModE. She argues that *-mAlI* and *-Abil* under ModE cannot head a separate projection since no other spec position is required. Epistemic and deontic adverbs appear in Spec, DModP, as shown in the interpretation of otherwise ambiguous mood markers in (17). Furthermore, Tosun (1998) presents morphological evidence that epistemic mood markers do not head their own projection. She shows that they are in complementary distribution with aspect markers. In (18) and (19), the modal markers *-mAlI* and *-Abil* are attached to the auxiliary *ol-* in order to force an epistemic reading and the sentences are ungrammatical, except (18a).[51]

(18) a. Ahmet ev-de ol -abil -ir -ø
Ahmet.NOM house-LOC be-POSS-AOR-3SG
'Ahmet may be at home'

b.*Ahmet ev-de ol -abil -yor -ø
Ahmet.NOM house-LOC be-POSS-IMPFV-3SG

c.*Ahmet ev-de ol -abil -miş-ø
Ahmet.NOM house-LOC be-POSS-PFC-3SG

d.*Ahmet ev-de ol -abil -ecek -ø
Ahmet.NOM house-LOC be-POSS-FUT -3SG

e.*Ahmet ev-de ol-abil -di -ø
Ahmet.NOM house-LOC be-POSS-PST-3SG

(Tosun 1998:40)

(19) a.*Ahmet ev-de ol -malı-ar ø
Ahmet.NOM house-LOC be-DED-AOR-3SG

[51] Tosun (1998) notes that (18b) is grammatical in the epistemic sense when there is a temporal adverb. I, however, find it perfectly grammatical in the intended sense even without an adverb. This means the possibility marker can be followed by the aorist or the imperfective marker. I keep to Tosun's (1998) original data here, but I will provide a detail discussion of this in §7.4.

b.*Ahmet ev-de ol -malı-yor -ø

Ahmet.NOM house-LOC be-DED-IMPFV-3SG

c.*Ahmet ev-de ol -malı-ecek-ø

Ahmet.NOM house-LOC be-DED-FUT-3SG

d.*Ahmet ev-de ol -malı-mış-ø

Ahmet.NOM house-LOC be-DED-PFC-3SG

e.*Ahmet ev-de ol-malı-dı -ø

Ahmet.NOM house-LOC be-DED-PST-3SG

(Tosun 1998:40)

Tosun (1998) argues that the aorist in (18a) is not an aspect marker but the default form. That is, it is only morphologically required for finiteness and invisible in syntax since it doesn't have any syntactic feature. This predicts that the aorist *-Ar*, when it follows the possibility marker, does not appear in syntax and should be immune to syntactic operations. It doesn't head a phrase, syncretic or independent, when it follows *-Abil*. This is the reason why it is in parentheses after *-Abil* in (14). Therefore the grammaticality of (18a) is expected.

If we assume the default form argument for the aorist in (18a) to be on the right track, the data in (18) and (19) serves to argue that the aspect markers and epistemic markers are in complementary distribution. Tosun (1998) concludes that they form a hybrid node within the syncretic node T/Asp (see (14)). Therefore, (14) predicts that morphological syncretism of the Turkish TAM morphemes is reflected by syntax, and syntactic operations applying to (14) should behave in such a way that the organisation of the TAM categories is reflected in their behaviour. That is, tense and aspect/epistemic mood should be involved in or excluded by syntactic operations collectively. And any operation applying exclusively to aspect or tense should indicate reason to doubt (14).

However, before we assume that the syncretic model should be adopted, I should note that although a syncretic phrase headed by multiple heads is theoretically a sound idea if we want to argue for the multifunctionality/syncretism of some morphemes, Tosun's data seems incomplete in some points and the model needs some clarification.

For example, the idea that epistemic modality, possibility and deduction, form a hybrid phrase with aspect because epistemic modal markers cannot co-occur with aspect doesn't seem well justified. That is, Tosun uses a morphological phenomenon, lack of co-occurrence, to reach a syntactic conclusion, a hybrid node. Theoretically, this idea is only viable if there is a one-to-one match between morphology and syntax, which Tosun (1998) actually argues against when she argues for syncretism between tense and aspect. Lack of correspondence is also shown by the fact that the morphologically visible form *-Ar* seems syntactically invisible after the ability and possibility *-Abil*, and Tosun (1998) argues that it is semantically void. Finally, the possibility marker *-Abil* can actually co-occur with the imperfective marker *-yor* as well as the aorist *-Ar* with a minor semantic distinction between the two (see §7.4). Note also that this co-occurrence is the reason why the possibility *-Abil* sits alone in morphological slot 3 in (8). If we wish to assume a one-to-one match between morphology and syntax, this should lead to the conclusion that the right order between the distinct heads is aorist/imperfective > possibility > … V, as predicted by (8).

Therefore, I argue that if we wish to adopt a syncretic model, we should first make it compatible with the data, assuming that there is at least partial correspondence between morphology and syntax. This means if two morphemes are in different slots, i.e. if they can co-occur, as possibility and imperfective do, it should indicate separation of nodes unless there is syntactic evidence indicating otherwise. In other words, morphological facts give us a foundation to build on, but any syntactic evidence should override morphological evidence since nodes and phrases are syntactic phenomena. Syntactic tests can conclusively show that two morphemes which appear in different slots, hence assumed to be in different phrases, are actually co-heads of a syncretic phrase. But when morphological evidence points to a hybrid node, namely Asp/ModE in (14), syntactic tests are inoperative since their co-occurrence automatically results in ungrammaticality, which hinders us from eliciting any syntactically relevant data. In sum, when examining independent or syncretic heads, we can challenge any morphological evidence which assumes correspondence between morphology and syntax. We can test them and tell if correspondence breaks. But we have to assume correspondence in hybrid nodes until we have a better conceptual argument. In chapter 8, I will approach the data and the theory with the guidance of these principles.

7.3 A Split Phrase Analysis for Turkish

Let us now discuss what projections there are under the monofunctional zero morpheme analysis. The syncretic model assumes that adverbials establish a categorical relationship with the head they appear in the spec of. However, Uzun (1998) questions the reliability of adverbials in determining the function of TAM morphemes. He argues that adverbs may actually be allowed by, or in a theoretical sense appear in the spec of, the categories that they are not *prima facie* associated with. For example, in (20a,b) it appears that the past tense feature of *-DI*, as is argued for in the multifunctional approach, allows the temporal adverbial in (20a) and disallows the one in (20b). However, (20c) shows that a temporal adverbial can appear in the absence of a tense or aspect marker. In fact, *-mAlI* is a deontic modal marker.

(20) a. Ali dün ev-e gel -di -ø
Ali.NOM yesterday house-DAT come-PFV.PST-3SG
'Ali came home yesterday'

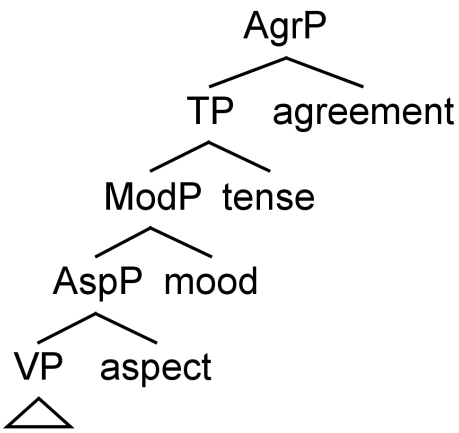
b.*Ali yarın ev-e gel -di -ø
Ali.NOM tomorrow house-DAT come-PFV.PST-3SG
'*Ali came home tomorrow'

c. Ali yarın ev-e gel -meli-ø
Ali.NOM tomorrow house-DAT come-NEC -3SG
'Ali must come home tomorrow'

Therefore, it seems that there is more to the relationship between adverbs and the functional heads than meets the eye. At this point, Uzun (1998) argues that tense, mood and aspect are always represented in every main clause although only one or two of them are phonetically marked and the rest are zero marked. That is, in each category, one of the values of that category exists in a paradigmatic contrast to the others and necessarily it is not phonetically marked although it exists in morpho-syntactic terms. For example, in the category aspect, there are two phonetically marked values: perfect and

continuous.[52] The zero aspect marker occurs when the aspect of the sentence is neither perfect nor continuous. Therefore, when a TAM marker does not appear in the sentence, this doesn't mean that that category, or the phrase, is absent from the structure. Uzun (1998) argues that zero marked heads project their features and interact with adverbs. Therefore, the phrase structure of every main clause in Turkish should look like (21).

(21)



(Uzun 2000)

This assumes that the zero marked morphemes are syntactically visible and should therefore be subject to syntactic operations. Furthermore, since each category projects individually, any syntactic operation should reflect this character. That is, a syntactic operation should be able to target one single head, isolating it from the others. Note that this prediction directly contrasts the prediction made by the syncretic model. Instead of discussing Uzun's (1998) analysis for the function of each TAM morpheme (see chapter 4 and 5), I will assume the chart in (22) and state some generalisations.

[52] Uzun (1998) uses the term *continuous* for the morpheme *-yor* rather than imperfective since he argues that Turkish has three aspect markers, perfect, continuous and -ø, which breaks the dual contrast intended by the perfective-imperfective distinction.

(22) *Uzun's TAM paradigm in Turkish*

	Inflected verb	**Aspect**	**Mood**	**Tense**
1.	Gel-di come-	*-DI*	-ø	-ø
2.	Gel-iyor	*-yor*	-ø	-ø
3.	Gel-ecek	-ø	*-AcAk*	-ø
4.	Gel-ir	-ø	*-Ar*	-ø
5.	Gel-miş	-ø	*-mIş*	-ø
6.	Gel-meli	-ø	*-mAlI*	-ø
7.	Gel-e	-ø	*-A*	-ø
8.	Gel-se	-ø	*-sA*	-ø
9.	Gel-di-ydi	*-DI*	-ø	*-(I)DI*
10.	Gel-iyor-du	*-yor*	-ø	*-(I)DI*
11.	Gel-ecek-ti	-ø	*-AcAk*	*-(I)DI*
12.	Gel-ir-di	-ø	*-Ar*	*-(I)DI*
13.	Gel-miş-ti	-ø	*-mIş*	*-(I)DI*
14.	Gel-meli-ydi	-ø	*-mAlI*	*-(I)DI*
15.	Gel-e-ydi	-ø	*-A*	*-(I)DI*
16.	Gel-se-ydi	-ø	*-sA*	*-(I)DI*

(Uzun 1998: 12)

As seen in (22), *-DI* and *-yor* are the only phonological aspect markers in Turkish, showing perfect and continuous, respectively. Modality is zero marked (indicative) when aspect is phonetically marked (1-2, 9-10) and when mood is phonetically marked (3-8, 11-16), aspect is zero marked with -ø. Note that the complementary distribution is quite clear here, unlike in the syncretic model, since Uzun (1998) does not cover the possibility marker *-Abil*, which was the cause of the problem in Tosun's (1998) analysis. The notion of indicative mood, on the other hand, naturally falls into place when the speaker is neither expressing a wish (subjunctive) nor reporting evidentiality, and it is marked by -ø. The complementary zero marking of aspect and mood is parallel to their mutually excluding each other in Tosun's (1998) analysis with the important difference that the so-called excluded phrase is not radically absent from the sentence, it is only silent. Tense marking,

on the other hand, has a dual contrast. It may be either phonetically marked for past (*-(I)DI* 9-16) or it may be zero marked for non-past (1-8). Therefore, in Uzun's analysis, the highly debated TAM morpheme *-DI* always and only shows perfect aspect and the tense of the sentence is determined by the *-ø/-(I)DI* contrast in TP.

Before we start examining Uzun's (1998) phrase structure model, note that he does not cover the suffix *-Abil*, neither in the deontic nor in the epistemic sense, which Tosun (1998) does, and also assigns a separate projection to deontic *-Abil*. Therefore, we do not see a separate projection for deontic modality in Uzun's analysis. As a matter of fact, Uzun doesn't make the deontic/epistemic distinction for modal values and all mood markers appear under the same node, ModP. Therefore, we can predict that if *-Abil* appears in the sentence, it should always appear under ModP. (23) illustrates Uzun's classification and functions of TAM morphemes in Turkish, which is slightly different than Tosun's.

(23) *Uzun's specification of the functions of TAM markers in Turkish*

Aspect	**Mood**	**Tense**
-DI [+perfect, -continuous]	*-AcAk* (expectation) *-Ar* (prediction) *-mAlI* (obligation) *-sA* (conditional) *-A* (optative) [+subjunctive, -evidential]	*-(I)DI* [+past]
-yor [-perfect, +continuous]	*-mIş* [-subjunctive, +evidential]	-ø [-past]
-ø [-perfect, -continuous]	-ø [-subjunctive, -evidential] (indicative)	

(Uzun 1998: 11)

Let us now see how Uzun's analysis of the TAM markers in Turkish works in his system as a phrase structure. I start with the temporal adverbials that show a past time interval and move on to the adverbials showing non-past tense. Consider (24).

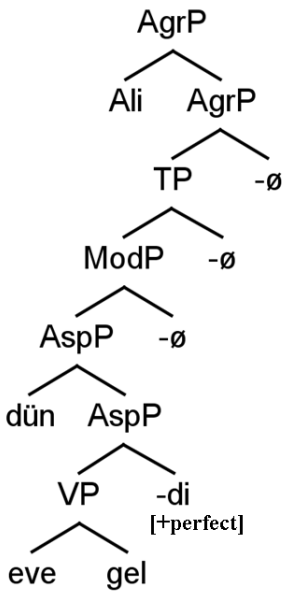
(24) a. Ali dün ev-e gel -di -ø -ø -ø
Ali.NOM yesterday house-DAT come-PFC-IND-PRST-3SG
'Ali came home yesterday'
b.*Ali dün ev-e gel -iyor -ø -ø -ø
Ali.NOM yesterday house-DAT come-CONT-IND-PRST-3SG
'*Ali is coming home yesterday'

In (24a,b), only aspect is morphologically marked. (24a) is in present tense, perfect aspect and indicative mood.[53] Uzun (1998) argues that temporal adverbials can be allowed by different categories depending on their semantic compatibility. Since the temporal adverb *dün* 'yesterday' is semantically incompatible with the present tense value of TP, it cannot adjoin to TP in (24a,b). But Uzun (1998) argues that perfect is compatible with past temporal adverbials. This compatibility is due to the fact that perfect aspect represents the event as preceding the moment of speech.[54] So *dün* appears in Spec, AspP in (24a), as seen in (25).

[53] Note that the translation of (24a) is only an approximation and the use of past tense is due to the fact that present perfect cannot co-occur with past adverbs in English.

[54] Also see §1.4 and §5.4.1 where it is argued that present perfect can actually allow past temporal adverbs if R_2 coincides with E.

(25)



In (24b), however, continuous aspect is incompatible with *dün* 'yesterday'. Since the adverb isn't compatible with any head, the sentence is ungrammatical. Moving on to the sentences where only mood is marked, consider (26a,b) both of which are marked for mood, differing in their values. (26a) is evidential and grammatical with a past temporal adverbial while (26b) is subjunctive and ungrammatical with a past temporal adverbial. (27) is the phrase structure of (26a) where the adverb appears in Spec, ModP.

(26) a. Ali dün ev-e gel -ø -miş -ø -ø

Ali.NOM yesterday house-DAT come-ASP-EVID-PRST-3SG

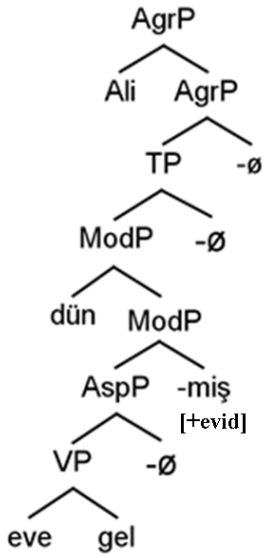
'Ali is said to have come home yesterday'

b.*Ali dün ev-e gel -ø -meli-ø -ø

Ali.NOM yesterday house-DAT come-ASP-NEC-PRST-3SG

'Ali is said to have come home yesterday'

(27)



The temporal adverb *dün* 'yesterday' is only compatible with the evidential marker since evidential mood establishes the logical connection between a past event and the present situation (Comrie 1976, Slobin and Aksu-Koç 1982). Therefore, (26a) is grammatical and has the phrase structure in (27) while (26b) is ungrammatical due to the mismatch between the adverb and the values of the TAM phrases. For one thing, necessity, unlike evidential, only relates to the present situation in itself unless it is oriented to the past by the past tense morpheme, but tense is non-past in (26b) (see (34a) for an example of past necessity). Note that the other subjunctive mood markers in (23) lead to ungrammaticality with past adverbials, too.

If, however, the adverb is non-past (28), the perfect aspect marker and the evidential mood marker are incompatible with the adverb's feature specification. For one thing, with respect to perfect aspect, present tense shown by the adverb cannot be compatible with an aspectual notion that shows precedence to the point of speech. So a non-past adverb should be incompatible with perfect aspect. For the co-occurrence of a non-past adverb and the evidential mood, incompatibility can be speculated to arise from the fact that evidentiality is the description of the current state of affairs due to a past event that the speaker didn't witness (Comrie 1976:110). Therefore, if the aspect is perfect or the mood is evidential, the non-past adverb can only be adjoined to Spec, TP of [-past] tense. Note the sentences in (28).

(28) a. Ali şimdi/şu anda ev-e gel -ø -miş -ø -ø

Ali.NOM now at the moment house-DAT come-ASP-EVID-PRST-3SG

'Ali is said to have just come home'

b. Ali şimdi/şu anda ev-e gel -di -ø -ø -ø

Ali.NOM now at the moment house-DAT come-PFC-IND-PRST-3SG

'Ali has just come home'

c. Ali yarın ev-e gel -iyor -ø -ø -ø

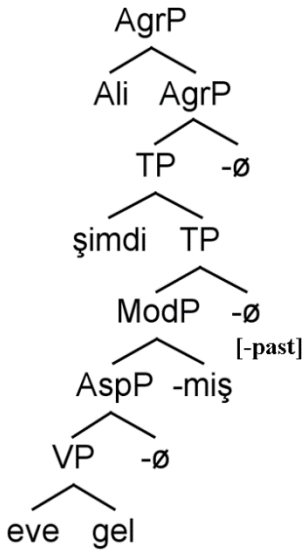
Ali.NOM tomorrow house-DAT come-CONT-IND-PRST-3SG

'Ali is coming home tomorrow'

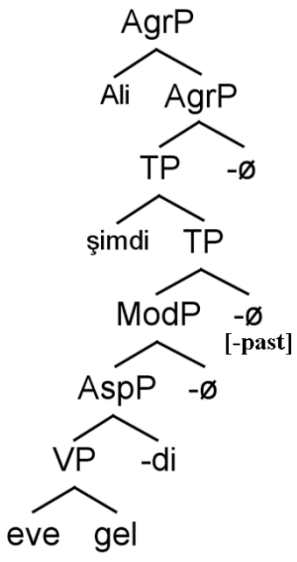
(Uzun 1998: 12)

(28a,b) are particularly interesting since they are totally unexplained – and unmentioned – by the syncretic IP model which assumes that (28a,b) don't have TP. Perfect aspect and evidential mood wouldn't license the present temporal adverbials either, since they relate to events that precede the point of speech. Going back to Uzun's account, he argues that it should be the [-past] tense that allows, i.e. hosts, the adverbs in (28) since the adverbs *now* and *tomorrow* are both compatible with the notion of non-past. Therefore the phrase structures of (28a-c) should be (29a-c) where the temporal adverbs appear in Spec, TP.

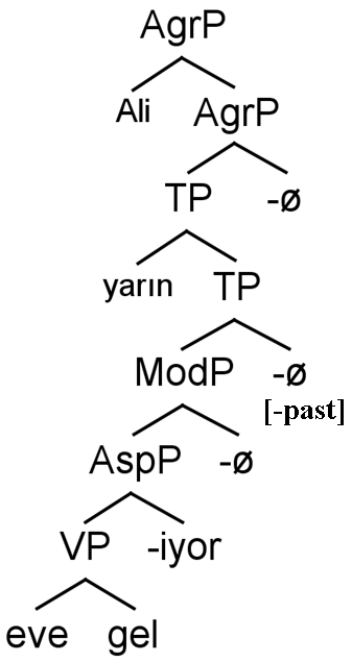
(29) a.



b.



c.



Note that it is also possible to make a distinction between the adverbs *now* and *tomorrow*, the former being compatible with continuous aspect. Unfortunately, Uzun (1998) only exemplifies the continuous aspect marker with the adverb *tomorrow* (28c) and argues that it is semantically compatible with the [-past] tense marker. But the adverb in (30) should be able to appear in Spec, AspP as well as in Spec, TP. I therefore suggest (31) as an alternative analysis of (30), where the adverb *yarın* 'tomorrow' may appear either in Spec, AspP or Spec, TP.[55]

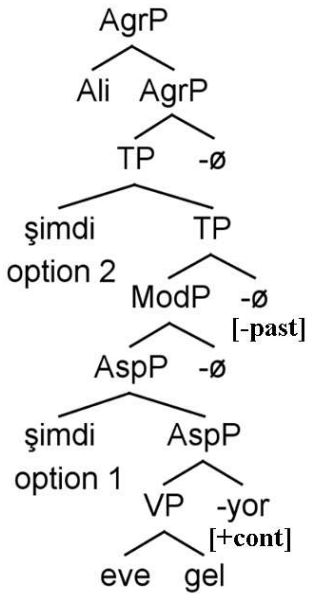
(30) Ali şimdi/şu anda ev-e gel -iyor -ø -ø -ø

Ali.NOM now/at the moment house-DAT come-CONT-IND-PRST-3SG

'Ali is coming home now/at the moment'

[55] (31) raises the question of what happens when a referential adverb co-occurs with a deictic adverb. I will return to this shortly.

(31)



Direct comparison of (27) and (29a) shows that in Uzun's analysis different temporal adverbials can appear in the spec positions of different categories in exactly the same sentence structure. So far, we have covered the cases where Aspect Phrase is occupied by the perfect marker and Mood Phrase is occupied by the evidential marker, both licensing the adverb *yesterday*. We also covered the sentences where non-past temporal adverbs *now* and *tomorrow* are licensed by the [-past] morpheme in T. To exhaust the possibilities in (23) and have a global understanding of Uzun's IP structure, we need to show what happens in the following configurations

(i) [-perfect, -continuous] Aspect, [+subjunctive] Mood, [-past] Tense

(ii) [-perfect, -continuous] Aspect, [+subjunctive] Mood, [+past] Tense

(iii) [+perfect] Aspect, [-subjunctive, -evidential] Mood, [+past] Tense

(iv) [-perfect, -continuous] Aspect, [+evidential] Mood, [+past] Tense

(32) shows what happens in (i) and (ii).

(32) a. Ali (*yarın) ev-e gel -di -ø -ydi-ø

Ali.NOM tomorrow house-DAT come-PFC-IND-PST-3SG

'*Ali has come home tomorrow'

b. Ali yarın ev-e gel -ø -meli-ydi-ø

Ali.NOM tomorrow house-DAT come-ASP-NEC-PST-3SG

'Ali should have come home tomorrow'

c. Ali yarın ev-e gel -ø -meli-ø -ø

Ali.NOM tomorrow house-DAT come-ASP-NEC-PRST-3SG

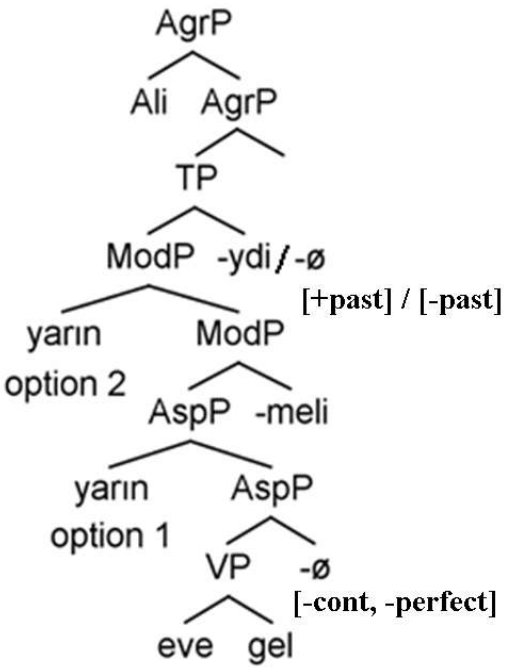
'Ali should come home tomorrow'

(Uzun 1998: 13)

(32a) is ungrammatical with the future adverb since the non-past adverb *tomorrow* does not match with any head regarding feature specification. However, in (32b) neither the subjunctive mood nor the [-perfect, -continuous] aspect is incompatible with futurity. Furthermore, by Uzun's reasoning, future is a subjunctive notion, so that the well-known future marker *-AcAk* is categorised as a [+subjunctive] mood marker (cf. (23)). Therefore, the adverb *tomorrow* can appear in the spec of either. It appears that in Uzun's (1998) framework, it is not the identity of features but the lack of incompatibility that allows appearance at spec. That is, it is all the TAM heads in (32a) and only tense in (32b) that is incompatible with/rejects the adverb *tomorrow*. But the fact that the feature specifications of aspect and mood in (32b) are not incompatible with futurity is enough to license the appearance of *tomorrow* in their specs. As to (32c), Uzun (1998) argues that it is grammatical for the same reason as (32b) is grammatical and the adverb *tomorrow* may appear in Spec, AspP or Spec, ModP for the same reason as discussed for (32b). Note that all of the subjunctive mood markers in (23) are grammatical with the adverb *tomorrow*. I am using only *-mAlI* in order to maintain Uzun's (1998) original examples. To summarise, (32b,c) should have the phrase structure in (33), where the adverb *tomorrow* can appear in the spec of either AspP or ModP, since neither is incompatible with its feature specification.[56]

[56] Note incidentally that the adverb *yarın* 'tomorrow' in (32c) should also be able to appear in Spec, TP since (29c) shows that non-past adverbs are compatible with the [-past] tense marker, a point that Uzun (1998) misses. I will, however, stick to Uzun's conception.

(33)



Uzun (1998) does not mention what happens when the adverb *yarın* 'tomorrow' is replaced by a past temporal adverbial in (32b,c) or when the configuration (iii) above co-occurs with a past temporal adverbial. Therefore, I will complete the data with my own interpretation of his analysis. First, if the adverb in (32b,c) is replaced by *yesterday*, as in (34a,b), a grammaticality contrast occurs.

(34) a. Ali dün ev-e gel -ø -meli-ydi-ø
Ali.NOM yesterday house-DAT come-ASP-NEC-PST-3SG
'Ali should have come home yesterday'

b. Ali (*dün) ev-e gel -ø -meli-ø -ø
Ali.NOM yesterday house-DAT come-ASP-NEC-PRST-3SG
'Ali should come home (*yesterday)'

The adverb *yesterday* is predicted by Uzun (1998) to be licensed by perfect aspect (25) or evidential mood (27), neither of which is the value of its categories in (34a). That is, the aspect is [-perfect, -continuous] and the mood is [+subjunctive] in (34a). But the adverb can easily be licensed by and appear in Spec, TP since T is [+past]. This also

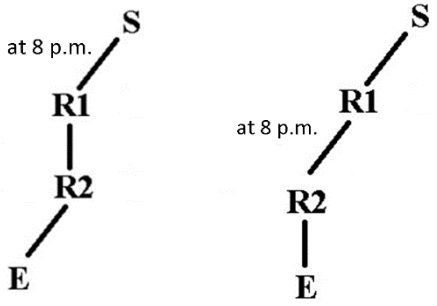
accounts for (34b) where there is no head that is semantically compatible with a past temporal adverb since tense is non-past. Finally, as to the options (iii) and (iv) that exhaust Uzun's chart in (23), (35) exemplifies such configurations.

(35) a. Ali sekiz-de ev-e gel -di -ø -ydi-ø
Ali.NOM eight-LOC house-DAT come-PFC-IND-PST-3SG
'Ali had come home at eight o'clock'

b. Ali sekiz-de ev-e gel -ø -miş -ti -ø
Ali.NOM eight-LOC house-DAT come-ASP-EVID-PST-3SG
'Ali had come home at eight o'clock'

(35a,b) are more problematic than the rest of the data since they suffer from ambiguity. The calendar-clock adverbial *sekizde* 'at eight o'clock' may show the reference time and lead to pluperfect interpretation or it may show the event time and lead to past-in-past. (36a) shows pluperfect interpretation while (36b) shows the past-in-past in (35a,b).[57]

(36) a. b.

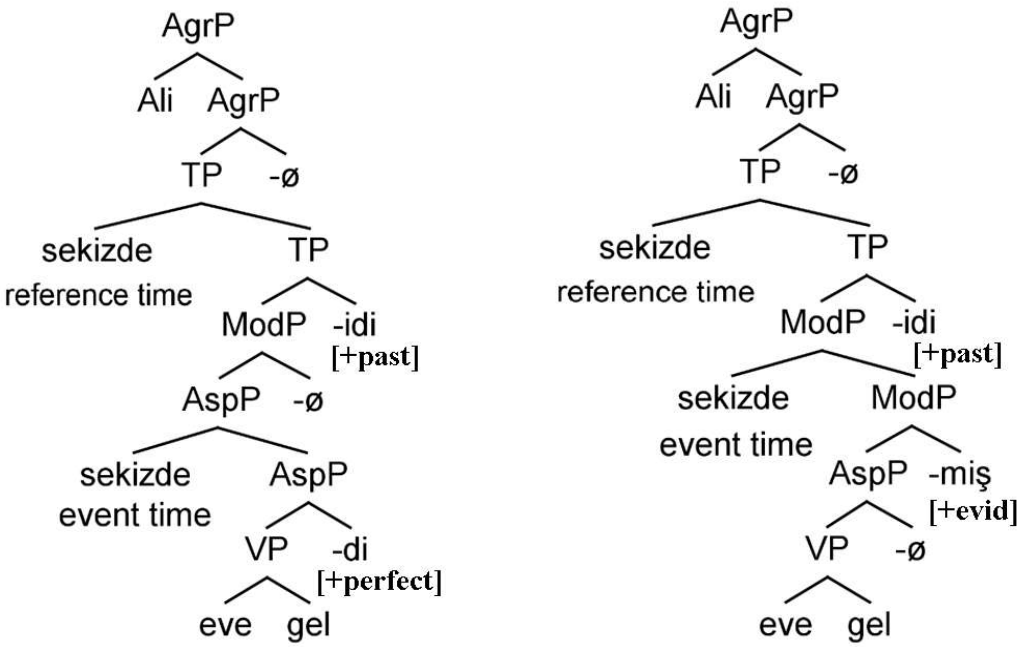


Therefore, we can argue that the different interpretations of (35a,b) stem from the projection the adverb appears in the spec of. If it adjoins to Spec, TP, it shows the reference time, but if it is in Spec, ModP or Spec, AspP it shows the event time. Note that

[57] See §5.4.2 for a detailed discussion of the ambiguity in (35). Note that Uzun (1998) argues that there are two *-mIş* suffixes in the string *-mIş-IDI*. That is, *-mIş* is monofunctional but ambiguous when followed by *-(I)DI* (see §5.3 for Uzun's arguments on *-mIş*). In one disambiguation, it shows evidential mood while the other shows perfect aspect due to contamination, in which case the phrase structure should be (37a) and *-mIş* should be the head of AspP, instead of *-DI*.

Uzun argues that perfect aspect and evidential mood can license past adverbs (cf. (25) and (27)) and [+past] tense can also host past temporal adverbials (34a). (37a,b) show the phrase structures of (35a,b).

(37) a. b.



In §1.6, we saw that there are three different types of temporal adverbials: referential, calendar-clock and the deictics. Deictics such as *yesterday* always show the temporal relation between a reference point and the point of speech, while referential adverbials show the temporal relation between two reference points such as *the day before that* or a reference point and the event such as *already*. On the other hand, the calendar-clock adverbials are ambiguous, for instance *at eight o'clock* in (35a,b). They can be used deictically or referentially. It seems that the ambiguity of the calendar-clock adverbial *at eight o'clock* allows it to appear in Spec, TP or Spec, ModP in (37). Hence, if there is a deictic or a referential adverbial in the sentence they should only appear in Spec, TP and Spec, AspP, respectively.[58] Note the sentences in (38).

[58] As stated in §7.1, Uzun's (1998) IP model is within the feature-based models regarding adverb compatibility outlined in §2.3. Note that we also saw in §2.3that deictic adverbs appear in Spec, TP while referential adverbs appear in Spec, Asp. Therefore, this seems to be a reasonable assumption.

(38) a. (Dün) Ali (dün) git-ti -ø -ydi -ø

yesterday Ali.NOM go-PFC-IND-PST-3SG

'(Yesterday) Ali had left (yesterday)'

b. (*çoktan) Ali çoktan git -ti -ø -ydi-ø

already Ali.NOM already go-PFC-IND-PST-3SG

'Ali had already left'

c.*Ali çoktan dün git-ti -ø -ydi -ø

Ali.NOM already yesterday go-PFC-IND-PST-3SG

'Ali had already left yesterday'

d.*Çoktan Ali dün git -ti -ø -ydi-ø

already Ali.NOM yesterday go-PFC-IND-PST-3SG

'Ali had already left yesterday'

e. Dün Ali çoktan git-ti -ø -ydi-ø

yesterday Ali.NOM already go-PFC-IND-PST-3SG

'Yesterday, Ali had already left'

f. Ali dün çoktan git-ti -ø -ydi-ø

Ali.NOM yesterday already go-PFC-IND-PST-3SG

'Yesterday, Ali had already left'

The deictic adverb in (38a) is in Spec, TP and shows the reference time, thus the sentence does not specify exactly when Ali left, i.e. the pluperfect interpretation. It only specifies that he left before yesterday. Furthermore, the adverb can appear sentence initially and show the reference time in Spec, X which can be argued to be higher than TP. The referential adverb in (38b), on the other hand, can only show the event time, and the sentence is interpreted as past-in-past. Note that the reference time in (38b) is discourse linked, i.e. it has to be specified in the preceding sentence. Therefore, the adverb has to be in Spec, AspP. Furthermore, referential adverbials cannot appear higher than deictic adverbials (38c-e). Given the order of tense and aspect phrases and the restriction on the adverb type and the functional phrases, the pattern in (38c-e) is expected. Finally, as seen in (38e,f) the two adverbs can co-occur and there should be at least two spec positions to host them, which is better explained by postulating two split phrases, each of which have been shown to host an adverb.

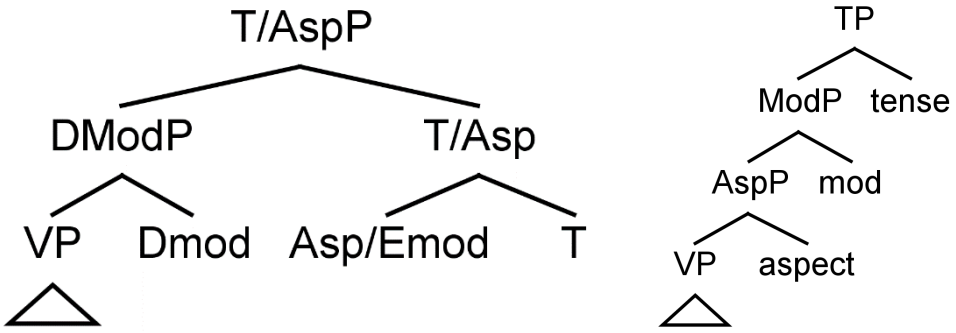
7.4 The Fine Structure of IP in Turkish

So far, there are two main approaches to Turkish IP in the literature. Tosun (1998) argues, based on Giorgi & Pianesi's (1997) views, that the TAM categories project a single phrase, i.e. syncretism, while Uzun (1998) argues that each category projects individually even though it may not be phonetically marked. Also, in the syncretic phrase structure there is no T node when the true tense marker *-(I)DI* is not available. The aspect markers under the hybrid node Asp/ModE project their inherent tense features when they inherently bear a past tense feature. When there is no tense feature in the derivation, an aspect/mood morpheme only projects its aspect/mood feature and the sentence is interpreted as present tense. Tense in Uzun's (1998) framework, on the other hand, projects even if it is present tense and phonetically not marked. Hence, aspect markers do not have inherent tense features. However, Cinque (1999) proposes an extreme position, the mirror image of syncretism, where each feature of each category has a projection. In his cross-linguistic survey, Cinque (1999) concludes that UG has an extremely rich functional structure that is invariant across languages and available in all sentences.

Unlike Uzun (1998, 2000), who argues that adverbs can appear in any specifier position as long as their features aren't incompatible with the head, Cinque, along with Tosun (1998), argues that adverbs appear in the specifier of some specific projections. However, he reaches quite a different conclusion than Tosun (1998). That is, he assumes that adverbs are associated with some specific head positions, yet he concludes that UG has a dedicated projection for each TAM feature. Although the head positions of these projections may or may not be phonetically marked in any given language, they are available in all languages and in all sentences. What is not deficient in (lexical) marking is adverbs since almost all adverb types are available in all languages. Therefore, rigidly ordered adverbs count as evidence for the existence and order of functional phrases in UG. Cinque (1999, 2001, 2004) argues that the existence and order of the functional heads he attains via adverb tests matches with the morphological data across languages. In other words, Cinque makes the same assumption as Tosun but reaches almost the same conclusion as Uzun. Ultimately, Cinque (1999) proposes a phrase structure model where each feature in the TAM categories heads its own phrase. In other words, in Cinque's model, each value of each TAM category has a projection that is visible in syntax and should be subject to syntactic operations individually. I provide in (39) an overall

comparison of the three models so that we have a better understanding of their theoretical merits. Note the three different models in (39) for comparison.[59] [60]

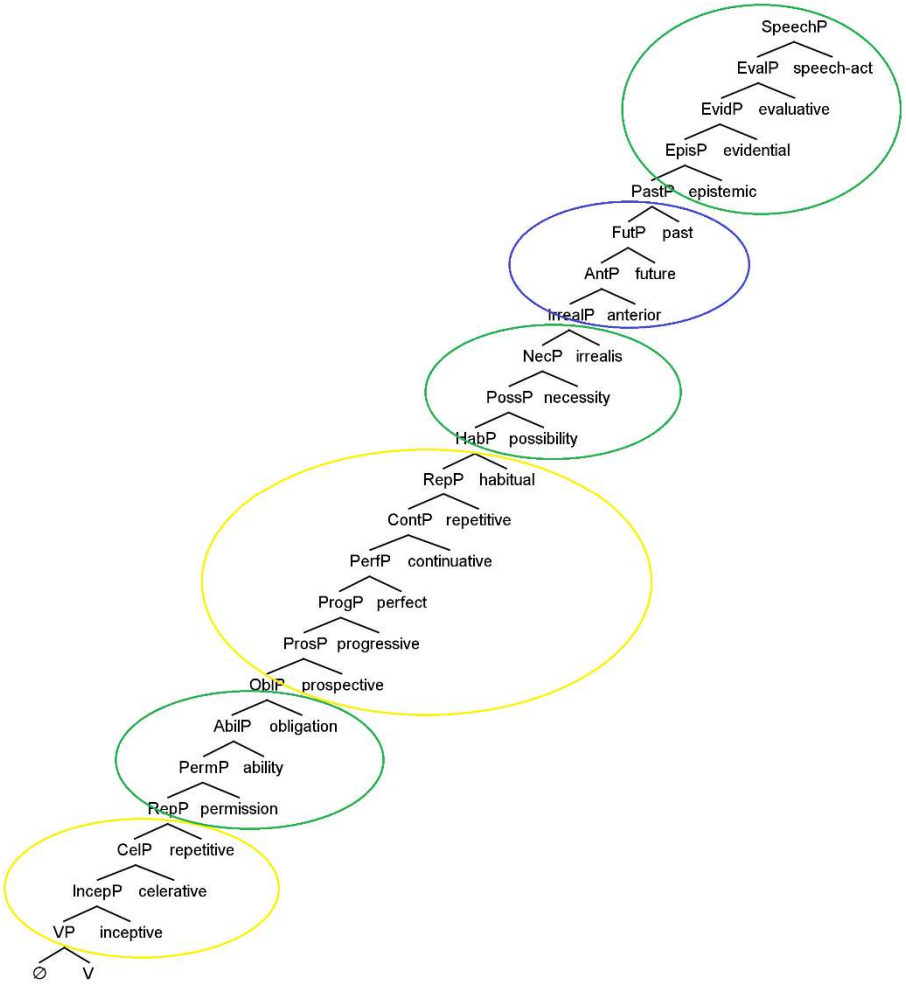
(39) a. Tosun (1998) b. Uzun (2000)



[59] (39c) is my interpretation of the two slightly different versions of Cinque's universal hierarchy of clausal functional projections that appeared in his seminal book (Cinque 1999) and a paper specifically written on Turkish (Cinque 2001). The two aspectual domains are simplified for the sake of convenience, and they now only cover the aspectual values that will interest us here and in the following chapters. Anterior tense, which was moved upwards by Cinque (2001) in the hierarchy to form something like a tense domain, originally appears in the middle of the only aspectual domain in Cinque (1999). Also, the lowest modal domain, permission, ability, obligation, is unavailable in Cinque (1999). They appear in Cinque (2001). Finally, volitional modal, appearing between celerative aspect and frequentative aspect in both versions, is ignored here for a more homogeneous aspectual domain, an unfair simplification to Cinque's strenuous efforts.

[60] The domains in (39c) are color-coded for the sake of simplicity. Yellow circles show the aspectual domains while green circles show the modal domains. The only tense domain is circled blue.

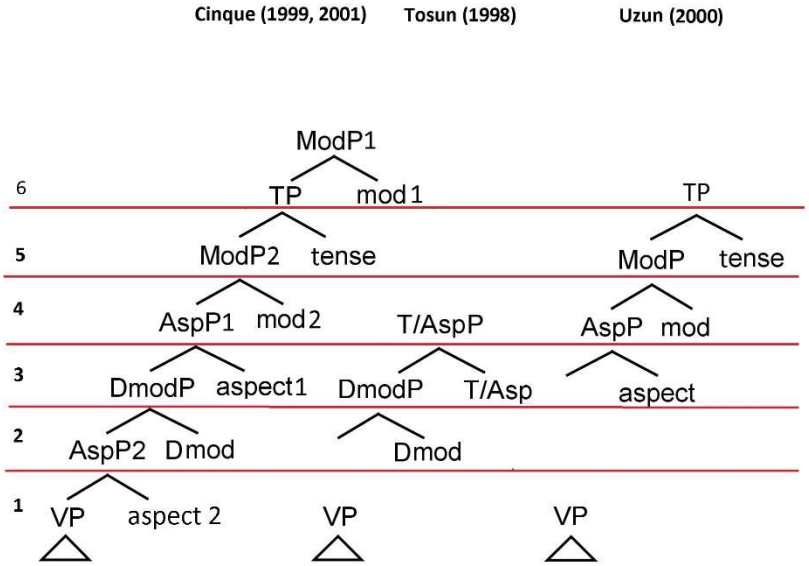
c. Cinque (1999, 2001)



It seems at first sight that Tosun and Uzun predict that VP, DModP and AspP are immediately dominated by different phrases. Note, however, that we cannot expect a direct comparison since Uzun does not have the deontic-epistemic distinction and argues that subjunctive and evidential moods appear under the same node showing these modal values. As to Cinque's model, roughly speaking, aspectual features are the lowest phrases, as in Uzun's (1998). But these specific aspectual features are not the ones discussed by Tosun or Uzun since they are not morphologically marked in Turkish, except celerative aspect marker *-Iver* which means 'doing something quickly or easily'. Therefore, although Uzun and Cinque seem to agree on the phrase immediately dominating VP, we do not expect them to defend the same position here since Uzun is not analysing the same aspectual features in the lower portion of IP as Cinque does, and neither is Tosun. If we can argue that in the lower aspectual domain, Cinque is discussing something that both Tosun and Uzun are missing, then we can also argue that Tosun and Cinque have a better match in the next phrase/domain up (row2 in (40)) since this is where the two models

actually begin to discuss the same TAM features. And in this domain, Cinque proposes *ModP obligation* > *ModP ability* > *ModP permission*, which correspond to Tosun's deontic modality. We can, therefore, draw the picture, with lots of simplifications, as in (40).

(40)



In (40), I group Cinque's (1999, 2001) atomic features in order to show where they would compare to Tosun's and Uzun's phrases. Row 1 is empty on the side of Tosun and Uzun since they do not discuss such aspectual features as celerative, inceptive aspect etc. (cf. (39a,b,c)) and row 2 is empty on the side of Uzun as he doesn't cover deontic modality (see §4.4). However, Tosun and Cinque seem to have an agreement in row 2. Cinque's phrases *ModP obligation* > *ModP ability* > *ModP permission* accumulate above the lower aspectual domain. Therefore, they can be equated to Tosun's DmodP. In row 3, Cinque's higher aspectual domain (Asp1) consists of such aspectual features as progressive, perfect, habitual and repetitive, which are roughly the aspectual features discussed by Tosun and Uzun. Therefore, we can argue that after due simplification, all three models can be aligned in row 3. But Tosun's phrase in the third row seems to have more than aspect. As a mirror image of Cinque's distribution of the individual values of each category, Tosun argues that this single phrase comprises three heads, the internal structure of which was reduced for the sake of simplicity (cf. (39a)). It has epistemic modality, aspect and tense features. Uzun, on the other hand, stands in the middle with a single

phrase headed by a single category. Essentially, in the third row and above, we can clearly see the effect of Tosun's syncretism. T/AspP is the highest TAM phrase and the complement of agreement while Cinque and Uzun assume other phrases/domains. In the next couple of rows, while Tosun doesn't posit any phrases for the reasons just discussed, Cinque and Uzun posit the same phrases/domains. Uzun argues ModP immediately dominates AspP and may have, depending on the morpheme appearing in its head position, subjunctive or evidential value where subjunctive may be further divided into obligation, prediction, conditional etc., but only one of them can appear in the head position (see (23)). Similarly, Cinque's phrases, again grouped as a single category for the sake of comparison, comprises irrealis, necessity and possibility moods (see (39c)). Therefore, I, again for the sake of a comparable analysis, will assume that Cinque's Mood 2 corresponds to Uzun's mood phrase, although Cinque's modal features in this phrase/domain only partially match with Uzun's features and the rest appear in the higher mood phrase/domain (mood phrase1). The similarity seems to continue in the next phrase/domain. Both Cinque and Uzun argue for a TP dominating ModP (row5). Furthermore, the tense features in Cinque's analysis, namely past, anterior past and future, can be translated into Uzun's format as [past] and [-past]. Finally, Cinque argues that another mood phrase/domain dominates TP and has the features speech-act, evaluative, evidential and epistemic probability. Therefore, we have matching phrases/domains in (40), if not a complete match.

Notwithstanding the gap in Tosun's and Uzun's coverage of some TAM values, the three models seem to agree on the status of row 3, departing in their prediction of how any syntactic operation applied to this phrase will behave. For Tosun, tense, aspect and epistemic mood morphemes appear under this phrase and any such operation should affect these suffixes together when they co-occur, except that the epistemic mood markers and the aspect markers do not co-occur, as Tosun also notes.[61] Hence it should affect either tense-aspect markers or tense-epistemic mood markers together. In the non-syncretic approach of Cinque and Uzun, however, it should be possible to separate the individual phrases and thus suffixes, since the aspect markers are not supposed to co-occur with another aspect marker under AspP in Uzun's framework and each suffix has

[61] Still, see §3.2.1 and §8.3.2 for counter-arguments.

its own head position allocated in Cinque's. The same should be true for the phrases in row 4, 5, and 6 in Cinque's analysis.

Let us now see how Cinque (2001) accounts for the ambiguity and multifunctionality of the TAM morphemes in Turkish, as it will open up an illuminating discussion regarding the syntactic status of the aorist *-Ar* already mentioned in §7.2. To start with, Cinque does assume multifunctionality and ambiguity of the TAM morphemes although his phrase structure proposal is similar to Uzun's. Regarding the ambiguity of *-mIş*, for example, Cinque (2001) argues that it is ambiguous between resultative aspect, perfect aspect and reportive/inferential/evaluative past tense, the last option being clearly multifunctional since in that option it shows evaluative mood and past tense simultaneously. But the phrase structural model in (39c) should not allow this. For one thing, although the syncretic model developed by Giorgi & Pianesi's (1997) and Cinque's (1999) models are both feature-based, Cinque's (1999) model has a different way of introducing semantic features to the derivation. In the syncretic model, the morphemes are the locus of features. They carry the features which project in the phrase structure. On the other hand, the extremely rich functional structure in (39c) is available in all sentences. Yet the feature of each phrase is [-], or default, unless its head position is morphologically marked or spec position is filled. So, for example, $Asp_{perfect}$ projects in all cases and once its head position is filled by a morphological form, the sentence is interpreted as [+perfect]. In other words, unlike Tosun's (1998) and Giorgi & Pianesi's (1997) approach, the morphemes do not have TAM features. It is the head positions that have default values which are valued [+] by any morpheme that may fill these positions. This explains the perfect interpretation of (41) without the confusion of evidential or past. We assume that it is only $Asp_{perfect}$ that is filled by a morpheme. And this morpheme has the phonetic form /mış/. Since $Asp_{perfect}$ is lower than T_{future}, *-mIş* can co-occur with *-AcAk*. And the sentence is future perfect.

(41) John hafta-ya tez-i-ni bitir -miş ol-acak-ø
John.NOM week-DAT thesis-3SG-ACC finish-PFC be-FUT-3SG
'John will have finished his thesis by next week'

(Yavaş 1980: 52)

Cinque argues, however, that (42) below has to be evidential past as shown by the time adverb 'yesterday', which leads him to conclude that *-mIş* fills a much higher head position in (42), T_{past}. From this, we can draw the following conclusion: (42) is not interpreted [+perfect] because $Asp_{perfect}$ is not filled by a morphological form. *-mIş* enters the derivation in a position higher than $Asp_{perfect}$. But according to Cinque (2001) and the multifunctional approach, it is apparently interpreted both [+evidential] and [+past], thereby displaying multifunctionality.

(42) Hasan dün opera-ya git-miş -ø
Hasan.NOM yesterday opera-DAT go-EVID.PST-3SG
'Hasan reportedly went to the opera yesterday'

(Cinque 2001: 52)

Now that T_{past} and $Mood_{evidential}$ are split in this model, there has to be another way for one morpheme to specify the values of two heads. Cinque (2001) argues that *-mIş* originates in T_{past} and raises to $Mood_{evidential}$, marking both heads as [+]. Similarly, for *-DI*, Cinque (2001) tacitly assumes both ambiguity and multifunctionality, citing Kornfilt (1997) (Cinque 2001: 57 ff. 11). He argues that it is ambiguous between a simple past reading and a present perfect reading. Regarding the simple past interpretation, (43) is an example of it.

(43) Hasan dün ödev-i-ni yap-tı -ø
Hasan.NOM yesterday assignment-3SG-ACC do -PFV.PST-3SG
'Hasan did his homework yesterday'

Although Cinque (2001) doesn't elaborate on the derivation of such sentences as (43), a movement analysis doesn't seem possible. For one thing, note that both (42) and (43) are past, the difference being the evidential interpretation of (42) and the perfective interpretation of (43). But there is a major difference between evidentiality and perfectivity in Cinque's model. While evidentiality is the marked value of $Mood_{evidential}$ due to morphological marking, perfectivity is the default value of $T_{anterior}$ due to the lack of morphological marking (Cinque 1999: 129-130). In other words, there is no

$Asp_{perfective}$. Therefore, if *-DI* were to be introduced to the derivation in $T_{anterior}$, subsequently moving to T_{past}, this would shift the value of $T_{anterior}$ to marked and yield a pluperfect interpretation. But (43) is perfective past. According Cinque's (1999) rich IP model, there is syntactic multifunctionality for *-mIş* (evidential and past), which is accounted for with movement. But the multifunctionality of *-DI* (perfective and past) is only an interpretation of the default value of $T_{anterior}$. It doesn't require a syntactic mechanism for an account.

So far, Cinque's model seems to accord with Uzun's model in that both assume distinct phrases for each TAM category, though Cinque's model is more fine-grained and requires a distinct phrase for each feature of the TAM categories. But Cinque (2001) tries to account for the alleged multifunctionality of *-mIş* with movement while perfective interpretation of simple past is the result of the default value of $T_{anterior}$ plus the marked value of T_{past}. Uzun, on the other hand, (1998) does not resort to movement or any other interpretive mechanism since he argues against any multifunctionality and past interpretation of both morphemes. The difference seems to carry over to present tense. Consider (44).

(44) Hasan balığ-ı ye-di -ø
Hasan.NOM fish-ACC eat-DI-3SG
'Hasan ate the fish'
'Hasan has eaten the fish'

(Kornfilt 1997:349)

Simple past interpretation of (44) is easily explained in Cinque's model with *-DI* appearing in T_{past} switching its value to [+past] and the default value of $T_{anterior}$, as discussed for (43) which had a temporal adverbial to reinforce the interpretation. But Kornfilt (1997:349), Lewis (1967:127) argue and Cinque (2001) agrees that present perfect interpretation is also available in (44) in the absence of a temporal adverbial, as shown by the second translation. For the TAM morpheme to specify a feature of two

categories, we need to assume that *-DI* moves from $Asp_{perfect}$ to $T_{present}$, similar to (43).[62] But just like the perfective aspect, there isn't a $T_{present}$ head in Cinque's hierarchy of universal functional phrases (39c). Tense can only be specified for past and future when either T_{past} or T_{future} is filled by a morphological material. According to this model of tense inspired by Vikner (1985), present tense "[…] results 'compositionally' when the time points related by T(Anterior) […], T(Future) […], and T(Past) […] coincide (i.e., have the "default" values). Nonetheless it is plausible to view the 'present' […] [as] the default value of T(Past), provided that the lower T°s have the default value" (Cinque 1999: 88). That is, there is no zero morpheme *-ø* inserted to $T_{present}$ to show present tense irrespective of the value of the other T°s since there is no $T_{present}$. This means Cinque (1999, 2001) disagrees with Uzun (1998) who argues that (44) is actually always present tense which is shown by a phonologically deficient zero morpheme inserted at T and that there is only one T head (see §7.3). Therefore, we are led to conclude that present tense does not need to be morphologically marked, not even with a phonetically null head in Cinque's rich IP model. It is not a linguistic entity and the sentence is interpreted by the speaker as present when none of the tense heads is morphologically marked [+] for its feature. Furthermore, it is a simple default interpretation of a head, as is the case with $T_{anterior}$ which leads to perfective interpretation. Present tense is a *situation* in Cinque's (1999) model that results when three heads simultaneously have the default value.

Note that quite similarly, present tense does not project in the syncretic model. If the derivation doesn't have the genuine past tense marker *-(I)DI*, two of the aspect markers *-DI* and *-mIş* have two options. They may have and project past tense along with their aspectual/modal features, which results in the perfective past interpretation in (44) or they may have only an aspectual/modal feature and the sentence is interpreted present at LF since no tense feature is available (Giorgi & Pianesi 1997: 40). Hence, Uzun's model is unique in assigning a syntactic function to a phonetically null morpheme and this morphological entity is different from the empty/silent heads in Cinque's functional structure. Cinque's silent heads are actually X^0s without any kind of morphological

[62] Note that Cinque (2001) does not elaborate on this after citing Kornfilt (1997) for the present perfect interpretation of (44).

material, much like the X-bar theory of the Government and Binding Theory.[63] [64] And the [-X] interpretation of the sentence naturally occurs as a corollary in syntax unless the head position is morphologically filled (Cinque 1999: 129). And apparently, such a silent head is absent from UG in Cinque's framework when it comes to present tense. [-past], [-future] and [-anterior] is pragmatically interpreted as present. On the other hand, Uzun's (1998) zero morpheme -ø is a more concrete entity than Cinque's silent heads since morphologically it is part of a full paradigm, but it lacks phonetic content. Finally, we can speculate that there are levels of linguistic existence for TAM markers and schematize it as (45) below.

(45) *Linguistic existence chart of TAM markers*

		Syntactic existence	Phonetic existence	Argued by
Processed in narrow syntax	*-mIş/-DI/-yor* etc.	+	+	Tosun, Uzun, Cinque
	-ø (for present tense)	+	-	Uzun
	Silent heads	-	-	Cinque
Processed at LF	Present tense	-	-	Cinque, Tosun

According to (45), Tosun (1998), Uzun (1998) and Cinque (1999) argue that when there is one of the morphemes *-mIş/-DI/-yor* etc. in the sentence it (naturally) exists phonetically and projects a syntactic feature (Tosun 1998, Uzun 1998) or switches the default value of the phrase to marked (Cinque 1999). When there is no phonetically marked morpheme, for Tosun (1998) it doesn't exist syntactically, either. For Cinque (1999), it is an empty (silent) head bearing the default value due to lack of a morphological marker, except present tense. Such a binary opposition is possible in

[63] Note the marginal discrepancy between Chomsky's (1995) and Giorgi & Pianesi's (1997) approach to the theory of language and Cinque's (1999) when it comes to the heads that project. For Chomsky (1995), empty heads cannot project as an economy principle. The sentence is interpreted present unless the aspect/mood marker projects past tense feature.

[64] See Ritter and Wiltschko (2014) for an attempt to return to a scheme resembling the X-bar theory regarding TAM marking..

Cinque's approach due to the multiple phrases. However, since Uzun posits one single phrase for each TAM category, he employs a syntactically and morphologically existing zero morpheme which shows that its value is none of the other possibilities, still not a binary opposition.[65] If -ø weren't a syntactic entity, the speaker/hearer would have no way of knowing which one of the two other values the sentence has.

Apart from the part of the chart processed at LF, which should not concern us here since Cinque pushes it out of the syntactic component, (45) seems to miss a possibility. Can there be phonetically visible but syntactically invisible entities, like the English expletive *there*? [66] I would like to speculate that if there are such entities in Turkish verbal morphology, the aorist in the strings ability/possibility-aorist must be one of them. Recall that the morpheme *-Abil*, in either Dmod as ability marker or in EMod as possibility marker, cannot render the sentence finite, requiring further suffixation, and Tosun (1998) argues that it is the aorist *-Ar* that is suffixed as the default form. Note the sentence in (46) exemplifying the case with the possibility interpretation.

(46) a.*Köşe-den her an araba çık -abil -ø
corner-ABL any time car.NOM come.out-POSS-3SG
Int. A car may come around the corner

b. Köşe-den araba çık -ar -ø
corner-ABL car.NOM come.out-AOR-3SG
'A car may come around the corner'

c. Köşe-den her an araba çık -abil -ir -ø
corner-ABL any time car.NOM come.out-POSS-AOR-3SG
'A car may come around the corner any time'

[65] See (23) where it is clearly seen that -ø is in ternary opposition with the other values of aspect and mood, which forces us to assume that [-past] has to have the same theoretical status for the uniformity of the hypothesis.

[66] I am assuming here that phonetic existence necessarily means morphological existence, at least occupying a morphological slot.

d. Köşe-den her an araba çık -abil-iyor -ø
corner-ABL any time car.NOM come.out-POSS-IMPFV-3SG
'A car may sometimes come around the corner suddenly'

Unless uttered in a specific context where habit or repetition is enforced by world knowledge, the aorist *-Ar* shows prediction (Uzun 1998) or possibility in the future (Yavaş 1980). But when it is suffixed to the possibility *-Abil* for finiteness, *-Ar* has minimal to no semantic contribution (cf. (46b,c)), which is quite difficult to translate to English. As a matter of fact, *-Abil* and *-Ar* are interpreted and translated in the same way in most contexts. It looks like *-Ar* in (46c) does not exist syntactically although its morphological existence can be argued for, that is it may occupy a morphological slot. *-yor*, on the other hand, in (46d) seems to have syntactic relevance since it has semantic connotations. In fact, (46b,c) can be grouped together and contrasted with (46d) regarding their interpretation. While (46b,c) are expressions of simple possibility, (46d) implies that the speaker has experienced a car's coming around that specific corner several times and now he expresses that this possibility is still continuing, a notion which it is not possible to express with the progressive marker *-ing* in English. Thus if we can argue that the contrast in (46c) and (46d) is not between *-Ar* and imperfective *-yor,* but between the presence and absence of imperfectivity after the possibility marker, i.e. between simple and continuative possibility, then we can also argue that *-Ar* in *-abil-ir* does not (at least syntactically) exist. Therefore, if the aorist *-Ar* in (46c) is for finiteness only (cf. (46a,b)), then we can argue, unlike Tosun (2002), that finiteness is a morphological issue in Turkish rather than syntactic.

(47) *Linguistic existence chart of TAM markers (second approximation)*

	Syntactic existence	Phonetic existence	Argued by
-mIş/-DI/-yor etc.	+	+	Tosun, Uzun, Cinque
-ø	+	-	Uzun
Silent heads	-	-	Cinque
-Ar in *-abil-ir*	-	+	

7.5 Conclusion

In this chapter, I illustrated the general architectures of three different phrase structure models of IP in Turkish. Two of the models, the syncretic model defended by Tosun (1998) and the rich IP model defended by Cinque (2001), are based on the multifunctional analysis of the data while the split IP model relies on the monofunctional analysis. The syncretic model argues that multifunctional morphemes project their multiple features in one phrase while the rich IP model explains the phenomenon of one form showing multiple features by arguing that it originates in one of the phrases and raises to the others to switch the features of the head position from default to marked. Two models, therefore, make quite different predictions regarding the syntactic operations that may apply to the IP heads. The syncretic model predicts that a syntactic operation probing the IP should not be able to distinguish the features, e.g. perfective and past, since they are embedded in the same head. But in the rich IP model, it shouldn't be a problem since every feature heads its phrase. The effect of the split IP model based on the monofunctional analysis should be the same as the rich IP model. Since there is no multifunctionality in this model, every IP category is split. The feature of a particular phrase, such as perfect and continuous in AspP or past and present in TP, depends on the morpheme occupying the head position. Therefore, the heads should be subject to syntactic operations individually, as in the rich IP model.

There is another point of differentiation for the three models: present tense. According to the syncretic model and the rich IP model, present tense is not a syntactic entity. It naturally occurs when there is no tense feature in the derivation. But present tense projects a phonetically empty head in the split IP. But this doesn't mean that the head is syntactically empty. In contrast to a head which is phonetically absent but syntactically available, I argued, after Tosun (1998), that the aorist *-Ar* is phonetically available but syntactically empty after the ability and possibility markers, which are homophonous in Turkish (*-Abil*). Chapter 8 deals with the issue of selecting between these models or considering whether it would be better to adopt an entirely new model.

CHAPTER 8

The Organization of the Functional Structure via Non-finite Adjunct Clauses in Turkish

8.1 Introduction

The chapter 7 outlines and compares three different IP models for Turkish. This raises the question of which one is supported by empirical and theoretical evidence. We also need to ask whether an alternative model can be defended. First of all, each model seems lacking with respect to empirical coverage. Tosun's (1998) syncretic model misses the grammatical combination possibility/ability-imperfective and considers the modal and aspectual markers to be in the hybrid node Asp/ModE. If morphological evidence reflects syntactic structure, the co-occurrence of possibility/ability and imperfective markers should indicate that there are two adjacent head positions. However, given the syncretism argument defended by Tosun (1998) and Giorgi & Pianesi (1997), expecting a one-to-one correspondence between morphology and syntax would be too naïve an assumption. Hence, the split and syncretic phrases put forward by morphological evidence should be supported by syntactic evidence.

In this chapter, I provide an alternative method of organizing the functional structure in Turkish, covering the complete set of data outlined in chapter 3. For this, I use the semantic interpretations of a specific type of adverbial clause which otherwise lacks any semantic content. More specifically, the *-Ip* clauses in Turkish cannot be uttered as stand-alone clauses even as an answer to a question since the suffix *-Ip* appears as the only functional morpheme but it doesn't have any functional feature, that is *-Ip* is a dummy morphological item. Therefore, the *-Ip* clauses depend on the main clause for interpretation, as discussed for other adverbial clauses in chapter 6. Recall that non-finite adverbial clauses lack tense in Turkish although they may mark aspectual or modal notions. *-Ip*, on the hand, has no semantic content, yet it has TAM interpretation.

The original database I provide in this chapter gives us an opportunity to perform syntactic tests to see how syncretic or split the functional phrases of Turkish are. §8.2 is an introduction to the non-finite converbial suffix *-Ip* that forms adjunct clauses and to its most debated aspects. In §8.3, I move on to the discussion of what the adjunct clauses bearing this suffix can show us regarding the IP structure of the main clauses in Turkish, concluding that there are two syncretic phrases (ability-negation and tense-aspect-mood) and two split phrases (epistemic mood and agreement) in the IP structure of Turkish.

8.2 The 'Magical' Suffix *-Ip*

In chapter 6, I showed that the set of embedded clauses of Turkish varies greatly with respect to finiteness and argument structure. There are fully finite complement clauses and simple infinitives while adverbial clauses always lack tense and show various aspectual and modal notions such as repetition and intention. However, one type of adverbial clause was intentionally left out since this clause type, bearing the suffix *-Ip*, is quite exceptional in that it is underspecified with respect to TAM as well as polarity and agreement. There seem to be three critical aspects of the adverbial clauses bearing *-Ip* that we need to elaborate before we start inquiring what they can show us about the IP structure of main clauses: (i) their syntactic function(s), (ii) their semantic interpretation, i.e. the TAM features they are interpreted as having, and (iii) their argument structure. The phrase structural model I offer here provides an account for these as well as the phrase structure of the main clauses in Turkish.

-Ip is quite an exceptional suffix in Turkish. It is similar to the suffixes *-ArAk*, *-AsIyA* and *-A...-A* (see chapter 6) in that it doesn't bear agreement. Although Aydın (2004), Brendemoen and Csato (1987) argue that *-Ip* clauses have PRO for subject based on the data represented by (1), where the *-Ip* clause and the main clause have shared subjects, we will see below that *-Ip* clauses, unlike *-ArAk* clauses, allow NP subjects. Note the similarity between *-Ip* and *-ArAk* and their shared subjects in (1a,b).

(1) a. Ahmet [*e* top-u sopa-yla ittirir-erek] ağaç-tan düşür-dü -ø

Ahmet.NOM ball-ACC stick-INST push-ArAk tree-ABL drop -PST-3SG

'Ahmet dropped the ball from the tree by pushing it with a stick'

b. Anne-m [*e* yemeğ-i yap-ıp] ben-i uyandır-dı -ø

Mother-1SG.PSV food-ACC make-Ip I-ACC wake.up-PST-3SG

'My mother cooked the dinner and woke me up'

Johanson (1988, 1995), Csato and Johanson (1998) claim that *-Ip* conjoins two semantically equal propositions by duplicating the main clause's functional structure, yet syntactically it forms a subordination structure where the adjunct clause is outside the matrix VP. Likewise, Slobin (1995), Lewis (1967) and Göksel and Kerslake (2005) argue that *-Ip* is a simple coordinator. On the other hand, Fokkens, Poulson and Bender (2009) argue that *-Ip* marks VP coordination. It seems that *-Ip* clauses are co-ordinated with the matrix VP but subordinate to the functional structure of the main clause. This seems particularly appealing if we take into account that cooking the dinner and waking me up in (1b) are two separate events conjoined morphologically by a suffix. Interpreted this way, the sentence means that my mother first completed cooking then woke me up, which makes the two actions completely separate.[67] This analysis is also supported by the data that shows that *-Ip* constructions are parallel to verbal coordination constructions mediated by *ve* 'and'. Note the similarity of the *-Ip* clause in (2a) and the *and* coordination in (2b). Therefore, if *-Ip* clauses are VP coordination structures, we can tentatively assume (3) to be the phrase structural representation of *-Ip* clauses.

(2) a. Çocuk-lar film izle-yip pizza yi -yor -lar -dı

Child-PL film watch-Ip pizza eat-CONT-3PL-PST

'The children were watching a movie and eating pizza'

[67] Although (1b) and (2a) below are only interpreted as conjunction, *-Ip* clauses can also be used for cases where one event is embededded into another and receives instrumental interpretation, such as (4a,b). The lack of instrumental interpretation in (1b) and (2a) seem to be conditioned pragmatically, i.e. cooking dinner can hardly be an instrument for awaking someone and watching a film cannot be a way of eating pizza. Yet, pragmatic conditioning doesn't mean that it is a pragmatic phenomenon. For one thing, where there is no pragmatic conditioning, i.e. in (4a,b), we do need a syntactic account that allows for dual interpretation.

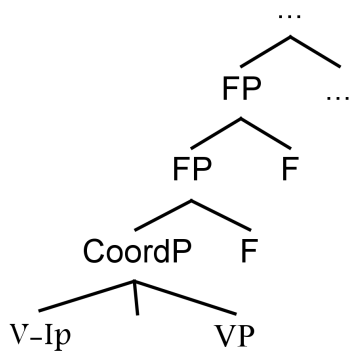
b. Çocuk-lar film izli-yor ve pizza yi -yor -lar -dı

Child-PL film watch-CONT and pizza eat-CONT-3PL-PST

'The children were watching a movie and eating pizza'

(Fokkens, Poulson and Bender 2009:5)

(3)



(3) stipulates a VP coordination for the *-Ip* clauses and allows them to duplicate the functional structure of the main clause as argued by Johanson (1988, 1995), Csato and Johanson (1998). Both VPs are under the scope of the functional structure and the functional heads can quantify over both conjuncts. However, wider data suggests that *-Ip* can mark quite different structures, ranging from extreme embedding where the events are semantically fused to coordination structures where the clauses have no common functional feature or no argument is shared, unlike (1b) and (2a).

Let us start with the sentences where the *-Ip* clause shows an event embedded in a superordinate event. In some cases, it can be integrated into the event structure of the main clause such that the resulting event is interpreted as a single one, forming structures known as serial verb constructions (see Baker and Steward 1999, Aikhenvald 2006 for serial verbs). Furthermore, in some cases it can be lexicalised and form an idiom. In (4a) and in the second interpretation of (4b), the *-Ip* clauses describe the event shown by the main verb rather than presenting an event of equal semantic value.

(4) a. Ahmet top-u sopa-yla ittirir-ip ağaç-tan düşür-dü -ø

Ahmet.NOM ball-ACC stick-INST push-Ip tree-ABL drop -PST-3SG

'Ahmet knocked the ball out of the tree by pushing it with a stick'

b. Anne-m oda-ya gir-ip ben-i uyandır-dı -ø

mother-1SG.POSS room-DAT enter-Ip I-ACC wake.up-PST-3SG

'My mother entered the room and woke me up'

'My mother woke me up by entering the room'

(4a) is identical to (1a) with *-ArAk* replaced by *-Ip*. As the identical interpretations of the corresponding sentences indicate, *-Ip* clause may function as a manner adverbial, i.e. pushing the ball with a stick is a prerequisite or the manner by which Ahmet knocks it out of the tree. The events cannot be separated from each other, neither can they be temporally distinguished. However, it is unlikely in (1b) that my mother's cooking is included in her waking me up. Similarly, children's watching TV in (2a) is not dependent on or included in eating pizza. Hence we can argue that cooking and eating in (1b) and (2a) are coordinated with waking up and watching TV while pushing the ball with a stick in (4a) is subordinated to knocking it out of the tree since pushing the ball is included in the act of knocking it out. Therefore, *-Ip* can mark subordination or coordination of the events, in other words VPs. Therefore, the *-Ip* clause in (4a) should appear lower than the ones in (1b) and (2a), either adjoined to VP (Ernst 2002) or in the specifier of a low functional phrase (Cinque 1999).[68] (4b), on the other hand, shows that given the right context, *-Ip* clauses can be ambiguous between the two analyses above. That is, my mother's entering the room may or may not be subordinated to the event of her waking me up. She may enter the room and then do something to wake me up, the first interpretation, or her entering the room may wake me up, the second interpretation.

When two events go beyond embedding, i.e. when they are interpreted as one single event, this results in verb serialisation. Consider the *-Ip* clauses in (5)

[68] Having said this, we should show where exactly the *-Ip* clauses appear in the phrase structure if it is not a coordination structure. But I will delay the discussion to §8.3, keeping to their general syntactic properties and remaining theory-neutral here.

(5) a. Adam bütün mal-ı-nı sat-ıp sav -dı -ø

man.NOM whole asset-3SG-ACC sell-Ip throw.away-PST-3SG

'The man foolishly spent all his savings'

Lit. 'The man sold and threw away all his assets'

b. Hoca konu-yu kes-ip at -tı -ø

teacher.NOM subject-ACC cut-Ip throw-PST-3SG

'The teacher refused to discuss the subject'

Lit.' The teacher cut and threw away the subject'

The sole object 'his assets' is shared by the two verbs in the sentence, and the subject of the embedded clause in (5a) is co-referential with that of the main clause, like in (4a). But the two verbs in (5a) act like a single word both semantically and syntactically. That is, while pushing and knocking are two acts done simultaneously in (4a), (5a) is hardly interpreted as involving two acts. The two verbs show a single action related to the meaning of both. They have a single event interpretation, one of the criteria for serial verbs (Aikhenvald 2006). To sell and throw away one's assets means to spend one's savings foolishly. Finally, an *-Ip* clause can form an idiom with the main verb where the meaning of the sentence can hardly be deduced from either verb, as in (5b). To cut and throw away a topic means to refuse any further discussion. It seems that *-Ip* clauses can appear lower than assumed by the VP coordination hypothesis. On the other hand, Göksel and Kerslake (2005) show that there are sentences where the *-Ip* clause and main clause look like two juxtaposed sentences with full argument structures. Consider (6).

(6) Tam o saat-te Semra iş-i bırak-ıp

exactly that time-LOC Semra.NOM work-ACC leave-Ip

Ahmet işbaşı yap-ıyor-ø

Ahmet.NOM clocking.on do-CONT-3SG

'At exactly that time, Semra leaves work and Ahmet goes on duty'

(Göksel and Kerslake 2005: 440)

In (6), the *-Ip* clause has non-shared subject and object, raising problems for the claim that *-Ip* clauses require PRO for subject. Note that in (6) the two clauses have two independent and semantically equal events, thus it is a coordination structure where it is the clauses rather than VPs that are co-ordinated. We can, therefore, conclude that *-Ip* clauses can have varying phrase structural relationships with the main clause, possibly depending on their specific adjunction point.

Based on similar observations in Old Turkic and modern Turkish, Erdal (2004) argues that *-Ip* is unmarked for coordination or subordination. He points out that an *-Ip* clause is a subordinate clause if it describes the event in the main clause and a coordinate clause if it has an independent chain of events. In addition, Erdal (2004) claims that the more an *-Ip* clause shares (arguments and functional features) with the main clause, the more subordinate it is. I provide an account for this generalization in §8.3 using a fine-grained sharing scale regarding TAM categories and show that there isn't a clear-cut distinction between coordination and subordination. It is graded rather than separated as two distinct phenomena.

As for the semantics of *-Ip,* apart from Lewis (1967), Redhouse (1884) and Tekin (1997) who assign perfective aspect function to *-Ip*, there is an almost unanimous agreement in the literature as to its semantic vacuity. Specifically, Slobin (1995) argues that "*-Ip* is the most 'neutral' or 'empty' of the converbs". Since the *-Ip* clauses have temporal and aspectual interpretation as shown in (2a), this indicates that *-Ip* depends on the main verb for functional categories. Similarly, Göksel and Kerslake (2005) and Kornfilt (1997) point out that it replaces the TAM markers on the main verb. Johanson (1995, 1988) shows that *-Ip* has no TAM or any semantic value and marks various semantic relations subject to the event type of the main verb. Erdal (2004) remarks that it is unmarked for aspect and the succession interpretation of the events in sentences like (1b) is due to their iconic ordering. The speaker prefers to utter the event that took place first before the event that followed it. According to Erdal (2004), this mistakenly leads to assignment of perfective aspect function to *-Ip*. Therefore, even though succession of events is a common interpretation of this suffix, Erdal (2004) shows that depending on the aspectual properties of the main verb, *-Ip* may also mark simultaneity. Note the simultaneity of the events in (7), adapted from Erdal (2004). There cannot be an ordering

relation between committing a crime and becoming a sinner since they are the results of the same action from two different perspectives.

(7) Suç işley-ip günahkar ol -du-lar
crime commit-Ip sinner become-PST-3PL
'They committed a crime and became sinners'

The lack of a fixed semantic content in *-Ip* is also indicated by the fact that there is no wh-phrase that naturally requires an *-Ip* clause as the answer. For instance, the question in (8a) can be asked to elicit the answer in (8b) bearing a different converb. But in (8c), where # marks an infelicitous answer, the *-Ip* clause cannot be uttered to answer (8a).

(8) a. Adam nasıl git-ti -ø?
man.NOM how go-PST-3SG
'How did the man leave?'
b. Gül-erek git-ti -ø
laugh-ArAk go-PST-3SG
'He left laughing'
c. #Gül-üp git-ti -ø
laugh-Ip go-PST-3SG
'He left laughing'
'He laughed and left'

The only way to guarantee an *-Ip* clause answer is to use a *do what* question in an *-Ip* clause, as in (9). Even when the question is asked periphrastically as in (9), the answers where the *-Ip* clause stands on its own tend to be ungrammatical, unlike *-ArAk* clauses (cf. (11)). Note the grammaticality contrast between (10a) and (11) as an answer to (9).

(9) Adam ne yap-ıp git-ti -ø?

man.NOM what do-Ip go-PST-3SG

‘The man left doing what?’

‘What did the man do and leave?’

(10) a.??Gül-üp

laugh-Ip

‘By laughing’

b. Gül-üp git-ti -ø

laugh-Ip go-PST-3SG

‘He left laughing’

‘He laughed and left’

I presume that the degraded grammaticality in (10a) is due to the lack of semantic interpretation for the *-Ip* clause. The *-ArAk* counterpart of the same dialogue when the man’s laughing and going away overlap is completely grammatical in (11), which is, I argue, due to the semantic content of *-ArAk* (continuous aspect) even though it doesn’t have any tense or mood feature.

(11) A: Adam nasıl git-ti -ø?

man.NOM how go-PST-3SG

‘How did the man go away?’

B: Gül-erek.

laugh-ArAk

‘Laughing’

In conclusion, *-Ip* clauses have no semantic content and their syntactic status is highly debated due to two reasons: (i) their event structure has varying relationships with the main clause. They can show an independent event as in (6) or they may be integrated

into the main verb in such a way that they form a lexicalised expression with it, as in (5); (ii) They can share their argument structure with the main verb fully (4a), partially (1b) or have an independent argument structure (6). Ideally, (i) and (ii) should be either related or the results of the same phenomenon. But if *-Ip* has no intrinsic semantic content, this leads to the following question: Where does its interpretation come from in, for example, (7)? Apparently, the embedded clause has a TAM interpretation as the translation indicates (cf. Göksel and Kerslake 2005 and Kornfilt 1997). That is, it is interpreted perfective past and indicative mood, which are the same TAM values as the main clause. It seems that they are shared between the main clause and the *-Ip* clause, as is standard in verb serialisation cross-linguistically. Furthermore, if we assume that Nominative Case is licensed by agreement (George and Kornfilt 1981), it is possible to argue that the *-Ip* clause in (6) is not empty regarding agreement since it has a lexical subject. This raises the possibility that in (1a,b) the *-Ip* clause has an agreement phrase that copies the features of the agreement phrase in the main clause and what looks like a controlled PRO is sharing of the agreement features between the two clauses where the pro in (1a,b) is obligatorily null, as is common in Turkish unless the pronominal subject contrasts with the subject of the preceding sentence (cf. Göksel & Kerslake 2005 and §3.1.2).[69] In §8.3, I show that TAM sharing between the main clause and the *-Ip* clause is quite fine-grained across the whole functional structure and each sharing option can provide insight into the organization of the IP-related phrases in Turkish.

8.3 What the *-Ip* Clauses Show Us about the IP-related Phrases in Turkish

I assume here that *-Ip* clauses copy the functional features of the main clause, where the term 'copy' is used temporarily in a non-technical sense.[70] The operation 'copy' is the syntactic operation which I assumed to exist throughout chapter 7. I argue that copying of the functional features from the main clause is sensitive to the split or syncretic nature of the functional phrases in Turkish. That is to say, since copying is a syntactic operation, it should be able to target the split heads individually while it should target the syncretic heads collectively. In brief, I will use the copying facts of *-Ip* clauses as a diagnostic test

[69] The Null/overt distinction in the subject position of *-Ip* clauses is more complicated than this and interacts with the subjects selected. See §9.5.

[70] Johanson (1995) and Lewis (1967) account for the identity of the functional features of the clauses with the scope phenomenon where the main verb has scope over the embedded verb. See § 8.4 for an argument that scope-taking fails to explain the semantic interpretation of *-Ip* clauses.

for the syncretism of the TAM phrases. I also argue that such a test can be applied to negation and agreement and offer a full phrase structure model. I assume that co-referential subjects of the main clause and the *-Ip* clause indicate copying of the agreement features, not a PRO in the subject position, since as (6) in §8.2 shows the embedded clause may have an overt NP subject. After showing what these assumptions suggest regarding the organization of the functional structure of Turkish, I will give an explanation for how the operation 'copy' takes place using the tools of the Minimalist Program in chapter 9.

8.3.1 *Principles of the test for the IP organization in Turkish*

I start with a simple example where we test a relatively low morpheme and set out the principles of how we deduce the phrase structure organization of a specific part of IP from the results of the test. Negation is argued to be an independent head which projects its own phrase since it blocks the rightward movement of regular stress, a syntactic feature attributed to heads (Tosun 1998). Stress moves rightward with suffixation in Turkish, as illustrated in (12). However, heads block rightward movement and stress falls on the head's complement, as in (13).

(12) a. kitAP `book'

b. kitapLIK `bookcase'

c. kitaplıkLAR `bookcases'

d. kitaplıklarIM `my bookcases'

e. kitaplıklarımIZ `our bookcases'

f. kitaplıklarımızDAN ` from our bookcases'

(Kabak and Vogel 2001: 316)

(13) a. Kal-DI -ø

stay-PST-3SG

'S/he stayed'

b. Ev-DE kal-dı -ø

home-LOC stay-PST-3SG

'S/he stayed at home'

(Göksel 2001: 169-170)

The verb in (13b) blocks the stress movement and assigns the stress to its complement. When the negative marker is available on the verb, stress falls on the verb stem, the syllable to the immediate left of the negative marker, as in (14).

(14) KAL-ma-dı -ø

stay-NEG-PST-3SG

'S/he didn't stay'

If an *-Ip* clause embedded under a negative main verb is ambiguous between a negative and affirmative interpretation, this should suggest that 'copy' sees the negative morpheme as the head of an independent phrase since in one of the interpretations it is singled out, not copied. Therefore, we can argue that the negative morpheme *-mA* in Turkish is the head of the independent phrase NegP. (15) seems to confirm Tosun's argument about the independence of the Neg head.

(15) Buraya otur-up olay-lar-ı izle -me -di -m

here sit-Ip incident-PL-ACC watch-NEG-PST-1SG

'I didn't just sit here and watch the incident'

'I sat here and didn't watch the incident'

In the first interpretation of (15), marked by the circle encompassing all of the morphemes, the *-Ip* clause copies the features of all of the functional categories in the main clause. Therefore, it is interpreted negative and past, sharing the subject with the main clause. Note that the actual category of the morpheme *-DI* is irrelevant at the

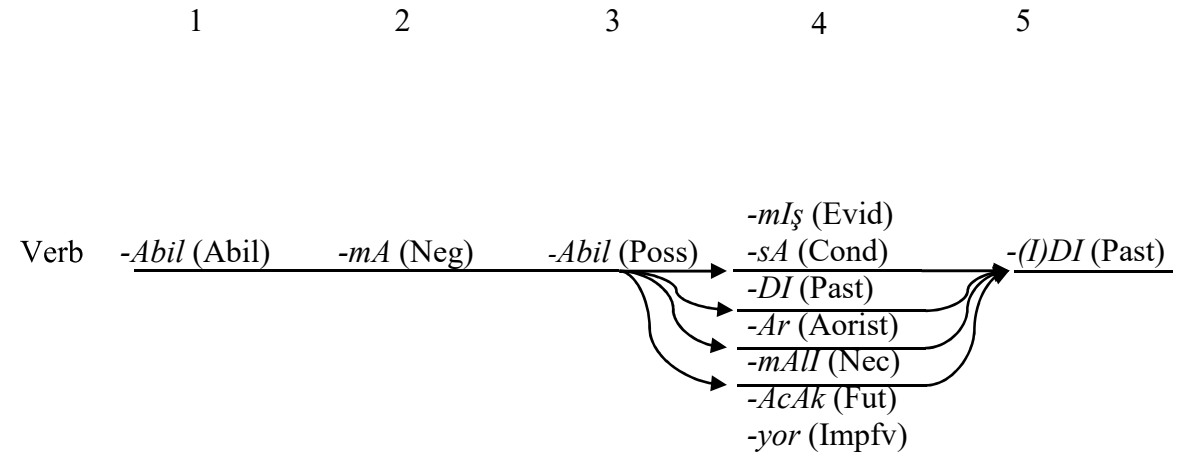
moment. The sentence may actually be perfective past or present perfect, which can be syncretically represented by *-DI* (phrasal syncretism) or analytically by *-DI* and the zero marker -ø (split IP) (see §7.3). Furthermore the main clause in (15) is in indicative mood, which is also copied here. In this interpretation, (15) means the speaker didn't sit and watch the incident, implying that he intervened.

At this point, we could argue that the whole functional structure is syncretic since 'copy' targets the whole functional structure in the first interpretation of (15). However, the fact that two heads are copied in a specific environment does not necessarily mean that they are syncretic. One could argue that they are copied individually at the same time, and that this looks like copying of a single syncretic head. Therefore, there are two ways to accurately map the functional structure. If 'copy' can separate two heads, targeting one of them in at least one of the possible environments, we can assume that they are not syncretic with each other. And if a head is not syncretic with the heads above and below it, then it must be a split phrase. With this in mind, in the second interpretation of (15), marked by the smaller circle, the *-Ip* clause is interpreted as affirmative, unlike the main clause, although the features of the other functional categories are the same in both clauses. That is, tense and agreement are copied but negation is not copied in the second interpretation. This should mean that the NegP is singled out by the syntactic operation 'copy' and it is an independent phrase. Note, however, that this is not the conclusive result for NegP (see §8.3.2).

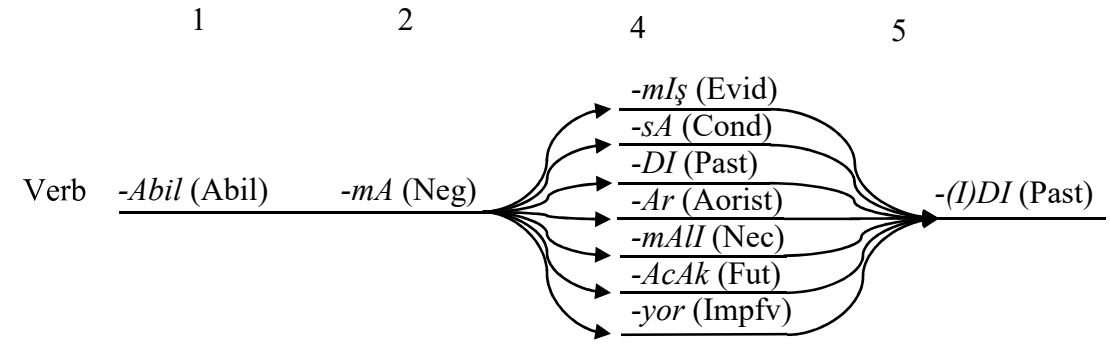
On the other hand, in order to make sure of the syncretism of two heads, if they are copied together in at least one instance, we need to show that there is no syntactic structure in which one of them is targeted individually. Take, for instance, agreement in Turkish. Since it is the highest head in Turkish (except the question marker, see Sezer (2001)), it is possible that the pieces of data that shed light on the lower heads fail to tell us anything about the higher heads. The sentences in (15a,b) where agreement is copied along with the other TAM categories may be such a piece of data. Therefore, we need to stretch the data to the point where only agreement can be copied. If this is possible, it should mean that Agr is a split phrase in Turkish. Finally, it should be similar for the lowest head, namely ability (see (16)), with a single difference. This time we should find a sentence where it is only ability that is not copied, hence singled out by 'copy'.

Although the theoretical arguments above are well established, (15) seems to have some empirical issues. That is, the argument that NegP is a split phrase runs into immediate problems. The fact that the *-Ip* clause copies the tense and agreement from the main clause without negation in (15) shows that negation is split from TAM and agreement. Although the split NegP analysis may give us some clues about the specific derivation in (15), the picture is far from complete. That is, NegP is not syncretic with TAM and agreement in (15), but (15) does not represent a structure where all the possible categories are available. Thus we need to test it in all environments in which it can appear. (16) shows all of the morphological combinations when the epistemic possibility in slot 3 is realized while (17) shows the combinations when a slot 4 suffix is directly attached to negation.[71]

(16)



(17)



[71] (16) and (17) are intended to show the morphological constraints, so the ambiguity and multi/monofunctionality of the morphemes are not marked since they will not concern us until §8.3.3 where I will rewrite the syntactic functions of the slot 4 morphemes. The heads represented by the slot 4 morphemes, e.g. perfective, imperfective, evidential etc., are not relevant at this point although they will be glossed with the most common functions attributed to them for the sake of convenience.

8.3.2 *Lower phrases*

In this subsection, I show the organization of the phrases in Turkish IP where the morphemes in slot 1, 2 and 3 appear, namely ability, negation and possibility. The data shows that ability and negation always act together under the syntactic operation 'copy', from which I conclude that they form a syncretic phrase above VP, namely DmodP. But the syncretism does not include the possibility marker, which is above both ability and negation. In other words, epistemic mood can act independently of the ability-negation syncretism and forms a split phrase above the syncretic DmodP.

For the reasons discussed at the end of §8.3.1, the only way to see if the negative marker is independent of the head that immediately dominates it and that it immediately dominates is to test them when they are morphologically marked. As a matter of fact, morphologically speaking *-DI* is not the morpheme to the immediate right of negation, as seen in (16). So (15) doesn't provide an insight in that respect either, and we need to fill the adjacent slots/phrases. Let us start with the head below negation. (18) presents the right environment for the copy test regarding ability and negation in slots 1 and 2. (18) indicates that the syntactic operation 'copy' sees negation split from epistemic possibility and past tense but syncretic with deontic ability. The heads negation and ability cannot be separated and have to act like a single head, so that the third interpretation where there is possibility but not ability in the embedded clause is unavailable. Note the sentences in (18a,b) where # indicates that the interpretation is not available. Also the smaller circles indicate the interpretation – the second interpretation – where the higher phrases are copied while ability and negation are left out.

(18) a. Zirve-ye kadar çık-ıp heykel-i gör-e -me -di -m

summit-DAT up to climb-Ip statue-ACC see-ABIL-NEG -PST-1SG

'I could not make it to the summit and see the statue'

'I made it to the summit but I couldn't see the statue'

'#I didn't (choose to) climb to the summit and thus I couldn't see the statue'

b. Oraya kadar gel-ip sen-i gör-e -me-yebil-ir -im

there as far as come-Ip you-ACC see -ABIL-NEG -POSS-AOR-1SG

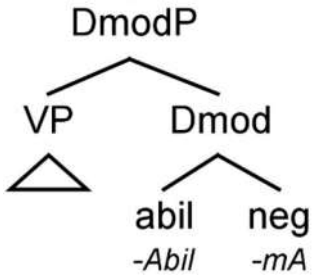
'I may be unable to make it there and see you'

'I may be able to make it there but I may not be able to see you'

'#I may not (choose to) come there and thus I may not be able to see you'

In the first interpretations of (18a,b) the *-Ip* clauses copy all of the functional categories of the main clause. But the second interpretations show that when 'copy' chooses not to copy negation from the main clause, it cannot copy ability either. As marked by the unavailable interpretation, the sentences don't have the interpretation where the *-Ip* clauses show intentionally not climbing and coming while the main clauses show inability to see. Hence there is no circle in (18a,b) which goes as far as to include negation but exclude ability. Note that the head immediately dominating negation, past in (18a) or possibility in (18b), doesn't seem to have an effect on the syncretism of negation and ability. For the sake of progressing in small chunks, we can visualise the VP and the phrase that immediately dominates it as in (19) where ability and negation co-head Dmod.

(19)



Since the ability modal marked by *-Abil* is the lowest functional head, we do not expect the syncretism to expand downward. But (16) and (17) show that ability can be followed by a number of morphemes. We need to see if the syncretism of negation and ability is properly separated from the higher functional phrases. (18b) shows that it is separated from the possibility modal and above while (18a) shows it is not syncretic with the phrase represented by *-DI*, i.e. TP, AspP or T/AspP depending on the particular

approach assumed (see chapter 7). However, the test should be open to refutation by either approach. That is, it can be argued that the possibility modal in slot 3 is invisibly syncretic with ability-negation in (18a) (Cinque's hypothetical criticism). (18b) responds to this criticism. The possibility marker in Slot 3 is morphologically realized in (18b) and it is not syncretic with ability-negation. This means even if it is silently available in (18a), there is no covert syncretism of the epistemic mood in (18a). And the non-syncretism of *-DI* in slot 4 is expected in (18a) since the phonetically silent possibility mood in slot 3 syntactically intervenes. But if we assume that only morphologically marked heads project, as Tosun (1998) and Giorgi & Pianesi (1997) do, it is possible that the head *-DI* (whatever feature it projects) is split from negation while the other TAM markers in slot 4 (whatever feature they project) may be syncretic with negation since no empty head projects to intervene in this approach. For example, as seen in (17) necessity in slot 4 can directly follow negation. Although they are in the same morphological slot, if necessity is different from *-DI* regarding syncretism, it may form a syncretic phrase with ability-negation. Therefore, we should bring the TAM morphemes in slot 4 as close to negation as possible and see if they are included in this syncretic phrase.[72] The appropriate examples are presented in (20a-f), which indicate that none of the TAM heads is syncretic with ability-negation. The comparison of the two interpretations marked with circles in each of (20a-f) shows that the embedded clause either copies the whole inflectional structure or it copies the TAM category and agreement *without* negation and ability.

(20) a. Her gün buraya kadar gel-ip kız-ı-nı gör-e -me -miş -ø

every day here as far as come-Ip daughter-3SG-ACC see-ABIL-NEG-EVID-3SG

'He evidently couldn't come here and see his daughter every day'

'He evidently came here every day but (evidently) couldn't see his daughter'

'#He evidently didn't come here every day and thus he (evidently) couldn't see his daughter'

[72] Note that the exact nature of the slot 4 suffixes *-DI* and *-mIş* as multi/monofunctional is not theoretically important since we are interested in the heads ability and negation.

b. Her gün buraya kadar gel-ip kız-ı-nı gör-e -me -se -ø

every day here as far as come-Ip daughter-3SG-ACC see-ABIL-NEG-COND-3SG

'If he can't come here and see his daughter every day'

'If he comes here every day but can't see his daughter'

'#If he doesn't come here every day and thus can't see his daughter every day'

c. Her gün buraya kadar gel-ip kız-ı-nı gör-e -me -z -ø

every day here as far as come-Ip daughter-3SG-ACC see-ABIL-NEG-AOR-3SG

'He can't come here every day and see his daughter'

'He comes here every day but he can't see his daughter'

'#He doesn't come here every day and thus he can't see his daughter every day'

d. Her gün buraya kadar gel-ip kız-ı-nı gör-e -me -meli-ø

every day here as far as come-Ip daughter-3SG-ACC see-ABIL-NEG-NEC-3SG

'He shouldn't be able to come here and see his daughter every day'

'He must come here every day but he should not be able to see his daughter'

'#He mustn't come here every day thus he should not be able to see his daughter every day'

e. Her gün buraya kadar gel-ip kız-ı-nı gör-e -mi -yor -ø

every day here as far as come-Ip daughter-3SG-ACC see -ABIL-NEG-IMPFV-3SG

'He is unable to come here and see his daughter every day'

'He is coming here every day but he can't see his daughter'

'#He is not coming here every day and thus he can't see his daughter every day'

f. Her gün buraya kadar gel-ip kız-ı-nı gör-e -me -yecek-ø

every day here as far as come-Ip daughter-3SG-ACC see-ABIL-NEG -FUT -3SG

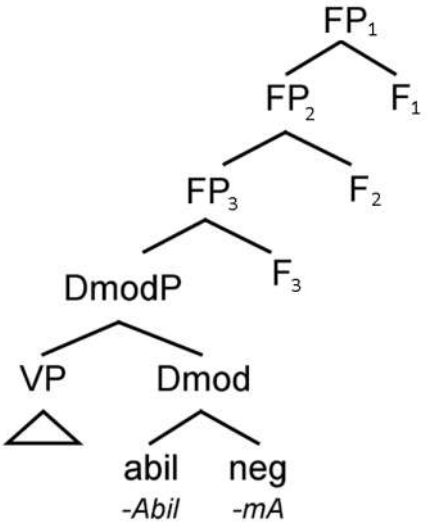
'He won't be able to come here and see his daughter every day'

'He will come here every day but he won't be able to see his daughter'

'#He won't come here every day and thus he won't be able to see his daughter every day'

In the first interpretations of the sentences, the subject both can't come here and can't see his daughter, and ability and negation (inability) is available in both clauses. In the second interpretations, the subject actually makes it here, i.e. there is no inability about the event in the *-Ip* clauses, but the main verbs express that he can't see his daughter. On the other hand, the infelicitous third interpretations in (20a-f) show that the *-Ip* clauses don't have an interpretation where the subject doesn't intentionally come here while the main clauses are interpreted as the subject is unable to see his daughter. Therefore, the fact that the *-Ip* clause doesn't have the interpretation in which the subject opts not to come indicates that it cannot copy the negation-TAM-agreement trilogy, and that they can't be syncretic. Furthermore, the fact that there can't be any syncretism which includes negation-TAM-agreement reinforces the conclusion drawn from (18) that ability and negation form a syncretic phrase that cannot be divided. For one thing, negation cannot be copied individually, hence the unavailability of the third interpretations. I, therefore, propose that the lower portion of the functional structure of Turkish should be as repeated in (21).

(21)



(21) suggests that two morphemes appearing in two different morphological slots (cf. (17)) can be the co-heads of one and the same syntactic phrase. Having shown that the possibility marker *-Abil* in slot 3 is split from the ability-negation syncretism (18b), we should now see if there is any syncretism between possibility and any of the heads represented by slot 4 morphemes. We know that they are not syncretic with ability-negation in the slots 1 and 2 ((18) and (20)). However, we need to fill these slots, at least

the negation slot, in order to force the possibility interpretation of *-Abil* due to its ambiguity with ability (see §3.2.1). As seen in (16), this string can be followed in slot 4 by necessity, aorist, imperfective and future. (22) shows how the syntactic operation 'copy' sees the relationship between these heads.

(22) a. İyi bir arkadaş sınav sonucu-nu öğren-ip
good a friend.NOM exam result-ACC learn-Ip
kötü-yse san-a söyle-me-yebil-meli-ø
bad-COND you-DAT tell -NEG-POSS-NEC-3SG
'It should be possible that a good friend learns your exam result but won't tell you if it (the result) is bad'
'A good friend *should* learn your exam result but if it (the result) is bad it should be possible that he doesn't tell you'

b. Bugünlerde ayağ-a kalk-ıp yine de yürü-ye -me-yebil-iyor -ø
these days foot-DAT rise-Ip still walk-ABIL-NEG-POSS-IMPFV-3SG
'These days, he may stand up but he may be unable to walk'
'These days he *is* standing up but he may be unable to walk'

c. Böylece madenci-ler maden-e in-ip hiç öl -me-yebil-ecek-ler
so miner-PL mine-DAT go.down-Ip never die-NEG-POSS -FUT -3PL
'So it will be possible that the miners will go into the mine and none of them will die'
'So the miners *will* go into the mine but it will be possible that none of them will die'

d. Mektub-u bul-up yine de san-a gönder -e -me-yebil-ir -ø
letter-ACC find-Ip still you-DAT send -ABIL-NEG-POSS-AOR-3SG
'He may find the letter but he may not be able to send it to you'
'#He (usually) finds the letter but he may not be able to send it to you'

The second interpretations of (22a-c) show that the possibility modal is split from the lower and higher phrases.[73] In the second interpretation of (22a) the *-Ip* clause only copies the necessitative *-mAlI* and means that a good friend *should* learn your exam result. In (22b), the imperfective *-yor* can be separated from possibility *-Abil*. Similarly, the future marker *-AcAk* in (22c) is separated from possibility by 'copy', and the *-Ip* clause has the interpretation that the miners *will* go into the mine. However, we cannot test *-DI, -sA* and *-mIş* with the possibility marker since they cannot co-occur with it (cf. (16)). Here, (22d) could be interpreted as the evidence that aorist forms a syncretism with the possibility modal. However, as discussed in §4.3 and §7.4 the aorist after the possibility marker should be syntactically invisible since it makes no semantic contribution to the interpretation of the sentence. That is, aorist is argued to mark prediction (Uzun 1998) or possibility in the future (Yavaş 1980) when it is attached to negation or verb root. But when it follows the possibility marker *-Abil*, it no longer marks possibility since possibility is already marked by *-Abil*. The main clause and the *-Ip* clause in (22d) are interpreted as simple possibility, not higher possibility. Hence it is only the possibility mood that is copied in (22d) and the aorist *-Ar* is not a reliable test object in this environment. But the aorist *-Ar* raises another problem when it doesn't follow possibility, i.e. it is ambiguous between two functions when it is attached directly to negation or the verb root. Lewis (1967), Underhill (1976), Taylan (1996) and Kornfilt (1997) argue that it shows repetition, in which case it should be the head of aspect while Yavaş (1982) and Uzun (1998) argue that it shows prediction/possibility (see §4.4). In this interpretation, we can argue that it is the head of epistemic possibility. But it is split from the syncretic phrase ability-negation in either interpretation, as seen in (23).[74]

(23) a. Kesinlikle eminim, Ali sonuc-u öğren-ip ban-a söyle-me-z -ø

I am absolutely sure Ali.NOM result-ACC learn-Ip I-DAT tell -NEG-POSS-3SG

'I am absolutely sure, Ali won't learn the result and tell me'

'I am absolutely sure, Ali will learn the result but won't tell me'

[73] Note that I am ignoring the interpretations where the entire functional structure is copied, covering the ability-negation syncretism and the first interpretations in (22a-d). As a matter of fact, the addition of the phrases *yine de* 'still' and *kötüyse* 'if bad' in (22a) discards those readings and leaves us with the relevant readings.

[74] Aorist is phonologically conditioned as *-z* after the negative marker (see §3.2.1).

b. Ali her gün okul-a gel-ip ders-e gir -e -me -z -ø

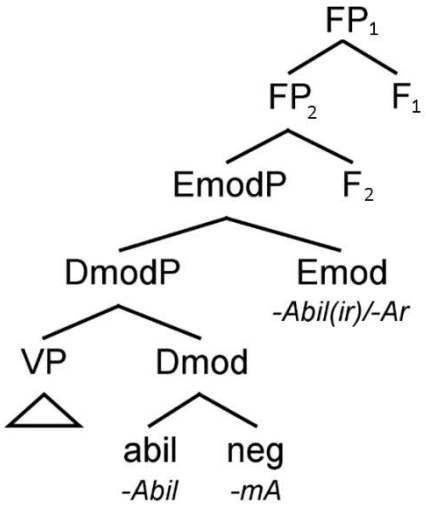
Ali.NOM every day school-DAT come-Ip lesson-DAT enter-ABIL-NEG-REP-3SG

'Ali is unable to come to school and join the classes every day'

'Ali does come to school every day but he can't join the classes'

If aorist is the head of possibility modal in (23a), it can be seen as additional evidence that EmodP is split from negation in Turkish because it can be separated from negation in (23a). This would explain the pattern in (22d) and the syntactic invisibility of the aorist after the possibility marker *-Abil*. Both *-Abil* and the aorist can be the head of the possibility modal in Turkish with slight to no difference between the two (cf. (22d) (23a)). But *-Abil* cannot form a finite structure. Therefore, the sentence takes either another morpheme from slot 4, such as *-yor*, and expresses an additional feature (see (46) in §7.4) or a semantically empty and syntactically invisible suffix for morphological reasons and expresses simple possibility (22d).Therefore, (24) should be a clearer picture of the functional structure of Turkish.

(24)



We have so far found that imperfective *-yor*, necessitative *-mAlI* and future *-AcAk* in slot 4 are split from the phrases ability, negation and possibility appearing in slots 1, 2 and 3 respectively (22a,b,c) and the aorist *-Ar* is syntactically invisible in that

environment (22d). However, there are two cases where the aorist is syntactically visible, that is it is ambiguous between two functions. It may occupy the head of EmodP and show possibility (23a) or it may be an aspect marker (23b). And (23a) shows that EmodP is split from negation when it is headed by the aorist too, ultimately leading to (24). But regarding *-mIş*, *-DI* and *-sA* we can only show that they are split from ability and negation (cf. (18a) (20a,b)) since they can't follow possibility.

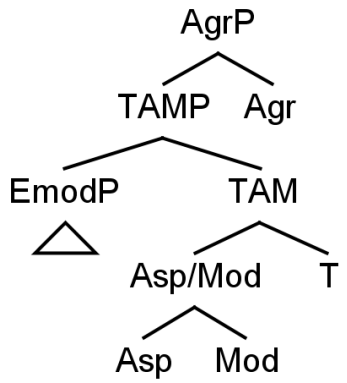
8.3.3 *Higher phrases*

In this subsection I show the organization of FP_1 and FP_2 in (24), concluding that FP_2 is the second syncretic phrase in the IP structure of Turkish while FP_1 is the second split phrase. FP_2 includes the tense, aspect and mood categories represented by the morphemes in slot 4 and 5. Yet this syncretic phrase is more complicated than Dmod since one of its heads is a *hybrid* node, which is only occupied by an aspectual or a modal head, unlike a syncretic node where two heads co-occur. The hybrid Asp/Mod node in (26) below forms a syncretic phrase co-occurring with the tense head. Ultimately, we will test the morphemes in (25) and the heads they represent (cf. chapters 4 and 5 for the ambiguities of the morphemes). And the TAMP and AgrP in (26) are the phrases that will replace FP_1 and FP_2 in (24).

(25)

	4	5
Verb	*-mIş* (Evid) *-mIş* (Pfc) *-sA* (Cond) *-DI* (Pfc) *-Ar* (Rep) *-Ar* (Willing) *-mAlI* (Nec) *-AcAk* (Prosp) *-yor* (Impfv)	*-(I)DI* (Past)

(26)

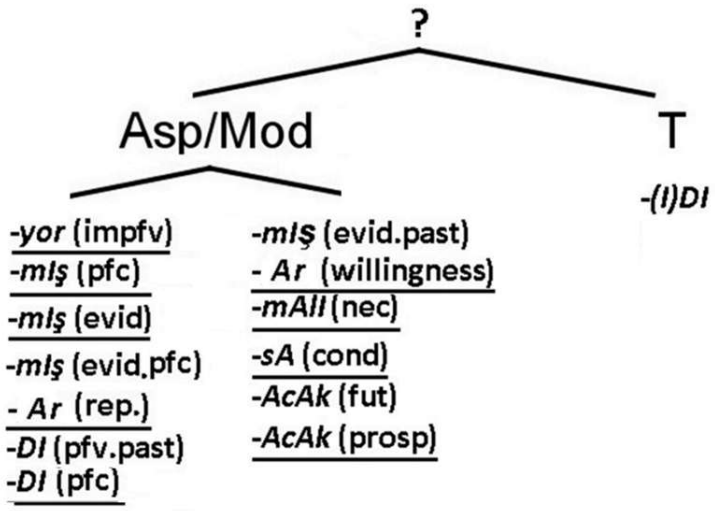


Having shown that necessitative, imperfective and future in slot 4 are split from the lower heads appearing in slot 1, 2 and 3, let us now see what happens when we have the past morpheme *-(I)DI* in slot 5 and if there is any syncretism between the heads/categories shown by the slot 4 morphemes and tense. However, once again we have to rely on morphological evidence for a syntactic representation since syntax doesn't seem to help us. For one thing, among the TAM functions shown by the slot 4 morphemes, we can show that the heads imperfective, necessitative and future are split from EmodP (cf. (22a,b,c)). But the heads/categories marked by *-sA, -mIş* and *-DI* cannot be tested since they cannot follow possibility (cf. (16)). Also *-AcAk* is ambiguous between future tense and prospective aspect but it shows prospective only under *-(I)DI*. Therefore, I assume that the heads marked by *-sA, -mIş* and *-DI* are split from EmodP since their markers are in the same morphological slot as the markers of the heads which are clearly split from EmodP. The tests in this section should show us whether they are syncretic with or split from tense.

(27) is a summary of the ambiguities and multiple functions of the TAM morphemes described in chapter 4 and 5.[75] The label of the phrase is unspecified since we don't yet know whether Asp/Mod is the complement of T in a split phrase or the co-head of the syncretic phrase T/AspP.

[75] Possibility/prediction function of *-Ar* is not available in (27) since it alternates with *-Abil-ir* under Emod. See (24).

(27)



The TAM markers in slot 4 should collocate with the tense marker *-(I)DI* only with their options that don't have a tense feature so that there is no clash or repetition of tense. Therefore, only the underlined options of the morphemes can appear with *-(I)DI*. Also, *-mIş* can show perfect aspect or evidential mood under *-(I)DI*, the unresolved issue between Yavaş (1980) and Uzun (1998) in §5.3. So we need to test both interpretations of it (28a,b). (28) shows the combinations of all of the heads shown by the slot 4 morphemes and the past tense marker with an *-Ip* clause.

(28) a. Ayşe yemeğ-i yak-ıp pizza **söyle-miş -ti -ø**

Ayşe.NOM food-ACC burn-Ip pizza **order -EVID-PST-3SG**

Yanık koku-su-ndan belli-ydi

burn smell-AGREE-ABL evident-PST

'Evidently, Ayşe had burnt the food and ordered pizza. It was evident from the smell of burning'

'#Evidently, Ayşe burnt the food (but it was OK) she had ordered pizza'

b. Ayşe yemek yiy-ip masa-yı **topla -mış-tı -ø**

Ayşe.NOM dinner eat-Ip table-ACC **tidy -PFC-PST-3SG**

Ben mutfak-ta ye-di -m

I.NOM kitchen-LOC eat-PST-1SG

'Ayşe had eaten her dinner and tidied the table. I ate in the kitchen'

'#Ayşe ate her dinner and she had tidied the table. I ate in the kitchen'

c. Ben-i ara-yıp haber **ver -se -ydi-n**, böyle olmaz-dı

I-ACC call-Ip news **give-COND-PST-2SG** it wouldn't have been like this

'If you had called me and let me know, it wouldn't have been like this'

'#You called me (but you didn't tell me about it) if you had let me know…'

d. Ali yemek yi-yip ev-den **çık -tı -ydı -ø**

Ali. NOM dinner eat-Ip house-ABL **leave-PFC-PST-3SG**

'Ali had eaten dinner and left the house'

'#Ali ate dinner and he had left the house'

e. Ben-i ara-yıp haber **ver -meli-ydi-ø**

I-ACC call-Ip news **give-NEC-PST-3SG**

'He should have called me and let me know'

'#He called me but he should have let me know'

f. Buraya gel-ip manzara-yı **izle -r -di -k**

here come-Ip landscape-ACC **watch-REP-PST-1PL**

'We would come here and watch the landscape'

'#We came here and we would watch the landscape'

g. Aşçı bir yandan sos-u pişir-ip

chef.NOM on the one hand sauce-ACC cook-Ip

bir yandan tavuğ-u **kızart -ıyor -du-ø**

on the one hand chicken-ACC **fry -IMPFV-PST-3SG**

'The chef was both cooking the sauce and frying the chicken at the same time'

'#The chef cooked the sauce and he was frying the chicken'

h. O yıl mezun ol-up para kazanmaya **başla-yacak-tı -ø**

that year graduate become-Ip money earn **start -PROSP-PST-3SG**

'That year, he was going to graduate and start earning money'

'#That year, he graduated and he was going to start earning money'

i. Ben bak-ıp **büyüt -ür -dü -m** o kedi-yi. Neden uyuttunuz?

I.NOM care-Ip **bring.up-WILL-PST-1SG** that cat-ACC Why did you have him put down?

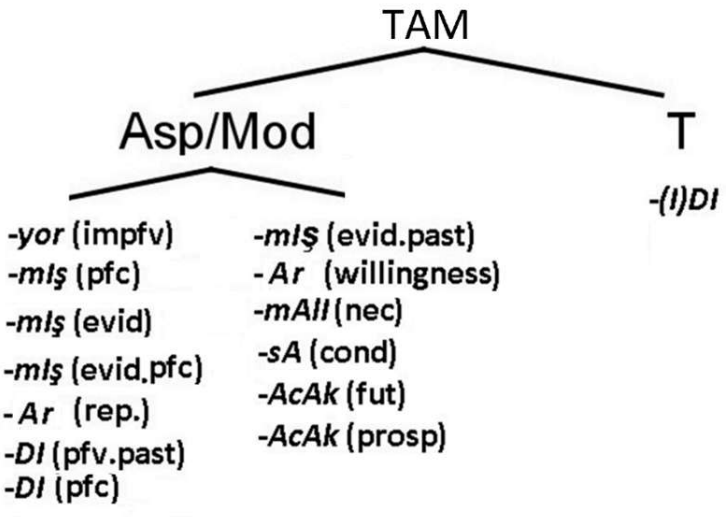
'I would have cared for and brought up that cat. Why did you put him down?'

'#I will care for that cat and I would have brought him up. Why did you have him put down?'

(28a-i) show that when *-(I)DI* is available in the derivation appearing under T, it has to form a syncretic phrase with the aspect and mood markers in slot 4. None of the *-Ip* clauses in (28) has only past interpretation without any modal or aspectual meaning. For example, in the only felicitous interpretation of (28a) the speaker points out with the *-Ip* clause that he wasn't there when the food burned. In other words, evidentiality is an available interpretation in the *-Ip* clause as well as past tense. But as the infelicitous interpretation shows past tense cannot be copied to the *-Ip* clause without evidentiality. That is, the *-Ip* clause cannot have an interpretation where the speaker simply reports the food burning incident that he witnessed while the main clause expresses that he didn't see Ayşe order pizza, bearing an evidential feature. The same relation is observed in the other examples in (28), i.e. the *-Ip* clauses cannot have an interpretation where past tense is copied without aspectual or modal categories. This points to the second syncretism in the functional structure of Turkish. But this time, the head bearing the feature [+past] can be syncretic with the heads bearing the features of two different categories, which cannot co-occur with each other. This is quite similar to Tosun's (1998) model, with a minor difference. Tosun argues that the hybrid node of this syncretic phrase includes aspect markers and epistemic mood markers. However, as (16) shows, epistemic possibility should be in a morphologically lower slot and (23) shows that it is in a distinct phrase. Also, unlike Tosun (1998) I argue that *-mAlI* always and only shows necessity, not an epistemic but a deontic notion (see §7.2). Therefore, this hybrid node does not cover epistemic possibility.

All in all, *-Ip* clauses support the phrasal syncretism of the TAM categories discussed in §7.2. This forces us to abandon the split IP model defended by Cinque (1999) and Uzun (1998) since in the split model every head, or every feature in the rich IP model, should project a split phrase, which is not confirmed by this particular test. Also, now that we are following the syncretic model, we can adopt the way it analyses the data as well as its theoretical stance relating to present tense. That is to say, syntactic features are introduced into the derivation by morphemes, and a single morpheme can project more than one feature, as argued by Giorgi & Pianesi (1997) and Tosun (1998). Therefore, we can now name the node in (27). It should be the syncretic head TAM, as shown in (29).

(29)



For example, *-DI* can project perfective and past features when the genuine tense marker *-(I)DI* is not available in the derivation and *-mIş* can project evidential and past features. This is exemplified with *-DI* in (30a,b).[76]

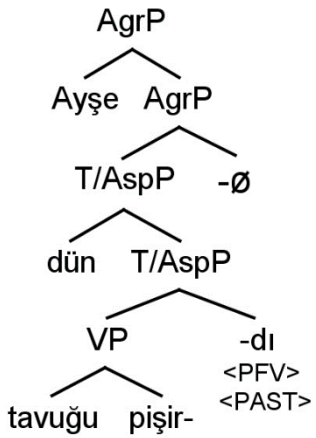
[76] This is the same for *-mIş* with the exception that it projects evidential mood and past tense features when *-(I)DI* is not available.

(30) a. Ayşe dün tavuğ-u pişir-di -ø

Ayşe.NOM yesterday chicken-ACC cook-PFV.PST-3SG

'Ayşe cooked the chicken yesterday'

b.



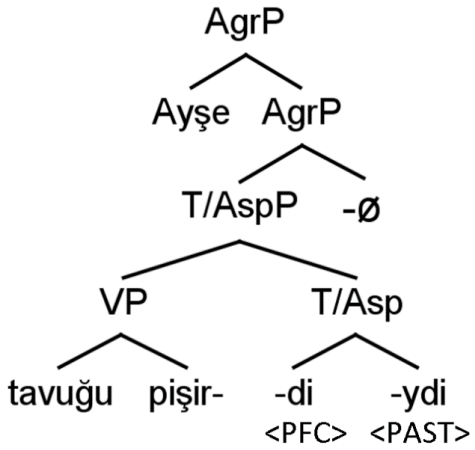
When the genuine tense marker *-(I)DI* is available in addition to *-DI*, it projects the tense feature while *-DI* projects the aspect feature in the syncretic phrase T/AspP (31a,b).

(31) a. Ayşe tavuğ-u pişir-di -ydi -ø

Ayşe.NOM chicken-ACC cook -PFC-PST-3SG

'Ayşe had cooked the chicken'

b.



As for present tense, if a morpheme in the node Asp/Mod bears only an aspect or a mood feature, in other words if there isn't a past tense feature in a derivation, the sentence is interpreted as present. Take, for example, the imperfective marker *-yor* and the necessitative marker *-mAlI* (cf. (32) and (33)). Since they do not project past tense, the sentence is interpreted as present, as assumed by Giorgi & Pianesi (1997) and Cinque (1999).

(32) a. Ayşe tavuğ-u pişiri-yor -ø

Ayşe.NOM chicken-ACC cook-IMPFV-3SG

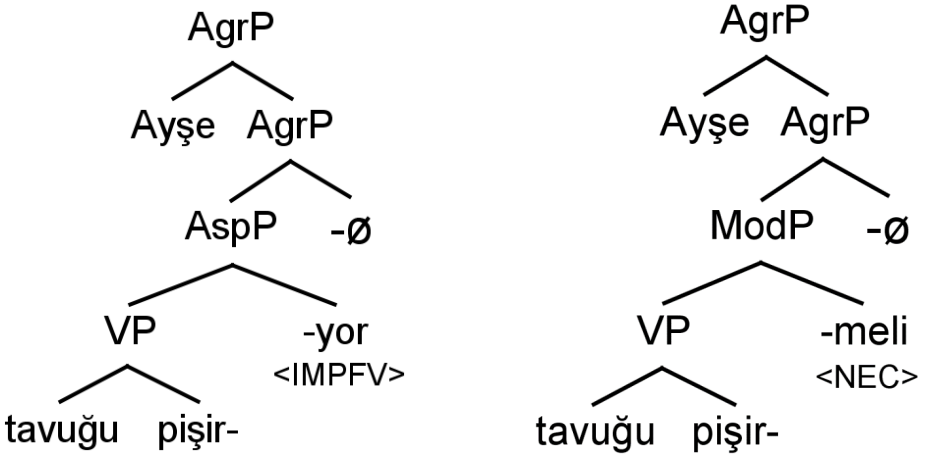
'Ayşe is cooking the chicken'

b. Ayşe tavuğ-u pişir-meli -ø

Ayşe.NOM chicken-ACC cook-NEC -3SG

'Ayşe must cook the chicken'

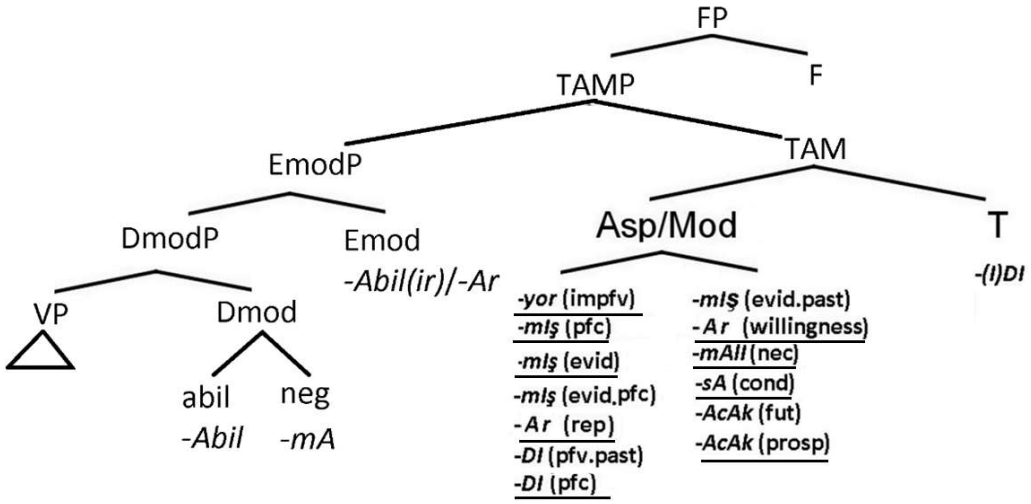
(33) a. b.



We can now commit ourselves to an explicit formation of a TAM phrase. I, therefore, offer (34) as the TAM organization in Turkish IP. Again, the morphemes are repeated for each option they have in their ambiguity and the underlined options are the ones that are possible only under *-(I)DI*. For instance, the evidential mood function of *-mIş* is syncretic with past tense. Thus if tense is to be carried by *-(I)DI*, it switches to the option where it only shows evidential mood or perfect aspect, depending on the position one wishes to

take regarding the disagreement over the function of *-mIş* in the string *-mIşIDI* between Yavaş (1980) and Uzun (1998) discussed in §5.3.

(34)



Before we draw the final picture of IP in Turkish, we need to see if the TAM syncretism covers agreement. So far, in all cases the main clauses and the *-Ip* clauses had co-referential subjects, which we assumed was due to the copying of agreement. However, we saw in §8.3.2 that the lower phrases DmodP (ability-negation) and EmodP are split from the higher phrases. Therefore, we were able to argue that the highest head agreement was copied simultaneously, but separately. Above EmodP, we found the syncretic phrase TAMP, as shown in the resulting structuring in (34). Now, unless we show that agreement can be copied without tense, aspect and mood, we have to assume that they are syncretic. But, if it is possible to copy agreement alone, this means the head of agreement can be separated from the heads below. In other words, the *-Ip* clause and the main clause should have different tenses. For example, if the *-Ip* clause is interpreted present while the main clause is past and they have co-referential subjects, this should be the kind of evidence we are looking for. But (35) shows that such sentences are ungrammatical in Turkish.

(35) a.*Bugün Ayşe'den hoşlan-ıp dün Fatma'ya aşık ol -du -n

today Ayşe-ABL like-Ip yesterday Fatma-DAT fall.in.love-PST-2SG

'You like Ayşe today but you loved Fatma yesterday'

b.*Bugün söz ver-ip dün yap-ma -dı -n

today promise give-IP yesterday do -NEG-PST-2SG

'You promise today but you didn't do it yesterday'

Turkish disallows an interpretation of (35a,b) where the *-Ip* clauses are present and the main clauses are past. However, (36a,b) show that there are grammatical sentence, where tense is not shared.

(36) a. Dün Ayşe'den hoşlan-ıp bugün Fatma'ya aşık ol -uyor-sun

yesterday Ayşe-ABL like-Ip today Fatma-DAT fall.in.love-IMPFV-2SG

'You liked Ayşe yesterday and today you love Fatma'

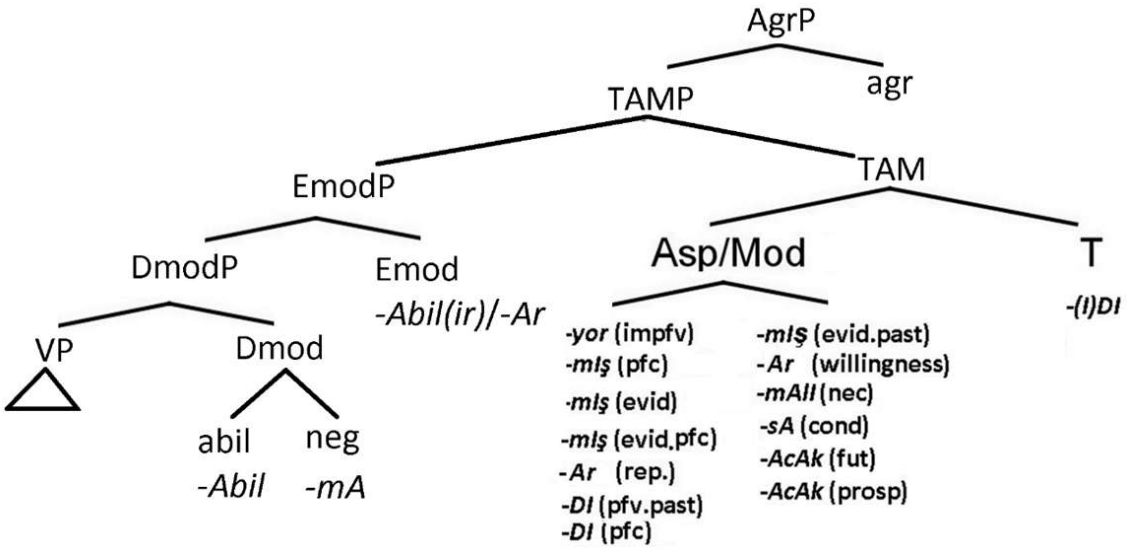
b. Dün söz ver-ip bugün yap-mı -yor -sun

yesterday promise give-Ip today do -NEG-IMPFV-2SG

'You promised yesterday but today you are not doing it'

In (34a,b) it is only the subject that is shared between the clauses. In other words, only agreement is copied. The main clause and the *-Ip* clause have different tenses, as shown by the different temporal adverbs. Although the main verb only bears an aspect marker and no tense feature is projected in these particular sentences, (36a,b) show that AgrP is not syncretic with the AspP below it. The ungrammaticality of (35), then, should be due to the ordering of tenses, which can be related to Erdal's (2004) iconic order principle (cf. §8.2). The speaker prefers the ordering of clauses where the preceding clause shows the preceding event. We can, therefore, argue (37) to be the phrase structural representation of the functional categories in Turkish.

(37)



8.4 A Further Issue

An issue seems to require further discussion regarding the *-Ip* clauses. As stated in §8.3.1, Johanson (1995) and Lewis (1967) account for the identical interpretation of the main clause and the *-Ip* clauses with scope phenomena. We need to show that 'copy' is distinct from scope taking. Starting with the scope phenomena, it seems possible to argue with respect to (38) below that the *-Ip* clause has two adjunction points. If it is below the negation in one of them and above in the other, this might be evidence for a scope phenomenon, as shown in (39).

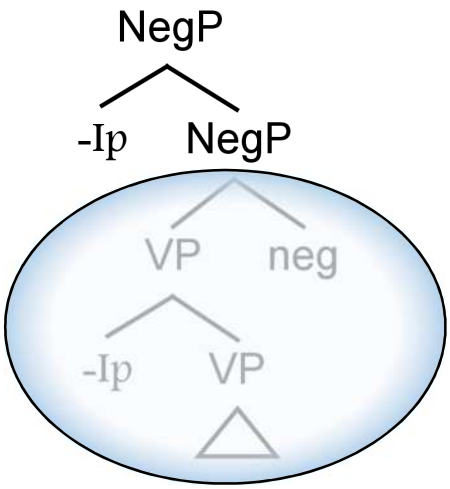
(38) Buraya otur-up olay-lar-ı izle -me -di -m

here sit-Ip incident-PL-ACC watch-NEG-PST-1SG

'I didn't just sit here and watch the incident'

'I sat here and didn't watch the incident'

(39)



Since negation c-commands the *-Ip* clause adjoined to VP in (39), the *-Ip* clause is in the scope of negation, and the first interpretation of (38) where both clauses are interpreted as negative can be accounted for in this way. Furthermore, the second adjunction point in Spec, NegP accounts for the second interpretation of (38) where the *-Ip* clause is not negated. The scope of negation seems to be able to operate in embedded clauses and adjunct clauses, as in the case of negative polarity items (NPI). An NPI requires a licenser that has scope over it (Klima 1964, Linebarger 1987), as shown in the contrast in (40a,b).

(40) a. Ben kimse-yi gör-me-di-m

I.NOM anybody-ACC see-NEG-PST-1SG

'I didn't see anybody'

b.*Ben kimse-yi gör-dü-m

I.NOM anybody-ACC see-PST-1SG

'*I saw anybody'

Negation has scope over the NPI object in (40a) and licenses it, but (40b) is ungrammatical due to the lack of a licenser. Negation seems to have the same effect in complement clauses and *-Ip* clauses which are adjuncts, as in (41) and (42).

(41) Ali [*kimsen-nin* Banu-yu gör-düğ -ün]-ü söyle-*me*-di -ø

Ali. NOM anybody-GEN Banu-ACC see-NOMIN-3SG-ACC say-NEG-PST-3SG

'Ali didn't say that anybody saw Banu'

(Zidani-Eroğlu 1997: 225)

(42) Ali [*kimse-yi* sev-ip] acı çek-*me*-di-ø

Ali. NOM anybody-ACC love-Ip suffer-NEG-PST-3SG

'Ali never loved anybody and never suffered'

'#Ali loved somebody but never suffered'

The NPI subject of the complement clause is licensed by the negation on the main verb in (41) while the NPI object of the *-Ip* clause is licensed by the negation on the main verb in (42). Furthermore, the NPI in (42) forces a specific interpretation, ruling out any ambiguity. The only available interpretation of (42) is the one in which Ali never loves anybody and never suffers. In other words, both clauses are negated. But the interpretation where the *-Ip* clause is affirmative is unavailable, unlike the examples which has no NPI such as the second interpretation of (38) above. This allows us to argue that the *-Ip* clause in (42) is forced to appear in a position lower than negation, such as Spec, VP in (39), due to the requirement that the NPI has to be licensed by a scope-taking negative marker.

However, this only shows that 'copy' and NPI licensing have the same requirement: scope. It doesn't show that they are the same phenomenon, or that 'copy' is simply a scope-taking phenomenon. For one thing, NPI licensing is a well-formedness condition on sentences, and it doesn't have an effect on the interpretation of the embedded clause. For instance, the complement clause in (41) cannot be interpreted as negated although the NPI subject is licenced by the negative marker on the main verb. Only the main verb, *say*, is negated. The complement clause is not negated although it has to be in the scope of the negation. In other words, (41) doesn't mean that Banu wasn't seen by anyone. It is possible that somebody saw her. As a matter of fact, the complement clause in (41) is underspecified with respect to polarity. But the *-Ip* clause has to be interpreted negative in (42). The sentence only means that Ali never loved anybody and therefore never

suffered, where both the adjunct clause and the main clause are negated. Therefore, scope is a necessary requirement for 'copy', but it is not the 'copy' operation itself.

8.5 Conclusion

In sum, in addition to Tosun's (1998) and Giorgi & Pianesi's (1997) theoretical arguments, we now have empirical syntactic evidence for the phrasal syncretism of TAM categories in Turkish. But unlike Tosun's model, the hybrid node containing aspect and modality is underspecified for the type of modality. That is, it may have evidential, deontic or conditional modality. Epistemic modality, on the other hand, appears both morphologically and syntactically lower than the syncretic T/AspP and forms a split phrase. Furthermore, *-Ip* clauses indicate an unpredicted phrasal syncretism between ability and negation. When both of them are available in the derivation, they are always targeted and copied together, which, I argue, is due to the fact that the syntactic operation 'copy' only probes heads, and ability modal and negation co-head DmodP. Finally, agreement seems to project a split phrase in Turkish, as also argued by Tosun (1998). *-Ip* clauses can target the head Agr individually, separating it from the phrases below. Therefore, I argue that (37) shows the phrase structure of the functional phrases in Turkish.

Having established the organization of the functional phrases in Turkish, we should now turn to two further questions. First, what is the operation 'copy' and how does each copy operation occur in syntax? Given the fact that the specific phrases projected in a derivation depend on the features carried by the morphemes available, this is particularly important in the model advocated here. We also need to find out whether the varying TAM interpretations of *-Ip* clauses are related to their syntactic status as subordinate or coordinate clauses, i.e. can the different results of 'copy' be due to different adjunction points of the *-Ip* clause? I investigate these questions in chapter 9 within the minimalist framework.

CHAPTER 9

The Derivation and Interpretation of *-Ip* Clauses

9.1 Overview

This chapter concludes this thesis with an account of the syntactic operation 'copy' within the Minimalist Program. §9.2 is a brief summary of the phenomena this chapter will explain in minimalist terms. §9.3 provides the theoretical background necessary for an explanation. In this section, I outline an introduction to the structure building mechanism in MP, called Merge, which is followed by an account of features and local relations. The section ends with the two fundamental notions of MP, namely phases and inheritance. §9.4 answers the question what is the mechanism of the copy operation. I first evaluate Wiklund's (2007) idea of Agree-based dependence between the matrix clause and the complement clauses in Swedish. I conclude that Agree is not the right mechanism for *-Ip* clauses since it requires an additional stipulation regarding the feature configuration of the dependent. Agree also fails to explain the existence of overt or null subjects in *-Ip* clauses since phi-features are not transmitted via Agree. Therefore, I conclude that the copy operation is inheritance and illustrate how *-Ip* clauses inherit the functional features from the matrix clause. The data regarding the subject position of *-Ip* clauses necessitates a section on its own since it interacts with the focus strategies in Turkish. Therefore, §9.5 is devoted to the analysis of the sentences where the *-Ip* clause has overt or null subjects. I show in this section that there is a connection between the overt subject of *-Ip* clauses and the juxtaposed-like word order. That is, they look like a juxtaposed sentence when they have overt subject since the subject is focused and moves to the specifier of focus phrase. I then relate this to the null subject parameter proposed by Holmberg (2005) and detailed by Roberts (2010) and Sheehan (2006).

9.2 The Whole Picture in a Nutshell

Let me start with a brief summary of the facts in chapter 8 that will concern us here. *-Ip* clauses are non-finite adjunct clauses that lack any TAM interpretation and that cannot stand alone, as shown in (1) contrasting another non-finite adjunct clause.

(1) A: Adam nasıl git-ti -ø?
man.NOM how go-PST-3SG
'How did the man go away?'
B:*Gül-üp
laugh-Ip
Int. Laughing
B′: Gül-erek.
laugh-ArAk
'Laughing'

We concluded in chapter 8 that *-Ip* clauses are completely empty in their functional structure and therefore copy from the matrix clause. Also their subject position can be occupied by an empty category which is co-referential with the matrix subject. Note the examples in (2) where the tense of the adjunct clauses depend on the matrix clauses and the subject position is an (obligatorily) empty category co-referential with the matrix subject.[77]

(2) a. Biz [*e* dans ed-ip] şarkı söyle-di-k
we.NOM dance do-Ip song sing-PST-1PL
'We danced and sang songs'

[77] See (10) below for the cases where the subject position is occupied by a non-coreferential overt NP.

b. Biz [*e* dans ed-ip] şarkı söyle-yeceğ-iz

we.NOM dance do-Ip song sing-FUT -1PL

'We are going to dance and sing songs'

As shown in (2), the TAM interpretation of *-Ip* clauses depends on the matrix clause. However, this dependence is not absolute. It is possible for the *-Ip* clause not to share the value of a head in the matrix clause, as shown in (3) with negation.

(3) Ben [*e* buraya otur-up] olay-lar-ı izle -me -di -m

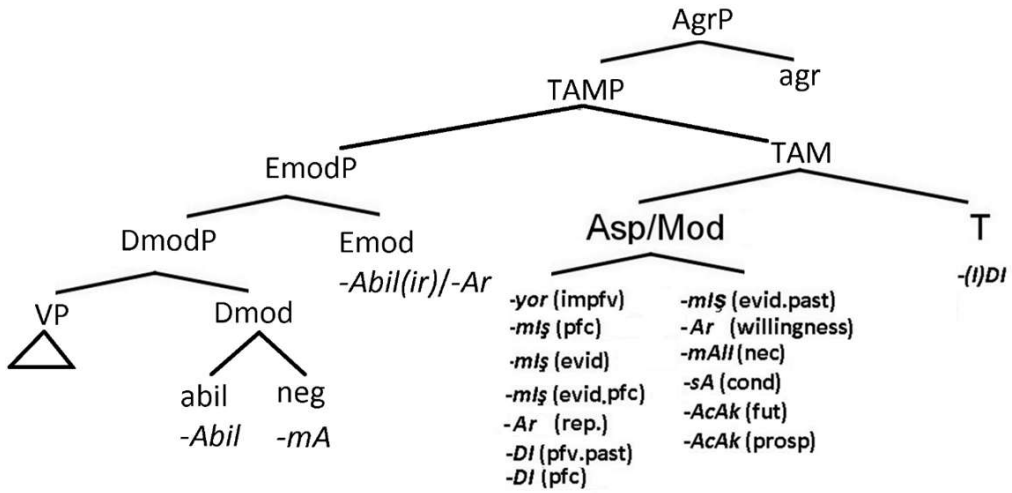
I.NOM here sit-Ip incident-PL-ACC watch-NEG-PST-1SG

'I didn't just sit here and watch the incident'

'I sat here and didn't watch the incident'

(3) has two distinct interpretations. In the first interpretation the *-Ip* clause copies the entire functional structure of the matrix clause while in the second it leaves out negation, and the subject purposefully sits (on a chair) to avoid witnessing the presumably unpleasant event. Assuming that the syntactic operation 'copy' can target heads individually only if they are split from the other heads and using transitivity between the functional morphemes in Turkish, we reached the conclusion that Turkish has the functional structure in (4).

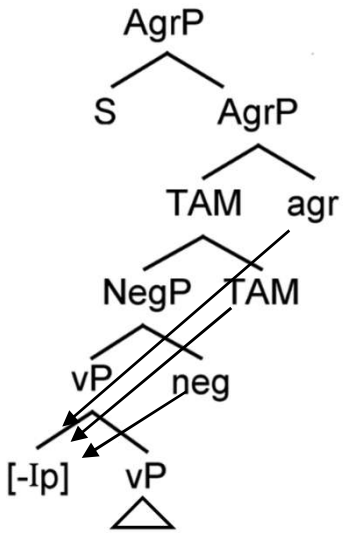
(4)



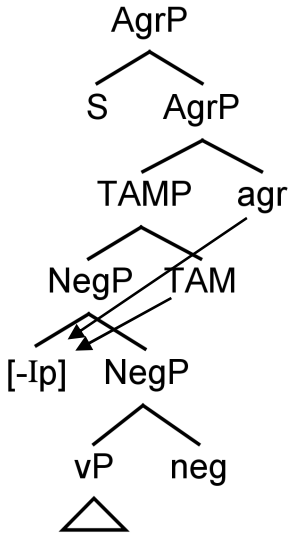
In (4) there are two head positions, namely TAM and Dmod, which cannot be copied individually. For example, if the matrix clause has ability and negation heads and if the *-Ip* clause opts to copy negation, it has to copy ability along with it. This is because the operation 'copy' targets the syncretic node Dmod which has two heads in it. The other syncretic node TAM, on the other hand, contains the hybrid node Asp/Mod where aspectual and modal heads compete for a single slot, and only one can be realized. The separation of the phrases indicates that the *-Ip* clause can be higher or lower than some phrases. Specifically, we need structural relations under which the *-Ip* clause copies or fails to copy the value of a specific head. Given the unavailability of spec-head relation in MP, *-Ip* clause has to be adjoined to the complement of the head from which it copies the values since local relations are limited to complement domain (Chomsky 2008). Furthermore, we saw §8.4 that scope is a necessary relation for 'copy' although 'copy' itself is not a scope-taking relation (cf. the discussion of (42) in §8.4). The lack of copying should, then, be accounted for with adjunction to a phrase higher than the complement, i.e. adjunction to the phrase the *-Ip* clause fails to copy from.

Let us now see how this works on, for example, copying of negation in (3). In the first interpretation of (3) the *-Ip* clause copies both tense and negation from the matrix clause, so that it should be lower than both, adjoined to vP if we subscribe to a simple clausal architecture, as in (5a). On the other hand, the second interpretation shows that it should be lower than tense and adjoined to NegP, such as in (5b).

(5) a.



b.



According to (4), DmodP is dominated by EmodP, and the relevant structure is shown in (6).

(6) Oraya kadar gel-ip sen-i gör-e -me-yebil-ir -im

there as far as come-Ip you-ACC see -ABIL-NEG -POSS-AOR-1SG

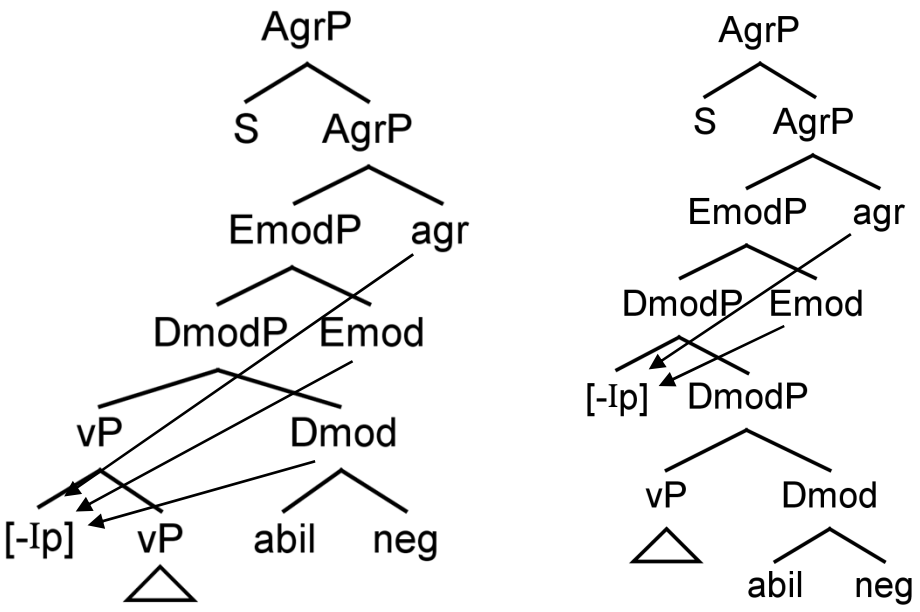
'I may be unable to make it there and see you'

'I may be able to make it there but I may not be able to see you'

'#I may not (choose to) come there and thus I may not be able to see you'

(6) shows that ability and negation are either copied or avoid being copied as a whole, and that they are the co-heads of DmodP. Therefore, the *-Ip* clause needs two adjunction points in (6), one in vP where it copies ability and negation and one in DmodP where it doesn't:

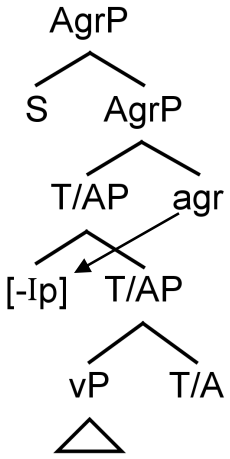
(7) a. b.



Finally, there are two other cases we need to address and explain. First is the non-shared tense structures. (8) exemplifies the non-shared tense, and (9) shows the proposed position of the *-Ip* clause in (8).

(8) Dün Ayşe'den hoşlan-ıp bugün Fatma'ya aşık ol -uyor-sun
yesterday Ayşe-ABL like-Ip today Fatma-DAT fall.in.love-IMPFV-2SG
'You liked Ayşe yesterday and today you love Fatma'

(9)



In (8), the subject is the only shared element between the adjunct clause and the matrix clause. The two clauses have different tense values. Therefore, the *-Ip* clause should be adjoined T/AP below AgrP where it cannot copy from T/A. The other is the case where the *-Ip* clause and the matrix clause look like two juxtaposed sentences and where the subject of the *-Ip* clause is not an empty category, but an overt NP, such as in (10).

(10) Tam o saat-te Semra iş-i bırak-ıp
exactly that time-LOC Semra.NOM work-ACC leave-Ip
Ahmet işbaşı yap-ıyor-ø
Ahmet.NOM clocking.on do-CONT-3SG
'At exactly that time, Semra leaves work and Ahmet goes on duty'

(Göksel and Kerslake 2005: 440)

The *-Ip* clause in (10) precedes the matrix subject. This suggests that it should be higher than the matrix subject. I argue, in §9.5, that it originates low in the structure and raises after copy.

9.3 The Minimalist Program

9.3.1 *Structure building in the Minimalist Program*

With the advent of the Minimalist Program Chomsky (1995) proposes that phrase structure should be reduced to bare minimums and that it should be built by a mechanism as simple as possible. Hence bar levels, traces and indices of the Government and Binding Theory are eliminated since they are not required by interface conditions which impose the architecture of human language. The set of lexical items selected for the derivation is called a *lexical array* – or *numeration* if a lexical item is selected more than once. Derivation starts as a lexical array is formed with one-time access to the lexicon that collects the lexical items which are going to appear in the derivation. Chomsky (1995) introduces the operation Merge that takes two syntactic objects and creates a new syntactic object by forming a set that contains the two syntactic objects. In the simplest case, one of the syntactic objects is a head (H) while the other is an XP, i.e. Merge(H, XP) = K {H, XP}. Say H is a verb and XP is an NP. Assume that the lexical array is {children, chocolate, like, v^*, T, C}. (11a) represents the formation of a V-Complement structure, VP, and (11b) is the vP.

(11) a. Merge(like, chocolate) = [$_{VP}$ like chocolate]

b. Merge(v, VP) = [$_{vP}$ v [$_{VP}$ like chocolate]]

Merge yields a label for the newly formed object that enters into further syntactic operations so that the derivation works with fewer syntactic objects, and computational load is reduced. For example, merge of a verb and an NP in (11a) yields the level VP, and *v* merges with VP in (11b). Later, Merge of the subject with the correct label for the new syntactic object forms the argument structure. Thus Merge of a subject to (11b) will yield (12).

(12) [$_{vP}$ children [$_{vP\ v}$ [$_{VP}$ like chocolate]]]

Applying Merge to two syntactic objects and restricting the further syntactic operations to the label of the new syntactic object yields a hierarchic structure. As a natural corollary of labelling, the complement-specifier distinction in the earlier versions of the theory does not exist anymore since merge of a subject, for instance, to vP is not to a bar level, which would be invisible in the current framework, but to the new syntactic object vP carrying the label of v in (12). The only computationally relevant distinction between the complement of v *like chocolate* and the subject *children* in (12) is first merge-second merge. The XP that is Merged first to a head is the complement while the second Merged XP is the specifier.

Merge can either select a lexical item from the lexicon and attach it to an already existing structure, or it can select a lexical item from inside the existing structure and Merge it at the edge. The former is known as *External Merge* (EM) while the latter is *Internal Merge* (IM). Put simply, the former is the origin of argument structure as it merges the arguments ((11) and (12)) and the cartographic hierarchy as it merges TP and CP. The latter is the operation *move*. Continuing the derivation of a simple transitive sentence, assume T has merged with vP in (12). The resulting structure is [T [$_{vP}$ sub $_{v}$ [$_{VP}$ V Obj]]]. The next step is to Merge subj to the edge of T for reasons to be discussed below. However, Chomsky argues that language is the optimum solution to the interface conditions (Chomsky 2000: 96), which engenders the economy principle *inclusiveness condition*. This principle stipulates that "no new features are introduced by C_{HL} [Computation Human Language]" (Chomsky 2001:113). It is now clear that traces and indices of the movement theory violate the inclusiveness condition since inclusiveness condition bans addition of new objects and features. Therefore, the subject is merged to the edge of T by internal Merge without creating a trace or index in Spec, vP. Essentially, Merge creates a copy of the subject as shown in (13), the copy theory of movement.

(13) [$_{TP}$ children $_{T}$ [$_{vP}$ children $_{v}$ [$_{VP}$ like chocolate]]]

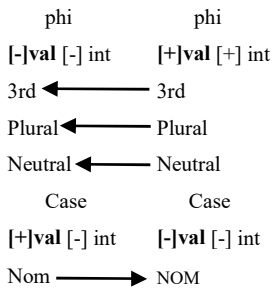
9.3.2 *Features and local relations*

Within the Minimalist architecture of language (Chomsky 1995), lexical items come from the lexicon as fully derived and inflected. The generative procedure forms syntactic

objects and values the features of lexical items that lack intrinsic values against the features that have intrinsic values so that the derivation complies with the conditions of the Sensory-motor (SM) and Conceptual-intentional (C-I) interfaces. A feature is a property of a lexical item that drives the syntactic relations throughout the derivation. The features of lexical items have two points of differentiation: valued/unvalued and interpretable/uninterpretable. Interpretable features are features that have semantic effect on the output thus are interpreted or digested by C-I. For example, NPs have a set of interpretable phi-features, person-number-gender. These features are interpretable since each NP, by definition, comes from the lexicon with a specific person, number and gender, such as [3rd person], [singular] and [feminine] features on *girl* which relate to the intrinsic properties of a human. Uninterpretable features, on the other hand, do not have semantic correlates, such as Case on NPs and T as well as phi-features on T (Chomsky 2001: 4). Since Vergnaud's (1977) original idea that Nominative and Accusative Case associated with T and V respectively have no semantic interpretation, we know that the Case features of lexical items, functional or substantive, have to be uninterpretable. In other words, Case does not specify any intrinsic property of the Nominative marked noun in *The girl likes ice-cream* as the intrinsic properties of the same NP are the same when it has Accusative in *The boy likes the girl*. Regarding the valued/unvalued contrast, a feature on a lexical item may come from the lexicon as valued (such as interpretable phi-features on NPs and uninterpretable Case on T) or it may come as unvalued and assume a value as a result of some syntactic operation (such as uninterpretable Case on NPs and interpretable phi-features on T).[78] For instance, having no lexical content, T is associated with unvalued phi-features, which are valued on NPs. As a result of this contrast, when an NP reaches the C-I interface, its person, number and gender can be read off the NP itself. But the derivation will crash at C-I unless T and NP come to a specific structural configuration where T's unvalued features are *valued*, or copied from the NP before the derivation reaches C-I. Assume the derivation reaches the stage where T is merged as in (14). The unvalued phi-features on T are valued by the valued phi-features of the subject NP. We will come to the required structural configuration and the other conditions to be met below.

[78] I will detail this syntactic operation, namely Agree, below.

(14) [$_{T}$ [$_{vP}$ children $_{v}$ [$_{VP}$ like chocolate]]]



There is another uninterpretable feature in (14): Nominative Case. It is, however, valued on T and v*, but unvalued on NPs. Therefore, valuation runs in the opposite direction. T values the Case feature of *children* as Nominative while v* values the Case feature of chocolate as Accusative. So far, we have seen [+] interpretable [+] valued features (phi on NPs), [+] interpretable [-] valued (Case in T) and [-] interpretable [-] valued features (Case on NPs and phi on T). This raises the question of whether features can also be [-interpretable, +valued] or [+interpretable, -valued]. Chomsky (2001: 5) suggests that "[...] the uninterpretable features, and only these, enter the derivation without values, and are distinguished from interpretable features by virtue of this property".[79]

A question arises as to how the derivation decides at this stage that such a relation should be established between T and NP. Chomsky (2001, 2004, 2005 and 2008) assumes that T functions as a *probe*, which seeks for a *goal* in its *checking domain*. Omitting much necessary detail for the time being, a probe is a collection of features seeking its associate(s) with the same features. Therefore, it has a *match* when it finds the nearest lexical item with the same features, Case and phi in (14). Call such a lexical item a *goal*. Economy considerations dictate that the checking domain of a probe has to be as small as possible. Hence Chomsky (2001) argues that a probe's checking domain (where it searches for matching goals) is its complement domain. Once matched, the unvalued features on the probe and the goal are mutually valued, their uninterpretable features are deleted for convergence at C-I. The procedure *match-value-delete* is known as *Agree* (Chomsky 2000). The three components of Agree are assumed to operate simultaneously so that the derivation doesn't have to look back to find and delete the disturbing

[79] See Pesetsky and Torrego (2007) for a different view.

uninterpretable features. Going back to (14), the probe is T and *children* is the goal. T searches its complement vP and Match detects that *children* has the same features as the probe: phi and Case. The unvalued phi-features of T are valued by the valued features of *children* while the unvalued Case of *Children* is valued by the valued feature of T, mutual tranmission of features. Although the NP *chocolate* is another potential goal, unvalued Case feature of *children* "blocks further search", the well-known intervention effect (Chomsky 2008: 142). After Agree takes place between the probe and the goal, the goal is internal Merged to the edge of the probe to satisfy the probe's EPP (the motivation delayed in the discussion of (13) in §9.3.1). Note that Agree may or may not be accompanied by Merge of the goal to the edge of the probe. In (15), for example, the subject NP agrees with T and later merges with it.

(15) [$_{TP}$ The problems$_i$ [$_{T}$ are [(the problems)$_i$ with the mechanics]]]

In (16), however, the lexical array includes the expletive *there*. Hence the EPP feature of T is satisfied by the merge of the expletive even though T agrees with the associate *problems*.

(16) [$_{TP}$ There [$_{T}$ are [problems in the mechanics]]]

9.3.3 *Phases and inheritance*

Chomsky (2000) argues that the working space of the derivation should be as small as possible in order to avoid computational complexity and reduce the burden on the active memory. Therefore, C_{HL} should divide the generation of an expression into smaller units called *phases*. Each phase is a closed domain, immune to operations from outside. Chomsky further argues that the derivation sees only as far as a phase. Phases reduce the computational complexity significantly since the derivation *transfers* the complement of a phase head to the SM and C-I interfaces and forgets it while the specifier and the phase head itself remain accessible.

The idea of derivation by phase immediately calls for such questions as what are phases and where do they fit in the organization of language. Chomsky argues (2004: 107) that the derivation makes a one-time access to the lexicon and obtains a lexical array. However, derivation does not process all the lexical items at the same time. Each phase is constituted by a lexical subarray. Chomsky (2000, 2001) argues that phases are 'propositional'. By definition, CP is a phase since it has force indicator. Furthermore, verbal phrases with full argument structure, marked with v* (phi-complete), are also phases. [80] But TP, passive verbs and unaccusatives verbs do not form a phase according to this definition. Passives and unaccusatives lack an external argument, which makes their argument structure deficient, and force is associated with C, not T. In a simple passive sentence, for example (17), since v is a phi-incomplete head it cannot act as a probe and value the uninterpretable Case feature of *he*. Hence the case of the pronominal is not Accusative, but Nominative, which is the Case value of T. It is now safe to assume that T acts as a probe in (17). It searches its complement domain and matches the uninterpretable Case feature of the pronominal *he*. As a result of Agree, T values the Case feature of the pronominal. Furthermore, T shares the phi-features of the pronominal, which is then merged to the edge of T, as in (17b).

(17) a. $_{C}$ T [$_{v}$ was [$_{VP}$ killed he]]

b. $_{C}$ [$_{TP}$ he$_{i}$ [$_{T}$ was [$_{v}$ [$_{VP}$ killed t$_{i}$]]]]

However, the picture in (17) is clearly problematic for the view discussed above that T is not a phase head, therefore not a probe. The relevant phase head should be C, but T apparently agrees with the pronominal as the subject-verb agreement in (17b) indicates. Chomsky (2008) argues that T acts as a probe as it is selected by C, reaching the conclusion that originally T is not a phase head and acts as a phase only when it is selected by C. As a matter of fact, there seems to be adequate empirical evidence for this argument. In (18) where T is not selected by C, it remains defective (phi-incomplete) and the goal *he* agrees with the next phase: v*P.

[80] See Chomsky (2001) and Gallego (2010: 53-59) for other arguments that CP and vP are phases.

(18) a. [$_{v*P}$ John $_{v*}$ [$_{VP}$ asked to $_{T}$ [$_{v*P}$ he $_{v*}$ [$_{VP}$ pass the salt]]]]]

b. [$_{v*P}$ him$_i$ [$_{v*P}$ John $_{v*}$ [$_{VP}$ asked [$_{TP}$ t$_i$ to $_{T}$ [$_{v*P}$ t$_i$ $_{v*}$ [$_{VP}$ pass the salt]]]]]]

c. John asked him to pass the salt

Since T is selected by V, not C, it is defective and cannot value the Case features of *he*. The next phase head in the derivation, v*, matches and values the Case feature of *he* and successive cyclically merges it to its edge, which is later effaced by the movement of *John* and *asked* as seen in (18c). In a nutshell, T is always defective in phi-features and *inherits* the uninterpretable phi-features of C in root clauses (Chomsky 2008).[81] Therefore, Chomsky (2008: 148, 2007, 2013) assumes that it is C+T that acts as a phase, but it is C that is the locus of phase related features. Note that T may or may not be selected by C, but C always selects T. Chomsky (2013) generalises this architecture of phases and their defective complements and argues that T and V are similar in their behaviour. That is, V is a defective head and can only value the Case feature of its object if it is selected by v* and the object is merged to the edge of V in a way similar to the merge of subject to the edge of T. Hence the derivation of a simple transitive sentence, which also generalizes to (18), should actually look like (19).

(19) $_{C}$[$_{TP}$ Children$_j$ $_{T}$ [$_{v*P}$ t$_j$ $_{v*}$[$_{VP}$ chocolate$_i$ [$_{VP}$ like t$_i$]]]]

Bottom-up, as the phase head v* is merged to the VP, V inherits the phi-features of v*. v*-V probes its complement and agrees with the goal (the object-verb agreement in some languages), and the goal is internal Merged to the edge of V.[82] The vP phase is completed as its complement, namely VP, is transferred to SM and C-I. Following the external

[81] I will come to the specific version of inheritance I assume in §9.4.

[82] This predicts the word order incorrectly. See Lasnik (2003) for adjunction of V to v* which restores the surface order.

Merge of the subject to Spec, vP, T and C Merge. T inherits the features of C, agrees with the subject, and the subject is internal Merged to Spec, TP.

Phases make strict cyclicity possible by allowing the derivation to carry out the syntactic operations in a relatively small working memory. To reduce the work load of the working memory, the derivation transfers the complement of a phase to the interfaces and forgets what is in it. This is achieved by the *Phase-Impenetrability Condition* (PIC) as formulated below by Chomsky (2000).

(20) *Phase-Impenetrability Condition* (PIC)

> In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.
>
> (Chomsky 2000: 108)

The domain of a phase is its complement domain while the edge is its specifier. Since v*P and CP are phases and C is merged after v*, PIC entails that C cannot probe into the domain of v*and Agree with any goal in it. Therefore, in (19) the object *chocolate* is not a possible goal for C since it is contained in the complement of v*. The only goal is the subject *children*, which is in the edge of v*.

The final aspect of the phase theory that will concern us here is simultaneity which states that phase heads trigger Inheritance, Agree, Transfer and internal Merge simultaneously. Since phase heads are the carriers of uninterpretable features, the derivation has to apply the syntactic operations as soon as they are merged. Failure to do so results in crash since uninterpretable features on phase heads are indistinguishable once they are valued against the interpretable features of lexical items. Hence, unless they are transferred as they are valued they cause the derivation to crash since their values are redundant (Chomsky 2001: 5). The phase head C triggers Agree, Merge and Transfer. Therefore Agree takes place simultaneously with Transfer and is part of it (Epstein and

Seely 2002). This ensures that uninterpretable features of C inherited by T are not deleted before SM, a welcome result since they obviously have phonetic realization such as subject-verb agreement in English (Chomsky 2008: 154). To see how this work, assume that the derivation reaches the point (21a) where T doesn't trigger any syntactic operation since it is defective. C, then, merges with T carrying uninterpretable phi-features, as in (21b) where *John* carries interpretable phi-features.

(21) a. $_{T}$ [$_{v*P}$ John $_{v*}$[$_{VP}$ Mary$_i$ [$_{VP}$ likes t$_i$]]]]

b.C$_{[u]\text{phi}}$ $_{T}$ [$_{v*P}$ John$_{[i]\text{phi}}$ $_{v*}$[$_{VP}$ Mary$_i$ [$_{VP}$ likes t$_i$]]]]

If Transfer applies before Agree, the uninterpretable features on C will never be valued and cause the derivation to crash since Transfer will swipe its associate *John*. Therefore, as soon as C merges T inherits the phi-features of C, and C-T acts as a probe, agreeing with *John*. Since T is the new locus of phi-features, *John* is internal Merged to Spec, TP, as seen in (22).

(22) C [$_{TP}$ John$_{j\,[i]\text{phi}}$ [$_{T\,[u]\text{phi}}$ [$_{v*P}$ t$_j$ $_{v*}$[$_{VP}$ Mary$_i$ [$_{VP}$ like t$_i$]]]]]]

Regarding inheritance, Richards (2007) points out that UG has to have the configuration where a phase head is merged with a non-phase head as a natural corollary of uninterpretable features and phase-impenetrability condition. According to Richards (2007), if deletion of uninterpretable features is part of Transfer and if Transfer applies to the complement of phase heads, then the uninterpretable features of phase heads have to be inherited by a non-phase head in its complement position. Otherwise, uninterpretable features remain in the derivation since PIC dictates that the phase head itself is not transferred, but its complement is transferred.

9.4 Inheritance of the Functional Structure by the *-Ip* Clause

I argue in this section that *-Ip* clauses inherit the functional features from the matrix clause. I also address two questions here, delaying another to §9.5 – namely subjects of *-Ip* clauses. I address the questions (i) why inheritance but not, for example, probe-goal relation? (ii) what is the organization of the functional structure in *-Ip* clauses?

Looking at the clausal architecture of the Minimalist Program outlined in §9.3, there are two candidates to account for the dependency relation between *-Ip* clauses and the matrix clause so far referred to as 'copying': Agree and inheritance. As a matter of fact, the idea of Agree has already been entertained by Wiklund (2007) for similar constructions. Wiklund (2007) shows that in spoken Swedish certain verbs such as *start, stop* and *continue* pass their TAM morphology to an embedded verb that is linked to the matrix verb via 'o' *and*. Note the copied morphology in (23a,b).

(23) a. Han börjar o skriver dikter
he start.PRST and write.PRST poem.PL
'He started writing poems'
b. Han hade börjat o skrivit dikter
he had start.PPC and write.PPC poem.PL
'He had started writing poems'

(Wiklund 2007: 3)

Furthermore, Swedish has another resemblance to Turkish regarding copying. A set of verbs only allow partial copying, which means the participle, but not the tense of the matrix verb, can be copied. This seems similar to the multiple interpretations of the *-Ip* clauses mentioned in chapter 8 and §9.2 where portions of the matrix verb may not be copied. Note the Swedish sentences in (24) and the lack of copying in (25).

(24) a.*Vi prövar o skriver

we try.PRST and write.PRST

'We try to write'

b. Vi hade prövat o skrivit

we had try.PPC and write.PPC

'We had tried to write'

(Wiklund 2007: 65)

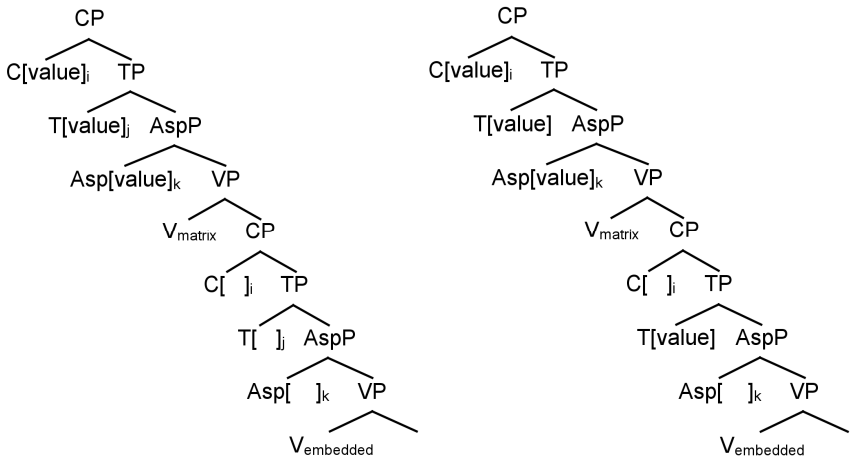
(25) Dün söz ver-ip bugün yap-mı -yor -sun

yesterday promise give-Ip today do -NEG-IMPFV-2SG

'You promised yesterday but today you are not doing it'

The verb *try* in Swedish does not allow copying of tense (24a) while participle can be copied (24b). Similarly, the *-Ip* clause and the matrix clause have different tenses in (25). Wiklund (2007) offers to analyse the copying construction in (23) and (24) under Agree. According to Wiklund's argument, the embedded verb has a full IP and CP structure where the TAM heads project without values, except T in (24a,b). (26a) is the phrase structure of full TAM copying in (23) while (26b) is the partial copying in (24b).

(26) a. b.



(Wiklund 2007: 158-160)

The embedded CP and IP heads enter the derivation with interpretable features which can be valued or unvalued. Their unvalued features (marked by the empty square brackets) are valued via Agree with the matrix CP and IP heads. The lack of T-copying in (24) is accounted for by an already valued T shown in (26b). However, I will not follow this idea for three reasons. First, interpretable unvalued features suggested by Wiklund (2007) is an assumption since the feature mechanism outlined by Chomsky (2000, 2001) doesn't allow interpretable features to be unvalued (see §9.3.2 for the description of Agree I assume here). In an Agree relation, the probe and the goal have uninterpretable features that render them active (phi-feature on C-T and Case in NPs) (Chomsky 2001: 4). It is not clear how unvalued interpretable features can render the embedded heads as active goals in the Swedish data. There is a similar with with *-Ip* in Turkish. I argue that *-Ip* is a featureless morphological item (see below). Hence it would go undetected by Agree since Agree comprises *match-value-delete* and match requires identical uninterpretable features. Second, in a typical Agree relation uninterpretable features are not transmitted to further probe the phrase structure. Yet we need to transmit phi-features in order to assign Case to the subject of the *-Ip* clause. Unless we argue for PRO in the subject position of *-Ip* clauses, they need uninterpretable phi-features transmitted in order to match the subject in Spec, vP. We saw in §9.2 that *-Ip* clauses can license an overt NP subject, which suggests that the empty category is a null subject. Finally, Agree is not a mutual relation in (26a, b) where only the features of the embedded IP are valued by the matrix IP. This is unlike the Agree relation as defined in §9.3.2 where T and the subject NP value each other's unvalued features, namely phi on T and Case on NP. Given the reasons above, Agree doesn't seem to provide the necessary syntactic environment for subject licensing in *-Ip* clauses, although it may work for the Swedish data. As a matter of fact, the non-mutual feature transmission relation between two functional heads is inheritance as outlined in §9.3.3. For these reasons, I argue that *-Ip* clauses inherit the phi-features and the TAM features from the matrix clause.

I have two nontrivial assumptions. First, I make the assumption that Nominative Case is assigned in Spec, Agr in line with Kornfilt (1984, 1991, 2003 etc.). Nominative assignment is a reflex of phi-agreement between the subject NP and Agr where phi-

features are inherited from C, and EPP is on Agr. [83] In other words, I deviate from Chomsky's (1995) assumption that AgrP does not exist. According Chomsky (1995: 349-355), AgrP is not independently motivated by the interfaces as it only bears uninterpretable features, i.e. it is only theory internally motivated. I take the fact that agreement can be singled out (cf. (8) in §9.2) as the empirical evidence that Agr is an independent head, despite Chomsky's theoretical arguments. Second, I assume that the heads in the CP-IP domain can act as proxy heads where interpretable and uninterpretable features can be inherited by the lower functional domains.

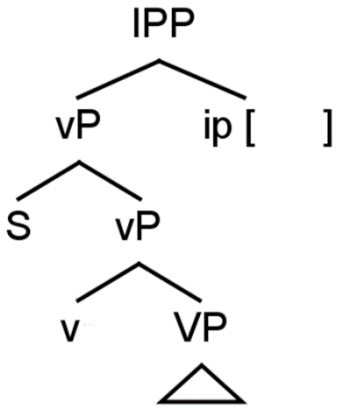
Let us start with the internal organization of *-Ip* clauses. There seem to be three possible ways to go: (i) all functional heads are available in all derivations without a feature set (ii) they are selected (without a feature set) only when their associates are selected for the matrix clause (so that they can inherit) (iii) *-Ip* is a syncretic functional head that can carry multiple features. I argue that (iii) is the optimal solution. For one thing, if we choose the first option where all functional heads are always available in *-Ip* clauses, we don't know what would be the status of, for example, T without features in the lexicon, as Chomsky (2007) notes. This would require a featureless double for each head, one for the main clause one for the *-Ip* clause. Alternatively, we could defend (ii) where the functional heads appear depending on the existence of their associates in the matrix clause, and where *-Ip* is the only lexical item representing them. However, this is even more problematic than the first option. In addition to the problem (i) poses, we would need another mechanism to ban this kind of double selection for the derivations where, say, negation will not inherit features from the matrix clause when the *-Ip* clause is going to appear higher than the domain of Neg. This is a clear case of look-ahead designed to pre-empt a crash due to featureless Neg.

For the reasons discussed above, I argue that *-Ip* is a purely functional head that can bear the features of multiple categories, i.e. a syncretic head in accordance with the arguments in chapter 8. *-Ip* is underspecified for features, which is similar to Abney's

[83] See Jiménez and İşsever (2010) for an argument that discourse features are also inherited from C (by T) in Turkish and that the agreeing head can have multiple specifiers.

(1987) and Milsark's (1988) analysis of gerunds in English.[84] One might think that *-Ip* encounters the problem mentioned for the functional heads in the first option, i.e. it is a featureless lexical item in the lexicon. However, this has an empirical advantage over the first option. It is only *-Ip* that has to be a featureless lexical item in the lexicon rather than a featureless double for each functional head. If lexicon is a list of exceptions as Chomsky (1995) argues, it is reasonable to choose the option that requires fewer exceptions in the lexicon. Since *-Ip* can be a bundle of features, I will call it *Ip phrase* (IPP) instead of AgrP or TAMP, as illustrated in (27).[85]

(27)



Unlike Wiklund (2007), I do not argue that *-Ip* is an unvalued interpretable feature set. Rather, it is similar to the aorist *-Ar* inserted after epistemic or deontic modal markers for finiteness (cf. §7.4). But *-Ar* does not carry any feature, nor can it inherit any. *-Ip*, on the other hand, is an empty set of features, and inherits the matrix IP's features in the derivation. Starting with the sentences where *-Ip* inherits all of the features in the matrix IP domain, the first interpretation of (28), and (29) show such an inheritance relation.[86]

[84] Milsark (1988: 616) argues that *-ing* "contains categorial features without values", but the features are transmitted from the base category to *-ing*.

[85] I also discard the possibility that the functional structure of non-finite clauses have deficient heads, a possibility offered by Pires (2006) following Chomsky's (2000, 2001) incompleteness hypothesis. For one thing, *-Ip* clauses seem to be completely empty rather than partially deficient (cf. §8.2 and §9.2).

[86] The matrix subject is overt in (28) and (29) for only expository purposes while the subject of the *-Ip* clause is obligatorily deleted. See §9.5.

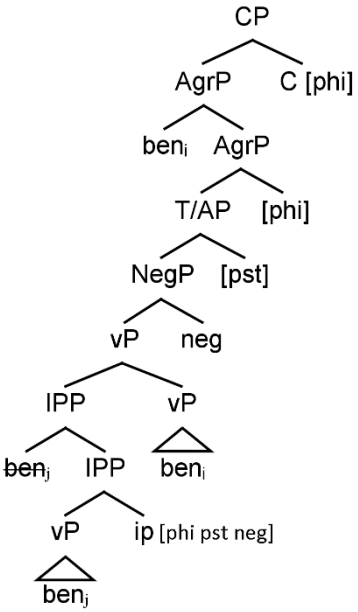
(28) Ben [*e* buraya otur-up] olay-lar-ı izle -me -di -m

I.NOM here sit-Ip incident-PL-ACC watch-NEG-PST-1SG

'I didn't just sit here and watch the incident'

'I sat here and didn't watch the incident'

(29)



The derivation starts with the numeration: {I_2, here, sit, incidents, watch, neg, T, Agr, C, *-Ip*}. The *-Ip* clause is adjoined to vP, below the whole functional structure of the matrix clause. C is merged, and phi-features are inherited by Agr. *-Ip* then inherits the phi-features, [pst] and Neg.

Since the matrix clause and the *-Ip* clause can have different subjects from the subject paradigm, for instance third person and first person (see §9.5), phi-features should be inherited as unvalued, and the subject of the *-Ip* clause should value them as the head *-Ip* acts as a probe. There are two versions of inheritance that can make this possible. Ouali (2006, 2007) proposes that since inheritance is transmission of (uninterpretable) feature from C to Agr, there are three possibilities: C may delete the features on it after inheritance (DONATE), which is Chomsky's (2004, 2008) conception of inheritance. It may retain a copy of the features (SHARE), or it may not transmit any features at all (KEEP).

Putting aside KEEP, C may share its features with Agr, which then shares those features with the *-Ip* clause before, or at least simultaneously with the Agree relation between the matrix subject and Agr head.[87] As a result, the *-Ip* clause inherits the uninterpretable phi-features as unvalued, and Agr retains its phi-features. Since Agr and *-Ip* have unvalued phi-features, they can have different subjects and have their phi-features valued differently. This adequately explains the different subjects on the adjunct clause and the matrix clause as well as the shared tense and polarity interpretations since T and Neg keep a copy of their features. Both clauses have tense interpretation and they are both negated. Thus we construe the IP heads as radio stations which blindly broadcast the features they have.[88] If there is an empty head below an IP head, it picks up the broadcast. Note, however, it raises the technical problem noted by Richards (2007) and briefly outlined in § 9.3.3. SHARE dictates that a copy o f the uninterpretable phi-features are kept on C after its complement (TP) is sent to the interfaces. But this crashes the derivation since the derivation cannot work with the disturbing uninterpretable features on C.

DONATE, which is the original framework the phase theory is built on, could help solve this problem since in this version C gets rid of its uninterpretable features. If C broadcasts its phi-features to T and to *-Ip* directly, deleting them afterwards, the derivation does not crash and both clauses can have different subjects since *-Ip* will inherit the phi-features from C unvalued. Incidentially, this would not explain the shared tense and polarity of the main clause and the adjunct clause. If DONATE is the right conception of inheritance, T and Neg should delete their features after inheritance and it should be only the *-Ip* clause that has tense and negative interpretation. It appears that both DONATE and SHARE cannot explain fully explain the facts in Turkish. But the problematic parts of both can be dissociated and a hybrid version can be made to work. Specifically, SHARE provides an account of the shared T and Neg, which are interpretable features, while DONATE is the crash-safe version for the uninterpretable phi-features. As a matter of fact, Ouali (2006) argues that derivation can resort to any of the three versions to prevent crash.

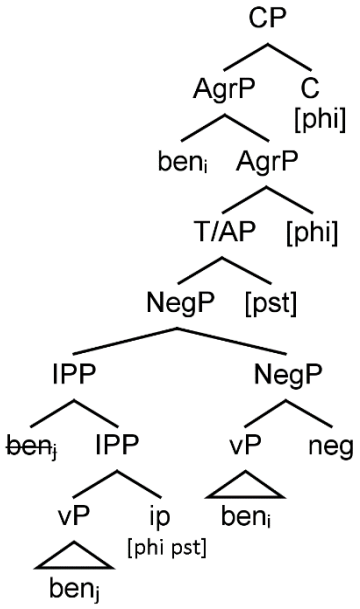
[87] Note that simultaneity argument is an independently motivated argument in MP, cf. Chomsky (2008).

[88] Truthfully, an amplifier would be a better analogy for Agr since it inherits the phi-features from C and passes them on to the *-Ip* clause.

Likewise, I argue that uninterpretable features (phi-features) are donated while interpretable features (tense and negation) are shared.

Going back to (27), the *-Ip* clause is not negated in the second interpretation. This requires that the empty head *-Ip* be outside the complement domain of Neg. Therefore, the second interpretation obtains when the *-Ip* clause is adjoined to NegP, as illustrated in (30).

(30)



Since features are inherited by the heads in their complement domain, we can argue that this is the structure where the *-Ip* clause is not interpreted as negated. It is in the complement domain of T/AP and AgrP, and only tense and phi-features are inherited. Inheritance should follow the same mechanism in syncretic phrases. This time, features of two heads forming a syncretic head are (obligatorily) inherited together. The relevant example is repeated in (31).

(31) Oraya kadar gel-ip sen-i gör-e -me-yebil-ir -im

there as far as come-Ip you-ACC see -ABIL-NEG -POSS-AOR-1SG

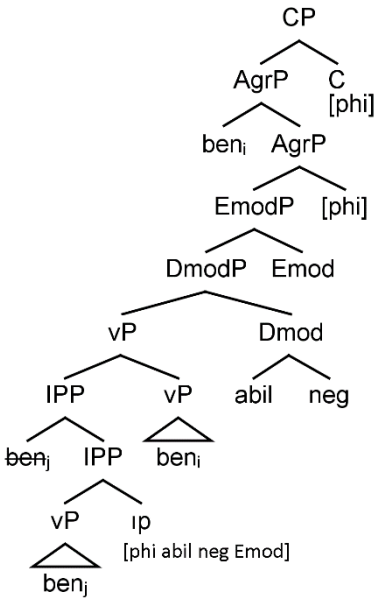
'I may be unable to make it there and see you'

'I may be able to make it there but I may not be able to see you'

'#I may not (choose to) come there and thus I may not be able to see you'

We concluded in chapter 8 that when ability and negation are selected they co-head the syncretic phrase DmodP. It is reasonable to assume that these heads form a single lexical item in the numeration. Therefore, (31) should have the numeration {I_2, there, come, *-Ip*, you, see, [ability-negation], possibility, 1SG, C}, and the relevant interpretation where ability and negation are inherited should have the derivation in (32).

(32)



Since the *-Ip* clause is in the complement domain of the syncretic head Dmod, it inherits the features of its both heads as well as epistemic modality and the phi-features.

9.5 Subjects of *-Ip* clauses

The subject position of *-Ip* clauses seems to require some deeper discussion. We saw in chapter 6 that the subject position of agreementless adverbial clauses is an empty category co-referential with the matrix subject. Given the lack of overt agreement morphology, this leads Aydın (2004) and Brendemoen and Csato (1987) to argue that *-Ip* clauses have PRO in subject position controlled by the matrix subject. Another possibility is the alternative treatment of PRO offered by Hornstein (1999) and Boeckx et al. (2010): A-movement of the subject from the *-Ip* clause to the matrix subject position. Hornstein argues that the numeration starts with a single occurrence of the subject which merges with the adjunct/embedded clause and raises to the matrix subject position for Case-assignment, as in (33). The movement leaves behind an unpronounced copy, which reduces control to occurrences of the same lexical item.

(33) [IP John [I^0 past [VP[VP John [heard Mary]] [Adjunct without [IP John [I^0 ing
[VP John [entering the room]]]]]]]]

(Hornstein 1999: 89)

PRO or A-movement can account for the fact that only the matrix subject can be overt in (34) below.

(34) (Ben$_i$) [e_i koş-up] yorul -du-m
I run-Ip grow.tired-PST-1SG
'I ran and grew tired'

For one thing, PRO doesn't have phonetic realization, and it is controlled by the matrix subject. Alternatively, under the A-movement analysis only the highest copy is pronounced, and the two copies are occurrences of the same lexical item, hence the co-reference. However, there are two problems with the PRO and A-movement analyses. One is an empirical issue while the other is incompatibility with the current inheritance argument. We saw in §8.2 and §9.2 that *-Ip* clauses can have overt subject, which suggests

that -*Ip* clauses have the right environment for an overt NP. Therefore, this position is not the right environment that licenses PRO since PRO appears in environments where overt NPs cannot (Chomsky 1986). Note the overt subject NPs repeated in (35).[89]

(35) Tam o saat-te [Semra iş-i bırak-ıp]
exactly that time-LOC Semra.NOM work-ACC leave-Ip
Ahmet işbaşı yap-ıyor-ø
Ahmet.NOM clocking.on do-CONT-3SG
'At exactly that time, Semra leaves work and Ahmet goes on duty'
(Göksel and Kerslake 2005: 440)

For the same reason, the subject in (34) cannot A-move from the subject position of the -*Ip* clause to the matrix subject position since it values its Case feature and cannot have an active Case feature. Boeckx et al. (2010) cite Chomsky (2001) for the activity condition which stipulates that an NP is active for A-movement only if it hasn't valued its Case feature. Spec, IPP should be a case position. For one thing, we saw in §9.4 that an Agree-type dependency between the -*Ip* clause and the matrix clause is not defensible given Chomsky's version of the feature theory. Hence the interpretation of -*Ip* clauses can only be accounted for with inheritance (of phi-features as well as TAM features). If an overt NP can appear in Spec, IPP in (35), and if -*Ip* clauses inherit phi-features from the matrix clause then Spec, IPP must be a Case position, Case being assigned as a reflex of phi-Agreement. Therefore, there seems to be but one option: the subject of -*Ip* clauses must be *pro*. I argue below that this is a null subject position and that the null/overt NP contrast in (34) and (35) is due to the same conditions governing the null/overt contrast in matrix clauses. I first show that matrix clause subjects are not freely null or freely overt since they are necessarily null or necessarily overt in certain discourse related environments. I then show that -*Ip* clauses are subject to the same conditions as the matrix clauses regarding the expression of subject, explaining the surface word order of the -*Ip* clauses that have overt NP subjects.

[89] Göksel and Kerslake's (2005) example is not unique. I will provide novel data shortly.

9.5.1 *Previously on null subjects*

Within the typology of null subject languages outlined by Holmberg (2005), Turkish is classified as a consistent null subject language in that all subjects in the subject paradigm can be null not only in root clauses, but also in complement clauses, relative clauses and adjunct clauses (Özsoy 1987). Turkish is also a rich agreement language, and agreement is often considered as the licenser of null subjects (Roberts 2010, Kornfilt 1984, Rizzi 1986). However, agreement-induced null subject phenomenon interacts with Chomsky's (1981) discourse-related Avoid Pronoun Principle. As a matter of fact, null subjects in Turkish are so common that overt pronouns can only surface under strict conditions (Göksel and Kerslake 2005, Enç 1986, Erguvanlı-Taylan 1984, Kornfilt 1997). For instance, the subject cannot be null if it is the answer to a *who* question, in other words when it is focused as in (36) or when it marks change of topic as in (37) (Öztürk 2001).

(36) A: Bakkal-a kim git-ti-ø?
grocery-DAT who go-PST-3SG
'Who went to the grocery store?'
B: Ben/*ø git-ti-m
I go-PST-1SG
'I did!'

(37) Ayşe ders çalış -tı -ø, ben de/*ø uyu-du-m
Ayşe.NOM lesson study-PST-3SG I top sleep-PST-1SG
'Ayşe studied lesson, and I slept'

However, it is necessarily null when it is not focused or when the topic continues, as in (38)-(39).

(38) A: Üniversite oku -du -n mu?
university study-PST-2SG Q
'Have you received university education?'

B: *Ben/ø oku-du-m

I study-PST-1SG

'I did'

(39) A: Bakkal-a kim git-ti-ø?

grocery-DAT who go-PST-3SG

'Who went to the grocery store?'

B: Ben/*ø git-ti-m. Ama *ben/ø hiç bir şey al-ma-dı-m

I go-PST-1SG but I anything buy-NEG-PST-1SG

'I did! But I didn't buy anything'

In (38), if B's mere intention is to answer the question affirmatively, the subject is necessarily null. Having an overt pronoun in B's answer requires the sentence to continue with an echo question, such as *how about you?,* in which case the speaker is focusing the subject. Similarly in (39B), the second subject position is null unless B continues with *but Mehmet did!*

Furthermore, although Turkish doesn't have object or indirect object agreement, non-subject arguments can be null so long as they can be recovered from the context (Öztürk 2004, 2006):

(40) A: O kitab-ı Ahmet'e ver-me-n gerek-iyor-du

that book-ACC Ahmet-DAT give-INF-2SG need-IMPFV-PST

'You were supposed to give that book to Ahmet'

B: Ver-di-m zaten

give-PST-1SG already

'I already gave (that book to Ahmet)'

The subject, object and the dative argument in the speaker B's answer in (40) are null unless the speaker echoes them in order to emphasize the fact that they actually gave that

specific book to Ahmet, not to someone else. It seems that although Turkish has rich subject agreement, agreement is not the only condition at play for null subjects since subjects are necessarily null or overt under specific discourse conditions (as Huang 1984 argues for Chinese), and non-subject arguments can be null without agreement on the verb.[90] Based on the observations above, Öztürk (2001, 2006) argues that Turkish is not an Agree-related null subject language, rather null subjects are licensed in their theta positions. To illustrate her point, Öztürk resorts to optional 3rd person plural agreement (cf. §3.2.2). Note that 3rd person plural agreement morpheme is not available in (41) and negation outscopes the subject while the subject outscopes the negation and appears to the left of a TP level adverb in (42) where the agreement morpheme is available.

(41) [CP[TP [NegP [vP bütün çocuk-lar [VP o test-e [gir-me -di]]]]]]
all child-PL that test-DAT take-NEG-PST
'All children did not take that test' (*all>not, not>all)

(42) Bütün çocuk-lar (Allahtan) o test-e gir-me -di -ler
all child-PL luckily that test-DAT take-NEG-PST-3PL
'All the children luckily didn't take that test' (all>not, *not>all)

(Öztürk 2006: 279)

Öztürk (2006) argues that subjects can stay in their theta position in Turkish, as in (41). But movement to a Case position is possible, and it triggers subject agreement, as in (42). However, apart from the fact that the phenomenon in (41)-(42) is limited to 3rd person plural – that is, all other subjects necessarily trigger agreement – it is also possible to have a null subject triggering 3rd person plural agreement:[91]

[90] As a matter of fact, this has been attested for other languages. For example, Duguine (2012, 2013) shows that Basque has both Agree-related null subject and discourse-related null subject. She further argues that both types have the same underlying licensing condition: Case-marking.

[91] Also see İşsever (2007) for a critique of the data. He notes that the scope facts in (41)-(42) aren't as clear as Öztürk claims. My judgments, however, are parallel to those of Öztürk's. The major problem here, I believe, is that null subjects can license agreement as I show in (43).

(43) A: Çocuk-lar gel -di-ler mi?

child-PL arrive-PST-3PL Q

'Have the children arrived?'

B: Gel-di-ler

arrive-PST-3PL

'They have arrived'

If agreement marking is triggered by movement to a Case position, the null subject in (43B) seems to be in a Case position. Therefore, I continue to assume that pro appears in Spec, AgrP in matrix clauses and in Spec, IPP in *-Ip* clauses to satisfy EPP. The overt/null distinction, on the other hand, should be due to discourse conditions. As a matter of fact, Öztürk (2001) posits that overt pronouns in Turkish – that is, topicalised and focused subjects – are highly marked and appear in TopP and FocP in the C domain. I argue that this is the reason why *-Ip* clauses look like juxtaposed sentences when the subject is an overt NP or an overt pronoun. That is, *-Ip* clauses lack a C domain, and when focused they move to the C domain of the matrix clause. However, before I discuss the overt subjects in *-Ip* clauses, I should give an account of how null subjects are licensed since this will be relevant at the end of the discussion.

I assume a fairly standard framework for null subjects in languages with rich agreement proposed by Holmberg (2005) and detailed by Roberts (2010) and Sheehan (2006). Following Chomsky (1995), Holmberg assumes that the head that hosts the phi-features[92] has a(n interpretable) D-feature. Inspired by Cardinaletti and Starke's (1999) idea of weak pronouns, Holmberg posits that the null subject is a phonologically empty phi-phrase (ϕP) whose D-feature is unvalued. It can value the uninterpretable phi-features of T, and T, in return, values the unvalued D-feature of the null subject, followed by merger to Spec, TP to satisfy EPP. After Agree takes place, the null subject has referential features and therefore can refer to an entity or be bound by a higher DP. Building on the same idea (D-feature on T), Roberts (2010) reverses the location of the value of D-feature,

[92] I will use the term T to refer to the phi-bearing head to remain neutral in the illustration of the framework. Holmberg (2005) uses the term I while Roberts (2010) prefers T to refer to this head, which I claim to be Agr.

so that T has unvalued D-feature as long as it has a full set of phi-features. In other words, D-feature of T depends on the completeness of its phi-features. On the other hand, pronouns always have valued D-feature (Roberts 2010: 75 ff. 18). Yet they are (by assumption) defective Ds without NP.

According to Roberts (2010), the null subject parameter boils down to Müller's (2005) impoverishment principle that takes place in Numeration. Languages may impoverish the phi-set on T, which leads to the loss of D-feature on T. When impoverishment doesn't take place, pronoun is defective relative to T, and the defective lexical item is deleted.[93] In other words, the bundle of feature sets in T outweighs the bundle of feature sets in pro and disturbs the balance in favour of T. The imbalance then leads to the deletion of the lighter bundle, the subject. This type of languages are the notorious null subject languages. The lack of impoverishment also results in rich agreement morphology on T. However, if impoverishment does take place, it deletes one or two features in the phi-set in T (Müller 2005). Roberts (2010) assumes that an impoverished phi-set has the effect of deleting the D-feature on T, in which case pronoun is no longer more defective than T. Therefore, these languages do not have agreement morphology (due to the impoverished phi-set), and they do not delete the pro subject since the feature sets of both lexical items are at a balance. In summary, pro has a fixed number of features, which is fewer than those of T's. The balance of the scale is manipulated by Müller's idea of impoverishment of T.

9.5.2 *Null subjects in -Ip clauses*

Since Turkish has rich agreement morphology, Agr should have non-impoverished phi-set and D-feature, both being inherited from C. Despite Öztürk's (2004, 2006) arguments for vP internal null subject, I assume that subjects move to Spec, Agr to satisfy EPP, for null subjects can license agreement (see §9.5.1). Pro moves to Spec, AgrP to satisfy EPP and gets deleted since T's features outweigh those of pro's. I assume that after

[93] This is an oversimplification of the issues. See Roberts (2010) and Sheehan (2006) for a full explanation of how deletion takes place after the derivation decides which lexical item is relatively defective. Sheehan (2006: chapter 4) gives an account of the process worked out in minimalist terms.

inheritance *-Ip* has the same features as Agr. This means that the derivation in (44) starts with two pronouns, both of which are deleted as outlined above.

(44) pro [pro koş-up] yorul -du -m
run-Ip grow.tired-PST-1SG
'I ran and grew tired'

Recall, however, that Öztürk (2001) argues that overt subjects in Turkish are in Spec, TopP or Spec, FocP. I argue that the subject of the *-Ip* clause and the matrix subject in (44) do not bear [+topic] or [+focus] features, hence they remain in their Case positions, that is Spec, AgrP and Spec, IPP. As a result, they are deleted since their phi-bearing heads *-Ip* and Agr have larger feature bundles. In (45), on the other hand, the matrix subject bears [+topic] or [+focus] feature depending on why it is overt in that specific context, so that it moves to C-domain where defective lexical items are not deleted.[94]

(45) Ben [pro koş-up] yorul -du -m
I run-Ip grow.tired-PST-1SG
'I ran and grew tired'

9.5.3 *Overt subjects in -Ip clauses*

I follow Öztürk (2001) and assume that overt subjects in Turkish bear [+topic] or [+focus] feature and move to respective phrases in C-domain. Yet I remain neutral, for the time being, as to the motivation of this movement. As such, I adopt a fine-grained CP organization similar to Pollock's (1989) split IP. After a careful consideration of the data in Italian, Rizzi (1997) concludes that CP is actually a domain that consists of five phrases, three of which are discourse-related. It has Finiteness Phrase (FinP) at the bottom and Force Phrase (ForceP) at the top. In between lie two topic phrases and a focus phrase. Regarding the order of topic and focus, Rizzi shows that Topic Phrase (TopP) can have

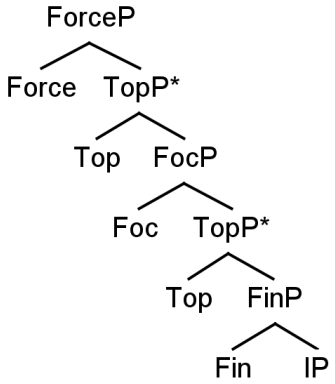
[94] I will merge this account with Roberts' (2010) in §9.5.4.

multiple occurrences below and above Focus Phrase (FocP). As a result, more than two constituents can be topicalized below and above a focalized constituent, as shown in (46).

(46) …Top Top Foc…/ Foc Top Top…

Ultimately, Rizzi shows that CP has a 'fine structure' as in (47) where asterisk shows the topic phrases that can iterate.

(47)



(Rizzi 1997: 297)

Regarding the implementation of movement to C-domain, Rizzi (2006) adopts a slightly different probe-goal relation than Chomsky by not resorting to interpretable/uninterpretable contrast. In this type of probing, each probe has an interpretable criterial feature looking for a criterial goal. For example, Foc bears an interpretive feature stipulating that its spec is focused. Once it is merged, it probes its complement domain and matches a [+focus] marked lexical item which is later merged to Spec, FocP, pied-piping the constituent it is found in.

Going back to *-Ip* clauses, their subject can be overt if it is (contrastively) focused. Two combinations with the matrix subject are possible, one being internally constrained. Both subjects can refer to the same person, or to different persons. The former option can include any person in the subject paradigm, such as *I* or *you* can be used in both clauses.

The latter option, however, has some constraints. I will start with the option where the matrix clause and the *-Ip* clause have the same person for subject. If the two subjects are the same person, and if the *-Ip* clause subject has [+focus] feature, they escape deletion.[95] In such a sentence, the speaker presents the subjects, which refer to the same person, as the exclusive agents for both events. Therefore, neither subject can be deleted. (48)-(50) are examples of such cases.

(48) Bu parça-yı$_i$ [ancak BEN sök-üp]$_j$ [BEN t$_j$ t$_i$ tak-abil-ir-im]
this part-ACC only I remove-Ip I install-ABIL-AOR-1SG
'Only I can remove this part and only I can install it back'

(49) Bu kitab-a$_i$ [ancak SEN$_m$ sahip ol-up]$_j$ [SEN$_m$ t$_j$ t$_i$ oku-yabil-ir-sin]
this book-DAT only you owner be-Ip you read-ABIL-AOR-2SG
'Only you can own this book and only you can read it'

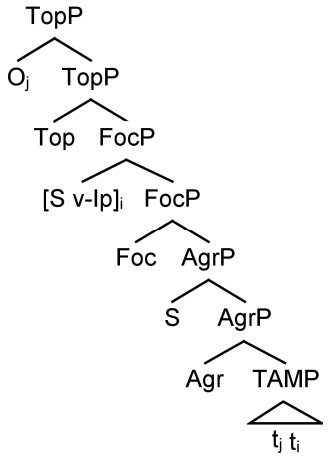
(50) Ban-a$_i$ [sadece O$_m$ dokun-up]$_j$ [O$_m$ t$_j$ t$_i$ öp-ebil-ir-ø]
I-DAT only he touch-Ip he kiss-ABIL-AOR-3SG
'Only he can touch me and only he can kiss me'

The data in (48)-(50) shows that focus closely interacts with topicalization in these sentences since the object is topicalized to the sentence initial position.[96] The sentence is otherwise ungrammatical (see (57) below). In addition to the topicalization of the object to Spec, TopP, the subject of the *-Ip* clause moves to Spec, FocP, pied-piping the whole clause. As a result of this movement, the *-Ip* clause and the matrix clause look like two juxtaposed sentences, as shown in (51).

[95] The natural question to ask is if it is only the *-Ip* clause subject that bears the [+focus] feature, why do both subjects escape deletion. An explanation follows below.

[96] The interaction between topicalization and focusing is a well-known phenomenon in Turkish. See Kural (1992).

(51)



Note that there are two focused lexical items in (48)-(50), but there is only one focus phrase in the C-domain. Even though we could argue that they move to the multiple specs of FocP, this argument does not seem to go through since they are strictly ordered. In other words, the *-Ip* clause has to precede the matrix subject (see (56) below). Therefore, we need an explanation of how focus is assigned to two lexical items in (48)-(50).

İşsever (2003) shows that there are two focus strategies interacting to mark presentational focus and contrastive focus in Turkish. Presentational focus is confined to the immediately preverbal position while contrastive focus via focal stress can be assigned anywhere except postverbally (Göksel and Özsoy 2000). It follows that any constituent in the immediately preverbal position can be contrastively focused when it receives focal stress. Otherwise it bears presentational focus. Note the examples in (52)-(53) for focus in Turkish.

(52) A: San-ırı-m Ali kitab-ı Mehmet'e ver- miş -ø
think-AOR-1SG Ali.NOM book-ACC Mehmet-DAT give-EVID-3SG
'I think Ali gave the book to Mehmet'

B: Ali kitab-ı AYŞE'YE ver-di, Mehmet'e değil.
Ali book-ACC Ayşe-DAT give-PST Mehmet-DAT not
'Ali gave the book to Ayşe, not to Mehmet'

(53) A: Ne ol-du?

what happen-PAST

'What happened?'

B: Ali kitab-ı Ayşe'ye ver-miş. Ayşe o kitabı asla geri vermez.

Ali book-ACC Ayşe-DAT give-EVID Ayşe will never give that book back

'Ali gave the book to Ayşe. She will never give that book back'

Ayşe bears the focal stress in the immediately preverbal position in (52B) in order to update the misinformation A has, resulting in contrastive focus. But the presentational focus in (53B) projects as an answer to the widest scope question in (53A).

As a matter of fact, sentence initial position, too, can be associated with contrastive focus (İşsever 2003). Rizzi (1997) notes that this position is Spec, FocP in Italian, and I tentatively generalize this to Turkish.[97] (54B) is an example of focus movement in Turkish.

(54) A: Bu fotoğrafı Ali çek-ti

'Ali took this photo'

B: Hayır. BU FOTOĞRAF-I$_j$ Ali t$_j$ çek-ti, onu değil

No. this photo-ACC Ali take-PST that not

'No. THIS PHOTO, Ali took, not that one'

(İşsever: personal communication)

Contrastive focus can also be assigned to subject in the phonologically preverbal area after the object is topicalized, leaving the subject in the edge of the verb:

[97] Scrambling in Turkish constitutes a vast literature, especially regarding A/A-bar status of the landing site. See Jiménez and İşsever (2010), İşsever (2003), Kural (1992) and the references therein.

(55) Ayşe'yi$_j$ AHMET t_j sev-iyor (Ali değil)

Ayşe-ACC Ahmet.NOM love-IMPFV (Ali.NOM not)

'It's Ahmet that loves Ayşe, not Ali'

The data above shows that contrastive focus can be phonologically assigned anywhere in the preverbal area which also includes movement to FocP (54B). However, the freedom is constrained when contrastive focus iterates (Göksel and Özsoy 2000). The subjects in (48)-(50) are contrastively focused (İşsever pc.), hence both subjects are assigned focal stress. This is expected since contrastive focus, but not presentational focus, can iterate (Kiss 1998). Note that the *-Ip* clause moves to the focus position in (48)-(50), similar to the contrastively focused word *photograph* in (54B). As a result of this movement, the matrix subject ends up in the phonological preverbal position and receives focal stress. It seems that if two constituents are focused, one has to appear in the immediately preverbal position. If the *-Ip* clause fails to move to the focus position or if the object doesn't vacate the phonological edge of the matrix verb, the result is ungrammatical:

(56)*Bu vida-yı$_j$ ancak BEN [BEN sök-üp] t_j tak-abil-ir-im

'this screw-ACC only I I undrive-Ip drive-ABIL-AOR-1SG

Int. Only I can undrive, and only I can drive this screw back

(57)*[Ancak BEN sök-üp]$_j$ BEN t_j bu vida-yı tak-abil-ir-im

only I undrive-Ip I this screw-ACC drive-ABIL-AOR-1SG

Int. Only I can undrive, and only I can drive this screw back'

The *-Ip* clause in (56) and the object in (57) intervene between the focused subject and the matrix verb, and the sentences are ungrammatical. It seems that contrastive focus is syntactically free. It can be assigned anywhere. But when it iterates, one of the focused items has to be focused in the immediately preverbal position.[98] We can then ask why it

[98] (57) also shows that focusing of the matrix subject is not licensed in the second spec of FocP or in the spec of a lower focus phrase as suggested by Belletti (2004). If it moved to Spec, FocP and did not use the phonological preverbal position for focusing, there wouldn't be any reason for (57) to be ungrammatical.

is the subject of the -*Ip* clause that is moved. Note that this is the only convergent derivation given the constraint on dual focus: one has to be in the immediately preverbal position. Therefore, if the -*Ip* clause doesn't move (56) or the object isn't topicalized (57), the dual focus condition is not met.

As a matter of fact, the dual focus condition is not an *ad hoc* stipulation. Turkish has a similar constraint on the surface structure of focused phrases and wh-words. If a focused phrase co-occurs with a wh-phrase, it has to precede the wh-phrase (Göksel and Özsoy 2000). Note the examples in (58).

(58) a.*Ne zaman OKUL-A gid-ecek-sin?
when school-DAT go-FUT-2SG
'When will you go TO SCHOOL'
b. OKUL-A ne zaman gid-ecek-sin?
school-DAT when go-FUT-2SG
'When will you go TO SCHOOL'

(Göksel and Özsoy 2000: 222)

Göksel and Özsoy (2000) argue that the phrase that bears the stress defines the focus area which extends from the stress-bearing phrase to the verb. If another phrase bearing non-recoverable information (wh-phrases) are to appear in the sentence, it has to be in the focus area. Assuming that wh-phrases are also focused (bear non-recoverable information), we can argue that (56) and (57) further narrow down the condition: the secondary focus phrase has to be in the immediately preverbal position (also see Richards (2006) for a prosodic account of the fact).

If the subjects of two verbs are not co-referential, only a third person subject (preferably a proper noun) can be selected for the *-Ip* clause while the matrix clause can have first or second person pronoun:[99] [100]

(59) a.*Bu adam-ı [sen tut-up] ben vur-acağ-ım
this man-ACC you hold-Ip I hit-FUT-1SG
Int. You will restrain this man while I hit him

b.*Bu adam-ı [ben tut-up] sen vur-acak-sın
this man-ACC I hold-Ip you hit-FUT-1SG
Int. I will restrain this man while you hit him

c. Bu adam-ı$_j$ [Ahmet/?o tut-up]$_k$ [sen t_k t_j vur-acak-sın]
this man-ACC Ahmet/he hold-Ip you hit-FUT-2SG
Ancak öyle dövebilirsiniz
Only then can you beat him
'Ahmet will restrain this man while you hit him. Only then can you beat him'

[99] This seems like an unexplained stipulation here. One argument could be that first and second persons require phonological agreement but third person agreement is phonologically null in Turkish. Therefore, the lack of phonological agreement on *-Ip* does not pose a problem for third person subjects. Speakers assume that third person can be licensed without phonological agreement, as in main clauses. However, this argument is weakened by the fact that first and second persons can appear in *-Ip* clauses when they repeat in the matrix clause, see above.

[100] The sentences with different subjects quickly degrade for reasons not fully explored yet. However, Göksel and Kerslake's (2005) original example in (35) as well as (59c-e) are fully grammatical in my dialect. The majority of Turkish speakers agree on the data in (59) while some speakers find the sentences degraded, if not ungrammatical. Yet those speakers point out that the sentences improve to full grammaticality if the matrix clause is a conditional clause (instead of past or future tense), and if both subjects are third person, as in (i):

(i) Bu adam-ı$_j$ [Ali tut-up]$_k$ Ahmet t_k t_j vur-ur-sa ancak döv-ebil-ir-ler
this man-ACC Ali hold-Ip Ahmet hit-AOR-COND only then beat-ABIL-AOR-PL
'If Ali restrains this man while Ahmet hits him, only then can they beat him'

d. Bu adam-ı$_j$ [Ahmet/?o tut-up]$_k$ [ben t_k t_j vur-acağ-ım]
this man-ACC Ahmet/he hold-Ip I hit-FUT-1SG
Ancak öyle dövebiliriz
Only then can we beat him
'Ahmet will restrain this man while I hit him. Only then can we beat him'

e. Bu adam-ı$_j$ [Ahmet/?o tut-up]$_k$ [Mehmet t_k t_j vur-acak-ø]
this man-ACC Ahmet/he hold-Ip Mehmet hit-FUT-3SG
Ancak öyle dövebilirler
Only then can they beat him
'Ahmet will restrain this man while Mehmet hits him. Only then can they beat him'

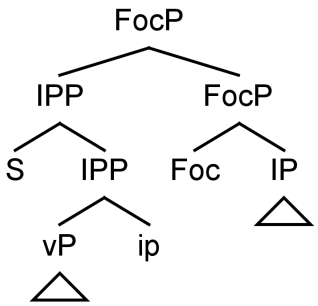
In the grammatical cases (59c-e), the two subjects are focused. Again, for the juxtaposed-like word order to hold, we must assume that the *-Ip* clause moves to Spec, FocP while the matrix subject has its focus feature assigned in the immediately preverbal position. This predicts that when the *-Ip* clause has an overt subject, the matrix subject cannot be null. This prediction is borne out. If two subjects are contrasted, they can't be null:

(60) Bu adam-ı$_k$ [Ahmet$_m$ tut-up]$_i$ pro$_{*j}$ t_i t_k vur-acak-ø
this man-ACC Ahmet hold-Ip hit-FUT-3SG
'Ahmet$_m$ will restrain this man while he$_j$ hits him'

9.5.4 *Two further issues with overt subjects*

We have seen so far that if the *-Ip* clause subject is focused it moves to Spec, FocP, pied-piping the whole clause. This, however, leaves us with a problem. If it is the entire constituent that moves, then the subject should still be in Spec, IPP, as repeated in (61).

(61)



If IPP has inherited the phi-features from C and was pied-piped to Spec, FocP, the subject and the phi-features are still in the same configuration. In the framework of null subjects proposed by Roberts (2010) the subject should delete. But Spec, FocP is the non-deletion point in Turkish as suggested by Öztürk (2001). We can either assume that the non-deletion condition in Spec, FocP overrides the deletion condition in the spec of the phi-bearing phrase or look for another explanation. As a matter of fact, instead of having two conflicting conditions and an override principle, Roberts' (2010) idea of defectiveness can be modified. If we stipulate that [+focus] ([+topic] in other cases) on subject brings the phi-bearing head and the subject to a balance, this could well be the reason why subjects are not deleted in Turkish when they are focused or introduced to the discourse as the new topic. The balance which is maintained via impoverishment of phi-features in non-null subject languages can be established with enrichment of the subject with focus or topic feature in null-subject languages in overt subject sentences. Note, however, that this relies heavily on indiscriminate counting of the features on the subject and the phi-bearing head. That is, in Roberts' (2010) original formulation of the idea, T loses its D-feature as the phi-set is impoverished, and retains it when it is not impoverished. This maintains or upsets the balance with the subject, leading to null/overt distinction. Roberts (pc.) notes that the exact defect of pro, which is the underlying notion of the theory, is a 'semi-stipulation'. According to Roberts, "pro is $D^{min/max}$ not a phi-$^{min/max}$...there is no nP or NP" (Roberts 2010: 73), but it does have phi-features since he argues that when T is not impoverished "[pro's] features, phi and D, are properly included in T's" (Roberts 2010: 76). If an impoverished phi-set causes T to lose its D-feature, as assumed by Roberts, and if it is counted as minus one feature, [+focus] or

[+topic] can also be counted as plus one feature on the subject.[101] The subject then is not deleted even though phi-features are rich.[102] Yet this requires a theoretical framework where focus and topic features have equal status with phi and D-features (cf. Belletti 2004 for a similar attempt). Therefore, the precise implementation of this idea should follow the precise definition of the defect in pro, which I will not pursue here.[103]

A final issue remains. If we assume that we have working details of the idea above, this undermines Öztürk's (2001) idea of movement to Spec, TopP or Spec, FocP by avoiding the need for movement. Note, however, that we no longer need to assume that subject moves Spec, TopP or Spec, FocP for the sole purpose of avoiding deletion, which would violate the last resort condition. We also don't need a non-deletion condition in Spec, TopP or Spec, FocP. Therefore, the obvious focus related movements in (48)-(50) and (59c-d) should be EPP-related. Top and Foc require that their matching associate appear in their spec position. Hence, focus and topic features have two effects: they trigger movement and bring balance to the Case position of the subject.

9.6 Summary

We saw in this final chapter that the syntactic operation copy that allows *-Ip* clauses to have interpretation is inheritance. The varying interpretations they have is accounted for by where they appear in the IP domain of the main clause. Since the inheriting phrase needs to be in the complement domain of the source head, the *-Ip* clause cannot inherit TAM features of the head to which it adjoins. But *-Ip* clauses are never base-generated in Spec, AgrP. Therefore they always inherit phi-features from the main clause. When its subject is not focused, it remains in its base-generated position – like an embedded clause – where its subject is deleted in the same way as non-focused/non-topicalized subjects are deleted in Turkish. On the other hand, when its subject bears the focus feature

[101] A finer-grained solution would also count the deleted phi-feature on T, so that it is actually one and a half feature.

[102] Note that this also offers an account for the obligatorily overt focused subject in (59c-e). Since the *-Ip* clause occupies the specifier position of the only focus phrase, the matrix subject has to be overt in its Case position.

[103] Sheehan (2006) has a discussion of how such features can block deletion.

it is matched by the focus feature on Foc and moves to Spec, FocP, pied-piping the whole -*Ip* clause. This, therefore, results in two juxtaposed sentences, only one of which is morphologically inflected. Finally, we suggested that the focus feature on the subject can be integrated into Roberts' (2010) subject deletion analysis for null subjects. His idea of impoverishment disturbing the balance between the subject and the phi-bearing head can be modified in such a way that [+focus] feature on the subject also plays a role in deletion/non-deletion phenomenon. Specifically, [+focus] on the subject can restore the balance which is otherwise always upset by rich agreement since pro is defective by default.

CHAPTER 10

CONCLUSION

10.1 Contribution to the Theory of Language

In this thesis it has been argued that the data of adverbial clauses in Turkish supports phrasal syncretism suggested by morphological syncretism. It seems that inflectional morphemes can carry and project multiple features simultaneously as Giorgi & Pianesi (1997) argue. This suggests that Turkish is now typologically closer to inflectional languages than so far assumed, i.e. a single morph can represent multiple inflectional categories. As a matter of fact, this change is not surprising both for the world's languages and for Turkish. It is well known that some of the bound morphemes in Turkish have their origins in unbound morphemes. For instance the imperfective marker *-yor* comes from the verb *yürü-* 'to walk' via cliticization (Göksel 2001). Also the weak auxiliary *-er* in old Anatolian Turkish is now cliticized to the main verb and took the shape of a weak vowel /i/. It seems that fusion is an integral part of language change, as discussed by Bybee (1985). As a result of this process it is expected that functional categories undergo a rewiring with morphological forms.

The thesis also contributes to the literature by completing a number of gaps in the analyses that handle TAM categories in the world's languages and Turkish. First, I show in chapter 1 that we need Vikner's (1985) theory of tense which has two reference points in order to account for the fact that German/French and Australian English type present perfect allow temporal modification and narration. In Vikner's (1985) analysis R_2 either follows or coincides with R_1. Ritz's (2010) idea of a disjoint R_2 preceding R_1 makes it possible to have morphological perfects which can anchor a past time, allowing adverbial modification and temporal ordering. Therefore, the only distinguishing feature of German/French and Australian English type present perfect and perfective past is that they have different morphological forms. Although the distinction is still available in Indo-European languages, it is non-existent in affixal languages, such as Turkish. Therefore, a single morphological form, namely *-DI*, may have the semantic representation of German/French type present

perfect ($S=R_1>R_2=E$), perfective past ($S>R_1=R_2>E$) or standard present perfect ($S=R_1=R_2>E$). We also saw in this chapter that the contrast between perfective and imperfective viewpoints can be expressed with elemental semantic relations whereby perfective is a singular relation between event time and reference time while imperfective is a dual relation between the two. Finally, I offered a temporal template where each aspectuo-temporal situation has a mirror image. Although individual languages may not have all of the aspectuo-temporal situations in this template, we saw that the proposal fits the cross-linguistic data. In chapter 2, I outlined the two major models which claim to represent the semantics of tense in syntax: the feature-based model and the argument-based model. Having worked out the assumptions and predictions of both models for the position of adverbials and the head status of present tense morphology, I scrutinized the argument-based model for the semantic model it attempts to reflect in syntax. It turned out that Demirdache & Uribe-Etxebarria's (2000, 2004, 2007, 2008) specific model corresponded to the semantic model of neither Vikner's (1985) theory nor Reichenbach's (1947) theory. Vikner (1985) argues for two reference points and three predicates each working on two arguments while Reichenbach's (1947) theory assumes a single refence point and a single predicate temporally ordering S, R, E simultaneously. Yet Demirdache & Uribe-Etxebarria assume a single reference point and two predicates where R is an argument in Spec, AspP and the two predicates are the heads of AspP and TP. Assuming that we need Vikner's (1985) semantic model in order to account for the type of present perfect that allows past temporal adverbials and narration in a number of languages, such as French, German and Australian English, I translate, in this chapter, the two reference point based theory of tense to a syntactic model. Specifically, I suggest that if we are to argue for an argument-based model of tense, there should be two aspect phrases. We then have three aspectuo-temporal heads (Asp1, Asp2 and T) and two reference points in the specs of Asp1 and Asp2. I also analysed imperfective viewpoint as the binding of temporal co-ordinates (S, R_1, R_2, E) over a temporal ordering head (Asp1, Asp2, T) (the dual relation). The temporal heads order E before or after R_2 while binding of E and R_2 render them co-temporal. Therefore, the event both precedes/follows R_2 and coincides with it. As such, it has to expand in time and include the reference point. Perfective, on the other hand, is lack of such a dual relation. Hence the event either precedes or follows the reference point depending on the lexical content of the temporal head or it coincides with it the reference point due to the binding relation between E and R_2. This results

in lack of internal structure of the event. To the best of my knowledge, this is a novel attempt to unite the semantics and syntax of perfective and imperfective viewpoints.

While chapter 3 was a brief reference chapter for readers who are unfamiliar with Turkish, chapter 4 and 5 bring together the two approaches to the verbal morphology and the functions of inflectional morphemes in Turkish by dividing the past and non-past reference into two due to the vastness of the literature and the data. They serve as a thorough literature review comparing and contrasting the two major approaches. Specifically, the multifunctional approach defended by various researchers argues that a single morpheme in Turkish can mark two or three TAM categories simultaneously. This property of the TAM morphemes is especially more pronounced in past reference where *-DI* is arguably ambiguous between two multifunctional options, i.e. perfective, past, indicative and perfect, present, indicative. The argument for the former is collocation with past temporal adverbs while the latter is defended on the grounds that the verb affixed with *-DI* may show present relevance in the absence of a past temporal adverb. But Uzun (1998) argues against any kind of multifunctionality and ambiguity of *-DI*. He shows that adverbial collocation is not a reliable method to determine the tense feature of a sentence since some temporal adverbs can collocate with present tense markers as well as the so-called past tense markers. Instead, he proposes a model where the so-called past markers (*-DI* and *-mIş*) are actually aspect and mood markers, and the tense of the sentence is present tense marked by a zero marker. Uzun's position is further supported by Ritz's (2010) suggestion that temporal adverbials can anchor R_2 even though the tense of the sentence is technically present, that is to say $S=R_1$. Therefore, the discussion in chapter 4 and 5 seems inconclusive, and we need other means to choose between the two approaches.

Chapter 6 is another brief chapter which summarizes the descriptive data of non-root clauses in Turkish with a specific emphasis on Tense/Aspect/Mood interpretation and argument structure. In chapter 7, I discuss the theoretical implications of the multifunctional and the monofunctional approach outlined in chapter 4 and 5. According to the multifunctional approach, a single morpheme should be able to carry and project a syncretic phrase bearing multiple TAM features, thus voiding the need to project a distinct phrase for each TAM category. The monofunctional approach, on the other hand, assumes that each

TAM head projects separately. Hence I conclude that the syncretic or split organization of IP in Turkish should be sensitive to any syntactic operation applied to it. Also in this chapter, I summarize the extreme position of the split phrase analysis, Cinque's (1999, 2001) fine structure, and provide a direct comparison of the three models and an analysis of where they comply with each other or differ from each other.

Chapter 8 presents a novel data for Turkish. I first show that the converbial suffix *-Ip* is semantically vacous. It cannot be uttered as a stand alone sentence, even as an answer to a question. However, the adverbial clauses bearing *-Ip* do have TAM and negative interpretation. I conclude that *-Ip* 'copies' TAM and polarity features from the main cluase. 'Copy' is the syntactic operation I assumed to exist in chapter 7. If *-Ip* cannot copy some TAM and polarity features individually, those features should be residing in a single head position while the categories that cannot be separated should indicate otherwise. When the *-Ip* test is applied to various morphological combinations representing various TAM combinations, the results show that Turkish IP has two syncretic and two split phrases. Namely, epistemic modality and agreement features can be individually copied, which suggests that they are split head positions. On the other hand, deontic modality and negation are never separeted in Turkish by the *-Ip* test. Hence, they should be the co-heads of DmodP. The other syncretic head position is the head of TAMP, which contains a tense morpheme and an aspect marker or a mood marker. As a result, I conclude that two morphemes which are in different morphological slots can syntactically be in the same head position. This points to a strict position regarding the relation between morphology and syntax: there may not be a one-to-one correspondence between syntax and morphology. The results also allow us to choose between the data analysis methods of the two approaches. Since it has been shown that UG does not impose correspodence between syntax and morphology, two or more syntactic features can be compressed into a single morpheme which projects a single phrase. In other words, *-DI* in Turkish can carry [+past] feature as well as [+perfective] feature (in the feature-based model of the syntactic account of tense).

Chapter 9 is the account of the data in chapter 8 within Minimalist Program. I start with an analysis of Wiklund's (2007) proposal regarding a similar structure in Swedish. Wiklund

(2007) offers to analyse such sentences as Agree relation between heads of the matrix IP and the heads of the embedded IP. However, I differ from Wiklund's analysis for theoretical and empirical reasons. She argues that the embedded clause has interpretable unvalued TAM features, which is a banned feature combination in Chomsky's (2000, 2001) feature mechanism. Furthermore, *-Ip* clauses in Turkish, unlike the embedded clauses Wiklund (2007) discusses in Swedish, can license an overt subject NP. This requires lowering of uninterpretable features. Hence, I argue that *-Ip* is a dummy morphological element with an empty feature set. The uninterpretable phi-features of the matrix IP are inherited by the *-Ip* clause in order to avoid crashing the derivation while the interpretable features inherited by the TAM heads provide TAM interpretation the *-Ip* clauses display. I also provide in this chapter an account of the correlation between the necessarily focused overt subjects in *-Ip* clauses and the inverted word order. Both the matrix subject and the *-Ip* clause subject, I suggest, are introduced to the derivation with [+focus] features. While the *-Ip* clause subject moves to Spec, FocP, as in Rizzi's (1997) proposal for Italian, pied-piping the whole clause, the matrix subject uses the other focusing strategy in Turkish, i.e. it licences its focus feature in the immediately preverbal position. This dual focusing strategy is supported by the fact that the matrix object has to be topicalized to the sentence initial position and vacate the preverbal position. As a result, the matrix subject ends up in the immediate preverbal position. Finally, I argue that focus and topic features on the subject can be integrated into Roberts' (2010) idea of relative defectiveness. Roberts (2010) assumes that pro is a defective DP, and its phi and D features are a subset of the phi and D features of the phi-bearing head in rich agreement languages while the sets are identical in languages which have impoverished agreement. Therefore, the relatively defective pro in rich agreement languages is deleted (null subject) while identical feature sets remain intact in agreementless languages (non-null subject). I suggest that [+focus] or [+topic] can counter the weight of rich agreement. In other words, if the derivation is indiscriminate to type of features the pro and the phi-bearing head carry, focus and topic features can be the complementary feature of pro, accounting for why focused and topicalized subjects are necessarily overt in null subject languages.

10.2 What was left out?

Due to the vastness of the literature, I left out many issues that were by no means of less importance. However, I am confident that they will be treated in detail in the future. Among many, the most interesting, to my mind, was the combinations of TAM markers in the verbal domains expanded by the auxiliary *ol-*. Recall from chapter 3 that *-ol* can carry all suffixes from all four slots as also shown in (1), which calls for the combinations in (2).

(1) Yap-mış ol -a -ma -yabil-ir -sin
do-PFC aux-ABIL-NEG-POSS-AOR-2SG
'You may not be able to be the one who has done (it)'

(2)

1	2	3	4	1	2	3	4
Verb	*-Abil* (Abil)	*-mA* (Neg)	*-Abil* (Poss)	*-sA* (Cond) *-mAlI* (Nec) *-Ar* (Aorist) *-yor* (Impfv) *-AcAk* (Fut) *-DI* (Past) *-mIş* (Evid)	OL	*-Abil* (Abil)	*-mA* (Neg)	*-Abil* (Poss)	*-sA* (Cond) *-mAlI* (Nec) *-Ar* (Aorist) *-yor* (Impfv) *-AcAk* (Fut) *-DI* (Past) *-mIş* (Evid)

However, some combinations are possible while some are not. (3) includes some examples of allowed and disallowed combinations.

(3) a.*Gel-di ol-du -ø
come-PST aux-PST-3SG
b.*Gel-se ol -du -ø
come-COND aux-PST-3SG
c.*Gel-meli ol -du -ø
come-NEC aux-PST-3SG
d.*Gel-e ol -du -m
come-OPT aux-PST-1SG
e. Gel-ir ol -du -ø
come-AOR aux-PST-3SG
'He began coming repeatedly'
f. Gel-iyor ol -acak-ø
come-IMPFV aux-FUT -3SG
'He will be coming'
g. Gel-ecek ol -du -ø
come-FUT aux-PST-3SG
'He intended to come'
h. Gel-miş ol -du -ø
come-PFC aux-PST-3SG
'He ended up having come'

The question of why (3a-d) are ungrammatical while (3e-h) are grammatical deserves an answer. However, I leave this to future research. Also left out were three additional inflectional suffixes, namely optative *-A*, continuous aspect marker *-mAktA* and celerative aspect marker *-Iver*. They were not included in the analysis for different reasons. Optative is no longer used with second and third person. For second person, speakers use the simple imperative form which has no (visible) suffix while third person has a suffix that is confined to third person, as in (4).

(4) a. Gel-sin
come-3.OPT
'Tell him to come'
'Let him come'
b. Gel-sin -ler
come-3.OPT-PL
'Tell them to come'
'Let them come'

The celerative marker, on the other hand, leads to uncertain grammaticality judgments when combined with low suffixes, for instance ability marker *-Abil*:

(5) a.?Bilgisayar-ı beş dakika-da tamir ed-iver-ebil-ir mi-sin?
computer-ACC five minute-LOC repair do-CEL-ABIL-AOR Q-2SG
'Can you easily fix the computer in five minutes?'
b.* Bilgisayar-ı beş dakika-da tamir ed-iver-e -me -di -ø
computer-ACC five minute-LOC repair do-CEL-ABIL-NEG-PST-3SG

I believe that Ritz's (2010) interpretation of Vikner's (1985) theory of tense based on two reference points is quite promising for a universal account of present perfect-simple past union. However, the syntactic correlate of this theory seems to require more work. For instance, the feature-based syntactic model of tense has to assume that the semantic relation $S=R_1>R_2=E$ (German/French present perfect) or $S>R_1=R_2=E$ (simple past) is read off T. On the other hand, the argument-based model, which was originally designed to comply with the semantic theory of tense, can provide a more explicit account. Note that the feature specification of T in the feature-based model has to be ambiguous between $S=R_1>R_2=E$ (German/French present perfect), $S=R_1=R_2>E$ (Standard present perfect) and $S>R_1=R_2=E$

(simple past) for *-DI* in Turkish since we assume that it can show any of these. Proper integration of the argument-based model with Ritz's proposal can provide an unambiguous account of *-DI*. But Demirdache & Uribe-Etxebarria's (2000, 2004, 2007, 2008) model has not been worked in a syncretic model, which the data in Turkish indicates as the true phrase structure. I leave this to future work.

REFERENCES

Abney, S. (1987). *The English noun phrase in its sentential aspect*. Doctoral dissertation. Massachusetts Institute of Technology.

Aikhenvald, A. Y. (2006). Serial verb constructions in a typological perspective. In: Aikhenvald, A. Y. and Dixon, R. M. W. (eds.) *Serial verb constructions: A cross-linguistic typology*. Oxford: Oxford University Press.

Aksu-Koç, A. (1988). *The acquisition of aspect and modality: The case of past reference in Turkish*. Cambridge: Cambridge University Press.

Anderson, J. (1973). *An essay concerning aspect*. The Hague: Mouton.

de Angulo, J. (1933). The Chichimeco language (Central Mexicon). *International Journal of American Linguistics* 7: 152-194.

Aristotle (1048). *Metaphysics*. (Translated by W. D. Ross).

van der Auwera, J. and Ammann A. (2013). Situational possibility, epistemic possibility, overlap between epistemic and situational possibility. In: M. Haspelmath, M. S. Dryer, D. Gil & B. Comrie, Munich (eds.) *The World Atlas of Language Structures Online*: Max Planck Digital Library, chapters 74, 75 and 76. Available at http://wals.info/feature/74,http://wals.info/feature/75, and http://wals.info/feature/76.

Aydın, Ö. (2004). Türkçe zarf tümcelerinde özne konumu (The subject position in the adverbial clauses). *Dil Dergisi* 124: 7-17.

Baerman M., Brown, D. and Corbett, G. G. (2005). *The syntax-morphology interface: A study of syncretism*. Cambridge: Cambridge University Press.

Baker, M. C. and Stewart, O. T. (1999). Verb movement, objects, and serialization. In: *Proceedings of NELS*.

Barker, J. (1979). Indicative conditionals. *Studies in language* 3: 141-152.

Belletti, A. (2004). Aspects of the low IP area. In: Rizzi, L. (ed.) *The Structure of CP and IP*. Oxford: Oxford University Press.

Bobaljik, J. D. (1995). *Morphosyntax: the syntax of verbal inflection*. Ph.D. dissertation. MIT.

Boeckx, C., Hornstein, N. and Nunes, J. (2010). *Control as Movement*. Cambridge Studies in Linguistics 126. New York: Cambridge University Press.

Brendemoen, B. and Csato, É. Á. (1987). A syntactic analysis of Turkish gerundial clauses with subject control. In: Boeschoten, H. E. and Verhoeven, L. (eds.) *Studies on Modern Turkish. Proceedings of the Third Conference on Turkish Linguistics*. Tilburg: Tilburg University Press.

Butt, M. and King, T. H. (1996). Structural Topic and Focus without Movement. In: Butt, M. and King, T. H. (eds.), *Proceedings of the LFG96 Conference*. Stanford, CA: CSLI Publications.

Bybee et al. (1994). *The evolution of grammar: Tense, aspect, and modality in the languages of the world*. Chicago: University of Chicago Press.

Bybee, J. L. (1985). *Morphology: A Study of the Relation between Meaning and Form*. Amsterdam: John Benjamins.

Cardinaletti, A. and Starke, M. (1999). The typology of structural deficiency. In: van Riemsdijk, H. (ed.) *Clitics and other functional categories in European languages*. Berlin: Mouton de Gruyter.

Carlson, G. (2012). Habitual and generic aspect. In: Binnick, R. (ed.) *The Oxford Handbook of Tense and Aspect*. Oxford University Press.

Chomsky, N. (1970). Remarks on Nominalization. In: Jacobs, R. A. and Rosenbaum, P. S. (eds.) *Readings in English Transformational Grammar*. Boston: Ginn.

Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, N. (1986). *Barriers*. Linguistic Inquiry Monograph 13. Cambridge, MA: MIT Press

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

Chomsky, N. (2000). Minimalist inquiries: The framework. In: Martin R., Michaels, D. and Uriagereka, J. (eds.) *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge, MA: MIT Press.

Chomsky, N. (2001). Derivation by Phase. In: Kenstowicz, M. (ed.) *Ken Hale: A Life in Language*. Cambridge, MA: MIT Press.

Chomsky, N. (2004). Beyond explanatory adequacy In: Belletti, A. (ed.) *Structures and Beyond.* Oxford, NY: Oxford University Press.

Chomsky, N. (2005). Three factors in language design. *Linguistic Inquiry* 36: 1-22.

Chomsky, N. (2007). Approaching UG from Below. In: Sauerland, U., Gärtner, H.-M. (eds.) *Interfaces + Recursion = Language?* New York: Mouton de Gruyter.

Chomsky, N. (2008). On phases. In: Freidin, R., Otero, C. P. and Zubizarreta, M. L. (eds.) *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*. Cambridge: MIT Press.

Chomsky, N. (2013). Problems of projection. *Lingua.* 130: 33-49.

Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective*. New York: Oxford University Press.

Cinque, C. (2001). A note on mood, modality, tense and aspect affixes in Turkish. In: Taylan, E. (ed.) *The Verb in Turkish*. Amsterdam: John Benjamins.

Cinque, C. (2004). Issues in adverbial syntax. *Lingua* 114: 683-710.

Comrie, B. (1976). *Aspect: An introduction to the study of verbal aspect and related problems*. Cambridge, New York: Cambridge University Press.

Comrie, B. (1985). *Tense*. Cambridge Cambridgeshire; New York: Cambridge University Press.

Condoravdi, C. (2002). Temporal Interpretation of Modals: Modals for the present and for the past. In: Beaver, D., Kaufmann, S., Clark, B. and Casillas, L. (eds.) *The Construction of Meaning*. CSLI Publications.

Costa, J. (2004). A multifactorial approach to adverb placement: Assumptions, facts, and problems. *Lingua* 114: 711-753.

Csato, É. Á and Johanson L. (1998). Turkish. In: Johanson, L. and Csató, É. Á. (eds.), *The Turkic languages*. London; New York: Routledge.

Dahl, Ö. (1985). *Tense and aspect systems.* Oxford, Oxfordshire; New York, NY: B. Blackwell.

Dahl, Ö. (2000). The tense-aspect systems of European languages in a typological perspective. In: Dahl, Ö. (ed.) *Tense and Aspect in the Languages of Europe*. Berlin: Mouton de Gruyter.

Dahl, Ö. and Velupillai, V. (2005). Perfective/Imperfective Aspect. In: Comrie, B., Dryer, M., Gil, D. and Haspelmath, M. (eds.) *World Atlas of Language Structures*. Oxford: Oxford University Press. Available http://wals.info/chapter/65.

Demirdache, H. and Uribe-Etxebarria, M. (2000). The primitives of temporal relations. In: Martin, R., Michaels, D. and Uriagereka, J. (eds.) *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, MA: MIT Press.

Demirdache, H. and Uribe-Etxebarria, M. (2004). The syntax of time adverbs. In: Guéron, J. and Lecarme, J. (eds.) *The syntax of time*. Cambridge Massachusetts: MIT Press.

Demirdache, H. and Uribe-Etxebarria, M. (2007). The syntax of time arguments. *Lingua* 117: 330-366.

Demirdache, H. and Uribe-Etxebarria, M. (2008). Scope and anaphora with time arguments: The case of 'perfect' modals. *Lingua* 118: 1790-1818.

Deny, J. (1921). *Grammaire de la langue turque (dialecte Osmanli)* [reprinted 1971]. Wiesbaden: Dr. Martin sändig HG.

Dowty, D. (1979). *Word meaning and Montague grammar*. London: D. Rediel Publishing Company.

Duguine, M. (2012). Basque nominalization and the role of structural Case in the licensing of null arguments. In: Etxeberria, U., Etxepare, R., Etxeberria, M.-U. (eds.) *Noun phrases and nominalization in Basque: Syntax and semantics*. John Benjamins Publishing Company.

Duguine, M. (2013). Null arguments and linguistic variation: A minimalist analysis of pro-drop. Ph.D. dissertation. University of the Basque country UPV/EHU and Université de Nantes.

Enç, M. (1986). Topic switching and pronominal subjects in Turkish. In: Slobin, D. and Zimmer, K. (eds.) *Studies in Turkish linguistics*. Amsterdam: John Benjamins.

Enç, M. (1987). Anchoring conditions for tense. *Linguistic Inquiry* 18: 633-657.

Enç, M. (1996). Tense and modality. In: Lappin, S. (ed.) *The handbook of contemporary semantic theory*. Blackwell Handbooks in Linguistics. Kings College; London: Blackwell.

Epstein, S. and Seely, D. (2002). Rule applications as cycles in a level-free syntax. In: Epstein, S. and Seely, D. (eds.) *Derivation and Explanation in the Minimalist Program*. Blackwell.

Erdal, M. (2004). *A grammar of Old Turkic*. Leiden; Boston: Brill.

Erguvanlı-Taylan, E. (1984). *The function of word order in Turkish Grammar*. London: University of California Press.

Ernst, T. (2002). *The Syntax of Adjuncts*. Cambridge: Cambridge University Press.

Fokkens, A., Poulson, L. and Bender, E. M. (2009) Inflectional morphology in Turkish VP coordination. In: Müller, S. (ed.) *Proceedings of the HPSG 09 Conference*. Stanford: CSLI Publications.

Gallego, Á. J. (2010). *Phase theory*. Amsterdam: John Benjamins.

George, L. and Kornfilt, J. (1981). Finiteness and boundedness in Turkish. In: Heny, F. (ed.) *Binding and filtering*. Cambridge, MA: MIT Press.

Giorgi, A. and F. Pianesi. (1997). *Tense and aspect*. Oxford: Oxford University Press.

Goodwin, W. W. (1890). *The moods and tenses of the Greek verb*. Boston: Ginn and Company.

Good, J. and Yu, A. (2005). Morphosyntax of two Turkish subject pronominal paradigms. In: Heggie, L. and Ordóñez, F. (eds.) *Clitic and affix Combinations: Theoretical Perspectives*. Amsterdam: Benjamins.

Göksel, A. and Kerslake, C. (2005). *Turkish, A Comprehensive Grammar*. London: Routledge.

Göksel, A. and Özsoy, A. S. (2000). Is there a focus position in Turkish? In: Göksel, A. and Kerslake, C. (eds.) *Studies on Turkish and Turkic Languages; Proceedings of the Ninth International Conference on Turkish Linguistics*, Wiesbaden: Harrassowitz.

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

Güven, M. (2004). *Adverbials in Turkish: The third parameter in aspectual interpretation*. Unpublished Ph.D. dissertation. Bosphorus University.

Halle, M. and Marantz, A. (1993). Distributed Morphology and the Pieces of Inflection. In: Hale, K. and Keyser, S. J. *The View from Building 20*. MIT Press: Cambridge.

Holmberg, A. (2005). Is there a little pro? Evidence from Finnish. *Linguistic Inquiry* 36: 533-564.

Hornstein, N. (1999). Movement and control. *Linguistic Inquiry* 30: 69–96.

İşsever, S. (2000). *Türkçede Bilgi Yapısı* (Information Structure in Turkish). Unpublished Ph.D. dissertation. Ankara University.

İşsever, S. (2003). Information Structure in Turkish: The word order-prosody interface. *Lingua* 113: 1025-1053.

İşsever, S. (2007). Towards a Unified Account of Clause-initial Scrambling in Turkish: A feature analysis. *Turkic Languages* 11: 93-123.

Jendraschek, G. (2011). A fresh look at the tense-aspect system of Turkish. *Language Research* 47: 245-270.

Jespersen, O. (1924). *The Philosophy of Grammar*. London: George Allen and Unwin Ltd.

Jiménez, A. and İşsever, S. (2010). Multiple topic fronting, multiple specifiers and feature inheritance. 24th National Conference on Linguistics, Middle East Technical University, Ankara.

Johanson, L. (1988). On the renewal and reinterpretation of 'instrumental' gerunds in Turkic. *Oriens* 31: 136-153.

Johanson, L. (1995). On Turkic converb clauses. In: Haspelmath, M. and König, E. (Eds.) *Converbs in Cross-Linguistic Perspective: Structure and Meaning of Adverbial Verb Forms- Adverbial Participles, Gerunds*. Berlin: Mouton de Gruyter.

Kabak, B. and Vogel, I. (2001). The phonological word and stress assignment in Turkish. *Phonology* 18: 315–360.

Kennelly, S. D. (1997). The presentational focus position of nonspecific objects in Turkish. In: İmer, K. and Uzun, N. E. (eds.) *Proceedings of VIIIth international conference on Turkish linguistics*. 7-9 Aug 1996, Ankara: Ankara Üniversitesi Basımevi.

Kerslake, C. (1990). The Semantics of Possibility in Turkish. In: Rona, B. (ed.) *Proceedings of the Fifth International Conference on Turkish Linguistics*. Ankara: Hitit Basım Yayınevi.

Kiss, K. (1998). Identificational focus versus information focus. *Language* 74: 245-273.

Klein, W. (1992). The present perfect puzzle. *Language* 68: 525-552.

Klein, W. (1994). *Time in language*. London and New York: Routledge.

Klein, W. (1995). A time-relational analysis of Russian aspect. *Language* 71: 669-695.

Klima, E. S. (1964). Negation in English. In: Fodor, J.and Katz, J. (eds.) *The Structure of Language*. Prentice-Hall, Englewood Cliffs.

Kratzer, A. (1981). The notional category of modality. In: Eikmeyer, H.-J.and Rieser, H. (eds.) *Words, Worlds, and Contexts*. Berlin: deGruyter.

Kratzer, A. (1998). More structural analogies between pronouns and tenses. In: Strolovitch, D. and Lawson, A. (eds.) *Proceedings of SALT VIII*. Ithaca: Cornell University.

Kornfilt, J. (1984). *Case marking, agreement, and empty categories in Turkish*. Ph.D. dissertation, Harvard University.

Kornfilt, J. (1986). The stuttering prohibition and morpheme deletion in Turkish. In: Aksu-Koç, A. and Erguvanlı-Taylan, E. (eds.) *Proceedings of the Second International Conference in Turkish Linguistics*. İstanbul: Bosphorus University Publications.

Kornfilt, J. (1991). Some current issues in Turkish syntax. In: Boeschoten, H. and Verhoeven, L. (eds.) *Turkish linguistics today*. Leiden: E. J. Brill.

Kornfilt, J. (1997). *Turkish*. Descriptive Grammars. London: Routledge.

Kornfilt, J. (2003). Subject case in Turkish nominalized clauses. In: Junghanns, U. and Szucsich, L. (eds.) *Syntactic Structures and Morphological Information*. Berlin: Mouton de Gruyter.

Kural, M. (1992). The properties of scrambling in Turkish [manuscript]. UCLA.

Kuruoğlu, G. (1986). Time reference in Turkish conditional sentences. In: Aksu-Koç, A. Erguvanlı-Taylan, E. (eds.) *Proceedings of the Turkish Linguistics Conference*. İstanbul: Boğaziçi University.

Landau, I. (2004). The scale of finiteness and the calculus of control. *Natural language and linguistic theory* 22: 811-877.

Landau, I. (2006). Severing the distribution of PRO from Case. *Syntax*: 9, 2 153-170.

Lasnik, H. (2003). *Minimalist Investigations in Linguistic Theory*. Routledge Ltd.

Lewis, G. L. (1967). *Turkish Grammar*. Oxford: Clarendon Press.

Liddell, H. G. and R. Scott (1883) [reprinted in 1959]. *Liddell, Henry George: Greek-English lexicon*. Clarendon Press.

Lin, J. (2012). Tenselessness. In: Binnick, R. (ed.) *The Oxford Handbook of Tense and Aspect*. Oxford University Press.

Lindstedt, J. (2000). The Perfect - aspectual, temporal and evidential. In: Dahl, Ö. (ed.) *Tense and Aspect in the Languages of Europe*. Berlin: Mouton de Gruyter.

Linebarger, M. C. (1987). Negative polarity and grammatical representation. *Linguistics and Philosophy* 10: 325-387.

Lyons, J. (1977). *Semantics*. Cambridge University Press.

McCoard, R. W. (1978). *The English perfect: Tense-choice and pragmatic inferences*. Amsterdam: North-Holland Publishing Company.

Milsark, G. L. (1988). Singl-ing. *Linguistic Inquiry* 19: 611-634.

Müller, G. (2005). Pro-drop and impoverishment. In: Brandt, P. and Fuss, E. (eds.) *Form, structure and grammar*. *A Festschrift presented to Günther Grewendorf on the occasion of his 60th birthday*. Tübingen: Narr.

Ouali, H. (2006). *Unifying agreement relations: A minimalist analysis of Berber*. Ph.D. dissertation. University of Michigan.

Ouali, H. (2007). On C-to-T feature transfer: The nature of agreement and anti-agreement in Berber. In: D'Alessandro, R., Hrafnbjargarson, G. H. and Fischer, S. (eds.) *Agreement Restrictions*. Fischer: Mouton de Gruyter.

Özsoy, A. S. (1987). Null Subject Parameter and Turkish. In: Boeschoten, Hendrik, and Ludo Th. Verhoeven (eds.) *Studies on Modern Turkish*. Tilburg: Tilburg University.

Öztürk, B. (2001). Turkish as a non-pro-drop language. In: Erguvanlı-Taylan, E. (ed.) *The Verb in Turkish*. Amsterdam: John Benjamins Publishing Company.

Öztürk, B. (2004). *Case, Referentiality and Phrase Structure*. Ph.D. dissertation. Harvard University.

Öztürk, B. (2006). Null Arguments in Turkish. In: Boeckx, C. (ed.) *Minimalist Essays* Linguistik Aktuell, Amsterdam: John Benjamins.

Palmer, F. R. (1986). *Mood and modality*. Cambridge Cambridgeshire; New York: Cambridge University Press.

Partee, B. (1973). Some structural analogies between tenses and pronouns in English. *The Journal of Philosophy* 70. Seventieth Annual Meeting of the American Philosophical Association Eastern Division: 601-609.

Pesetsky, D. and Torrego, E. (2007). The syntax of valuation and the interpretability of features. In: Karimi, S. Samiian, V. and Wilkins, W (eds.). *Phrasal and clausal architecture: Syntactic derivation and interpretation*. Cambridge, MA: MIT press, 193-220.

Pires, A. (2006). *The minimalist syntax of defective domains: Gerunds and infinitives*. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Pollock, J.-Y. (1989). Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20: 365-424.

Portner, P. (2007). Imperatives and modals. *Natural Language Semantics* 15: 351-383.

Portner, P. (2009). *Modality*. Oxford: Oxford University Press.

Raible, W. (2001). Language universals and language typology. In Teilbande, Z. et al. (eds.) *Language Typology and Language Universals*. Berlin: W. de Gruyter.

Rathert, M. (2004). *Textures of time*. Berlin: Akademie Verlag.

Rathert, M. (2012). Adverbials. In: Binnick, R. (ed.) *The Oxford Handbook of Tense and Aspect*. Oxford University Press.

Redhouse, J. W. (1884). *Simplified grammar of the Ottoman-Turkish language*. London: Trubner and Co.

Reichenbach, H. (1947). *Elements of symbolic logic*. New York: Macmillan Co.

Richards, M. (2007). On feature inheritance: An argument from the phase impenetrability condition. *Linguistic Inquiry* 38: 563-572.

Richards, N. (2006).Beyond strength and weakness [manuscript]. MIT.

Ritter, E. and Wiltschko, M. (2014). The composition of INFL: An exploration of *tense, tenseless* languages and *tenseless* constructions. *Natural Language and Linguistic Theory* 32: 1331-1386.

Rizzi, L. (1986). Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17: 501-557.

Rizzi, L. (1997). The fine structure of the left periphery. In: Haegeman, L. (ed.) *Elements of Grammar*. Netherlands: Springer.

Rizzi, L. (2006). On the form of chains: Criterial positions and ECP effects. In: Cheng, L. and Corver, N. (eds.) *On Wh Movement*. Cambridge, MA: MIT Press

Ritz, M. E. (2010). The perfect crime: Illicit uses of the present perfect in Australian police media releases. *Journal of pragmatics* 42: 3400-3417.

Ritz, M. E. (2012). Perfect tense and aspect. In: Binnick, R. (ed.) *The Oxford Handbook of Tense and Aspect*. Oxford University Press.

Roberts, I. (2010). A deletion analysis of null subjects. In: Biberaurer et al. (eds.) *Parametric variation: Null subjects in minimalist theory*. Cambridge: Cambridge University Press.

Sezer, E. (2001). Finite inflection in Turkish. In: Erguvanlı-Taylan, E. (ed.) *The Verb in Turkish*. Amsterdam: John Benjamins.

Sheehan, M. (2006). *The EPP and null subjects in Romance*. Ph.D. dissertation. Newcastle University.

Sheehan, M. (2015). Subjects, null-subjects and expletives in Romance. In Fischer, S. and Gabriel, S. (eds.) *Manuals of Romance Linguistics (MRL): Grammatical Interfaces.* De Gruyter Mouton.

Slobin, D. and Aksu-Koç, A. (1982). Tense, aspect and modality in the use of the Turkish evidential. In: Hopper, P. J. (ed.) *Tense-Aspect: Between semantics and pragmatics*, Amsterdam; Philedelphia: John Benjamins Publishing Co.

Slobin, D. (1995). Converbs in Turkish child language: The grammaticalization of event coherence. In: Haspelmath, M. & König, E. (eds.) *Converbs in Cross-Linguistic Perspective: Structure and Meaning of Adverbial Verb Forms- Adverbial Participles, Gerunds*. Berlin: Mouton de Gruyter.

Smith, C. (1981). Semantic and syntactic constraints on temporal interpretation. In: Tedeschi, P.J. (ed.) *Tense and Aspect*. Syntax and Semantics 14. New York: Academic Press.

Smith, C. (1997). *The parameter of aspect*. London: Kluwer Academic Publishing, 2nd edition (1st edition 1991).

Smyth, H. W. (1956). *Greek grammar*. Cambridge: Harvard University Press.

Spencer, A. (1991). *Morphological Theory: An introduction to Word Structure in Generative Grammar*. Oxford: Blackwell.

Stowell, T. (1995). The phrase structure of tense. In: L. Zaring and J. Rooryck (eds.) *Phrase structure and the lexicon*. Dordrecht: Kluwer.

Stowell, T. (2007). The syntactic expression of tense. *Lingua* 117: 437-463.

Stowell, T. (2012). Syntax. In: Binnick, R. (ed.) *The Oxford Handbook of Tense and Aspect*. Oxford University Press.

Svenonius, P. (2012). Spanning [manuscript]. CASTL, University of Tromsø.

Swart, de. H. (2007). A cross-linguistic discourse analysis of the Perfect. *Journal of Pragmatics* 39: 2273–2307.

Taylan, E. (1996). The parameter of aspect in Turkish: Modern studies in Turkish. In: Konrot, A. (ed.) *Proceedings of the 6th International Conference on Turkish Linguistics*. 12-14 August 1992: 153-168, Eskişehir: Anadolu University.

Taylan, E. (2001). On the relation between temporal/aspectual adverbs and the verb form in Turkish. In: Taylan, E. (ed.) *The Verb in Turkish*. Amsterdam: John Benjamins.

Tekin, T. (1997). *A grammar of Orkhon Turkic*. [1st edition printed in 1968] The Hague: Mouton and Co.

Thieroff, R. (1999). Preterites and imperfects in the languages of Europe. In: Abraham, W. and Kulikov, L. (eds.) *Tense-aspect, transitivity and causativity. Essays in honour of Vladimir Nedjalkov*. Amsterdam: John Benjamis.

Tosun, G. (1998). *The SPLIT INF hypothesis in Turkish*. MA thesis. Bosphorus University.

Tosun, G. (2002). *Finiteness, case and clausal architecture*. Ph.D. dissertation. Harvard University.

Underhill, R. (1976). *Turkish Grammar*. Cambridge: Massachusetts Institute of Technology (MIT) Press.

Uzun, E. (1998). Türkçede Görünüş/Kip/Zaman üçlüsü. (Tense/Aspect/Mood trilogy in Turkish. *Dil Dergisi* 68: 5-22. Online version available at https://www.academia.edu/4132688/A_Zero_Morpheme_Analysis_and_the_New_Classification_of_Verbal_Inflectional_Affixes_in_Turkish.

Uzun, E. (2000). *Anaçizgileriyle evrensel dilbilgisi ve Türkçe*. İstanbul: Multilingual Yayıncılık.

Uzun, E. (2004). *Dilbilgisinin temel kavramları ve Türkçe üzerine tartışmalar*. Türk Dilleri Araştırma Dizisi:39. İstanbul: Pandora Kitabevi, 2nd edition (1st edition: Ankara 1988)

Vendler, Z. (1967). *Linguistics in philosophy*. Ithaca and London: Cornell University Press.

Vergnaud, J.-R. (1977). Letter to Noam Chomsky and Howard Lasnik April 17, 1977.

Vikner, S. (1985). Reichenbach revisited: one, two, or three temporal relations? *Acta Linguistica Hafniensa* 19: 81-98.

Wiklund, A. L. (2007). *The Syntax of Tenselessness: Tense/Mood/Aspect-agreeing Infinitivals*. Studies in Generative Grammar 92. Berlin: Mouton de Gruyter.

Yavaş, F. (1980). *On the meaning of Tense and Aspect markers in Turkish*. Ph.D. dissertation. Kansas University.

Yavaş, F. (1982a). Future reference in Turkish. *Linguistics* 20: 411-429.

Yavaş, F. (1982b). The Turkish aorist. *Glossa* 16: 40-53.

Zagona, K. (1990). Times as temporal argument structure [manuscript]. University of Washington, Seattle.

Zidani-Eroğlu, L. (1997). Exceptionally Case-Marked NPs as Matrix Objects. *Linguistic Inquiry* 28: 219-230.