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The Verb in Turkish

Edited by
Eser Erguvanlı Taylan

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Introduction

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Work done on the Turkish language by linguists can be traced back to not more than half a century ago, though naturally the language has been studied in the discipline of Turcology for a much longer period of time. Whilst the first Turkish grammar of the Turkish spoken in Anatolia dates back to the sixteenth century and the first Turkish grammar written by a European to the seventeenth century (Dilaçar 1970, 1971), Robert Lees's *The phonology of Modern Standard Turkish* (1961) is probably the earliest major work on Turkish in the theoretical linguistics tradition.[1] Since this pioneering contribution of Lees to Turkish as well as to the generative framework in which it was written, the number of linguists doing research on Turkish in varying theoretical viewpoints has increased tremendously over the years. The Turkish language with most of its morphophonemic alternations governed by vowel or consonant harmony rules, agglutinative morphology, verb final word order that permits variation according to semantic and pragmatic principles, nominalized subordinate clause structures and pro-drop properties, among others, have provided descriptive as well as theoretical linguists with numerous interesting problems, often open to multiple analyses.

The present volume brings together the most recent research done on the clause structure of Turkish, the morpho-syntax of which is determined to a great extent by the pivotal role of the verb, as the lexical category that can host a series of grammatical morphemes, as well as the assigner of case to its arguments. Any work on Turkish clause structure will, then, necessarily have to involve some analysis of the verb form either from a morpho-syntactic or semantic point of view. In fact, it will, probably, be not far-fetched to state that in any language it is the verb that constitutes the backbone of sentence structure

and hence its core element, at the same time being the source of different types and levels of information.

The verb, as a lexical category, is one of the two categories that are accepted to be universal; only well-definable noun and verb categories have been observed to exist in all languages of the world (Schachter 1985). Since early times in the history of linguistic thought this category has been the target of investigation and analysis, particularly with respect to its morphological make-up and semantic expression. The very basic semantic classification of verbs into activity, state and process can be traced back to Aristotle (Binnick 1991). Regularity vs. irregularity/anomaly in the verbal conjugation paradigms has been one of the major issues of linguistic investigation throughout centuries (Harris and Taylor 1997). In the twentieth century with the shift of focus in grammatical description to syntax, clause structure where the verb is the head of VP has received special attention from both functional and generative linguists.

The present volume, the seeds of which were planted in the papers presented at a workshop held at Boğaziçi University in May 1999, contains chapters on the major above-mentioned facets of the verb, each of which presents new reseach on a certain aspect of the clausal structure of Turkish.[2] Although Ayhan Aksu-Koç has not contributed a paper to this volume, her presentation on the acquisition of evidentials in Turkish and her active participation in the workshop surely have a special place in the process that has lead to the realization of this work. The spectrum of papers in this collection is based on analyses carried out in a number of theoretical orientations ranging from Perlmutter's Unaccusative Hypothesis to Chomsky's Minimalist Program. Thus, the collection can be said to be a sound reflection of the current state of reseach in Turkish linguistics. For the theoretical linguist the rich body of data furnished by each chapter to illustrate as clearly as possible the principles claimed to operate, will be of great use in evaluating how adequately the particular theory can accomodate the described facts of Turkish, a language typologically very different than any Indo-European language. Furthermore, such linguistic studies on diverse languages will play a significant role in validating the universality of the theories employed. It is, then, apparent that the type and depth of information to be found in the studies included in this volume will not fall into the domain of language description provided by traditional grammars of Turkish.

Some of the topics inquired into in this collection have given way to challanging new analyses while others shed light on unexplored aspects of Turkish morpho-syntax and its semantic interpretation. For instance, Öztürk's

analysis of Turkish as a non-pro-drop language, Göksel's treatment of the asymmetry in the morpho-syntax of the auxiliary *ol-* and the reformulation of the inflectional domain, or Cinque's account of the ordering of the Turkish verbal affixes as being predictable by the universal hierarchy of functional projections he proposes, introduce totally new angles of analysis. Other papers, that may appear to be dealing with topics we are more familiar with, all reflect fresh insights with theoretical significance, such as, Kornfilt's solution to handle the differences in the morphological marking of the subjects of non-finite argument and adjunct clauses, Sezer's approach to the cooccurrence restrictions on verbal affixation in terms of the feature theory or Nakipoglu's analysis of split intransitives. Özsoy's contribution, which presents the problems in earlier accounts of a well-known syntactic construction of Turkish in the light of new data, points to serious limitations in the current generative theory of syntax. Issues addressed in the paper by Erguvanlı-Taylan lead us into a new territory where the dependency relations uncovered to hold between certain types of adverbs, polarity and verb form have a determining role in the overall aspectual interpretation of the sentence. Similarly, the properties of periphrastic constructions discussed in van Schaaik's presentation is probably the most in-depth treatment of such constructions and, no doubt, the first one in the functional grammar model.

The papers in this volume can be said to cluster around two main headings: a) properties of verbal inflection: analysis of verbal affixes as the morphological means to express temporal, aspectual and modal notions, and b) properties of verb form: implications of specific morphological configurations for syntactic theory. Since certain verbal affixes that express temporal, aspectual and modal notions are illustrated to play a significant role in the distribution of intransitives in impersonal passive constructions, the paper looking into the semantic properties of intransitive verbs in trying to account for their differing behavior in passive constructions has been included in the first group.

Properties of verbal inflection

The agglutinative morphological typology of Turkish is probably best exemplified on the verb form, with the verb stem being able to host voice (namely passive, causative, reflexive and reciprocal), polarity, mood, aspect, tense and agreement morphemes, roughly in this sequence. The fact that the verb permits numerous derivational and inflectional morphemes to be strung together

results in a tight bond between morphology and syntax. Properties of verbal inflection constitute the main topic of analysis in the papers by E. Sezer, G. Cinque, G. van Schaaik and Erguvanlı-Taylan, however, each author raising different questions due to their different theoretical orientations. The grammatical phenomenon of passive formation, which is primarily expressed through morphological means in Turkish, is inquired into in Nakipoğlu's paper, where a certain semantic property of verbs is argued to interact with the morphosyntax of passivization.

In his paper titled "Finite inflection in Turkish" Engin Sezer looks into the system of verbal finite inflection, a much described and analyzed phenomenon in Turkish grammar which has resulted in the production of numerous works, the major ones painstakingly cited in this article. It is then to be expected for the verb category and its inflectional paradigm to occupy a significant place in any grammar of Turkish regardless of the approach adopted. In fact, Sezer reminds us duly that the form, order and meaning of verbal inflection have been described quite explicitly and thoroughly as early as 1921 in the grammar of Turkish (Ottoman Dialect) written by Jean Deny. Paying tribute to the earlier morphosyntactic analyses, Sezer offers a novel perspective where he interprets the properties of verbal finite inflection in terms of features and applies the feature checking theory as advanced in Chomsky's Minimalist Program to handle the morphotactic constraints in verbal affixation. The basic structure of the inflectional complex is not viewed as functional and tense is taken to be on a par with syntactic categories like nouns, verbs, etc., such that distinctions between verb forms are characterized in terms of the features [±Finite], [±Nominal]. All forms, be they lexical or functional, will have two types of features, namely head features and complement features which will go through feature checking. Sezer claims that when the three tense suffixes (refered to as Tense1, Tense2 and Tense3 with reference to their order) that a verb stem can maximally host are represented in terms of features, their co-occurrence patterns and restrictrions in a complex verb form follow from the predictions of the feature checking theory and thus are easily accountable. He argues that different tense affixes head different complements; thus, the difference between Tense1 and Tense 2 affixes lies in the fact that Tense 1 affixes carry the complement features [+V, −N, −F] while Tense 2 affixes carry the complement feature [+V, −N, +F]. In addition to tense affixes, verbal finite inflection in Turkish involves agreement morphology, the distribution pattern of which has been used as one type of evidence for the distinction between 'true tenses' and 'participial tenses'. Sezer maintains that the highest Tense deter-

mines the agreement paradigm; however, the issue gets complicated when the question clitic *mI* interracts with the agreement morphology. To account for the well-formedness of forms that the checking theory doesn't appear to handle he proposes a clitic theory for Turkish, certain parts of which may be universal while others are definitely language specific.

While Sezer contents himself with the morphotactic properties and semantic features of verbal finite inflections and avoids going into functional considerations, Cinque treats the same set of affixes as functional heads in his analysis. His paper " A note on mood, modality, tense and aspect affixes in Turkish" is basically the application of data from the Turkish verbal inflectional paradigm to his proposal that morphemes expressing tense, aspect, mood and modality are grammatical heads which are hierarchically structured in a rigid order (Cinque 1999). Cinque's theory predicts that an outer suffix corresponds to a functional head that is higher in the hierarchical structure. These functional heads, the rigid ordering of which is claimed to be universal, have matching adverb(ial)s which are taken to be the specifiers of their corresponding functional head. However, this paper is not concerned with the relationship between adverbs and their corresponding grammatical heads in Turkish. It is restricted to examining the distributional pattern of the affixes expressing ability/possibility (-yAbil), perfect/evidential (-mIş), future (-yAcAK), progressive (-Iyor), past (-DI) as well as irrealis/conditional (-y-sA), and showing that the very same suffix may fill different functional heads. Cinque's analysis dealing with the set of Turkish mood, tense and aspect affixes and their particular orders on the verb as well as on the verb+auxiliary constructions they take part in, illustrates that the predictions made by his proposal about their ordering relations are borne out. Thus Turkish appears to be another language that lends support to his claim that the order of the head morphemes which express verbal functional notions are invariant across languages.

Gerjan van Schaaik in the paper titled "Perisphrastic tense/aspect/mood" looks into the expression of tense, aspect and mood in three perisphrastic constructions, namely those constituted by the auxiliary *ol-* preceded by V+ *-Iyor,* V+ *-EcEK* and V+ *-Er/mEz*, which are forms that cannot be fully accomodated for in Johanson's (1994) analysis. Data of the study are based on examples selected by scanning a number of electronic texts. van Schaaik adopts Johanson's (1994) analysis of the verbal grammatical marking system of Turkish especially in identifying and interpreting the tense affixes. He follows Comrie (1976) and Dik (1997) in the interpretation of verbal aspectual forms and especially the latter in the analysis of mood markers. The overall analysis of the periphrastic

constructions is carried out in Dik's (1997) Functional Grammar framework, which treats the clause as an abstract structure made up of different layers, each level having its own set of operators (such as tense, aspect, mood) and satellites. van Schaaik discusses the three periphrastic constructions checking all possible verbal affixes that the auxiliary *ol-* may allow when following a main verb in the form of V+ *-Iyor,* V+ *-EcEK* and V+ *-Er/mEz* and gives a detailed account in the functional framework he is working in. For instance, *V+Iyor* can be followed by the auxiliary *ol-* expressing a tense (e.g. *bekliyor olacak* 'he must be waiting'), or an aspect (e.g. *oturuyor olurdu* ' he used to be sitting') or a modal form (e.g. *gidiyor olmalı* 'he must be going'), the semantic interpretation of the periphrastic form being compositional. However, van Schaaik claims and tries to illustrate that the aspectual interpretation of the constructions *V+(y)EcEK oldu, V+ Er oldu* and *V+mEz oldu* cannot be decomposed.

"On the relation between temporal aspectual adverbs and the verb form in Turkish" by Erguvanlı Taylan also deals with the tense and aspect affixes but from quite a different perspective. Aspect, as a semantic category that finds form in different types and categories of morphemes necessitates the investigation of the verb type, grammatical categories marked on the verb, adverbs and their interaction with one another. Following Comrie (1976) and Smith's (1997) definitions of aspectual categories, Taylan first presents her analysis of grammaticalized aspect in Turkish, in particular of the morphological coding of perfective, imperfective and perfect aspects. Working within Smith's (1997) two component theory of aspect, she investigates the behavior of the sets of adverb(ial)s, characterizable by the features [±durative] and [±telic] and also those that specify an orientation point. Taylan's data illustrate that certain, but not all, co-occurrence restrictions between adverbs, situation type and grammatical aspect can be accounted for in terms of the compatibility of semantic features. It is argued that the unpredictable cases reveal the need for the additional feature of [±control], a feature already in use in functional grammar accounts of aspectual categories, to capture certain restrictions which otherwise remain idiosyncratic. Furthermore, the dependency relations discovered to hold between certain aspectual adverbs and the verbal grammatical markings illustrate that viewpoint aspect is not simply expressed by affixation but by the adverb +(polarity)+ verbal affix composition. In particular, the expression of perfect aspect, a hybrid category relying heavily on temporal information, is shown to be closely related to the presence of certain adverbs, especially, orientation point adverbs.

Perlmutter's Unaccusative Hypothesis put forth the distinction between unergative and unaccusative verbs among intransitives, which was claimed to be an outcome of universal semantic principles. Since then impersonal passive constructions have served as a syntactic diagnostic to justify this distinction in different languages. Mine Nakipoğlu-Demiralp in "The referential properties of the implicit arguments of impersonal passive constructions in Turkish" concludes that it is the instigating properties of the implicit arguments of these two types of intransitives which account for their variant behavior in Turkish impersonal passive (IP) constructions. Her data illustrate that it is only in the past tense that intransitives exhibit a split behavior while in the aorist no such difference is observed. Nakipoğlu-Demiralp claims that the class of verbs that can participate in IP constructions in the past tense is the unergative verbs, defined by having a single argument capable of instigating and/or experiencing the situation expressed by the verb. On the other hand, those verbs which cannot participate in IP constructions in the past tense are observed to belong to the unaccusative class, defined by having a single argument incapable of instigating and/or experiencing the situation expressed by the verb. The semantic notion of internal vs. external instigation, however, appears to determine the distribution of intransitives in IP constructions in the past tense only since in the aorist this distinction disappears and unaccusatives can participate in an IP construction, with their implicit arguments receiving a generic interpretation. Thus, the temporal/aspectual context of the sentence is observed to be significant in specifying the referential properties of the implicit arguments of intransitives in IP. The paper ends with the proposal of locating intransitive verbs on an instigation scale, where unergatives constitute the II (internal instigation) pole and unaccusatives the EI (external instigation) pole, with the remaining intransitives being distributed between these two poles on the scale. Using such a scale will help capture the general pattern of the behavior of the intransitives across languages.

Properties of verb form: Implications for syntactic theory

Aslı Göksel's paper "The auxiliary verb at the morphology-syntax interface" centers around a problem where morphology and syntax meet. It is argued that the morphological properties together with the syntactic behavior of the auxiliary *ol-* 'be(come)' reveal that in embedded clauses it is present as a buffer stem which satisfies well-formedness conditions operative on word structure,

whereas in main clauses it is a lexical verb and thus the syntactic head of a lexical projection. Göksel's findings of the properties of *ol-* in object relative clauses and sentential complements lead her to claim that in such constructions *ol-* has no semantic and syntactic substance but is present simply for morphological well-formedness reasons. This then raises the question of the size of the morphological word in Turkish as one of the theoretical issues addressed in this paper. Making use of the notion of combinatoric TYPE for affixes and their positions on the stem, Göksel provides phonological and morphological evidence to illustrate that the syntactic category *verb* in Turkish allows upto three suffixes in its *inflectional domain*. Thus, *ol-* is called for when there is no available slot in a particular form and yet there is further information to be expressed in the form of verbal inflection. The auxiliary *ol-* in main clauses, on the other hand, is claimed to function as a lexical verb with an inherent aspectual sense. It is shown to block the presence of certain temporal adverbials, to allow clitic insertion and double negation, none of which can be witnessed in embedded structures with the same auxiliary. In short, the paper convincingly argues that the implications of this asymmetry are of importance to morphological as well as syntactic theory.

The remaining three papers by Jaklin Kornfilt, Sumru Özsoy and Balkız Öztürk are syntactic analyses on different aspects of clause structure in the generative framework. In her paper entitled "Functional projections and their subjects in Turkish clauses" Jaklin Kornfilt proposes an analysis for the presence of the genitive case marking on the subjects of certain non-finite argument and adjunct clauses but not others. The types of non-finite subordination that she looks into are argument clauses, modifier clauses in relative clause constructions, complement clauses of postpositions and adverbial clauses. Such subordinate clauses are treated as non-finite due to the fact that they involve a nominalizing morpheme but they are claimed to have the verbal functional projections that are typical of clausal structure, which are further dominated by a nominal functional projection. Kornfilt argues that agreement assigns case to its subject; this means that Turkish has the syntactic/functional category Agr, which is the head of the projection AgrP. Furthermore, it is claimed that Agr must be theta-governed or co-indexed by a syntactic operator in order for its case assigning property to be implemented. As far as adjunct clauses are concerned, the paper is interested in atypical constructions where there is an overt subject but no agreement morphology. This is taken care of by proposing a default case assignment mechanism that assigns case (phonologically unrealized) to subjects of adjuncts irrespective of subject agreement morphology on

the verb. In brief, the paper comes up with the explanation that the presence of genitive marking on the subject of non-finite clauses is determined by whether the nominal agreement element bears an index or not. An indexed nominal Agr, which receives its index by being co-indexed with a C or by a theta-governor via theta government, assigns the genitive case; if the nominal Agr is not indexed it assigns the default nominative case.

A. Sumru Özsoy in her paper titled "On 'small' clauses, other 'bare' verbal complements and feature checking in Turkish" argues that ECM (exceptional case marking) constructions in Turkish raise serious questions to the generative analyses that treat agreement and structural case as instances of the Spec–Head relation. The ECM constructions contain an accusative marked NP with which the predicate agrees, implying that this NP must have been the subject of the lower clause at the time Agr was checked. The issue to be accounted for here is the presence of the accusative case marking on the NP which is argued to be base generated at the lower clause and hence is there at the time Agr is checked. Özsoy discusses a number of possible solutions to this problem. If the accusative marked NP is to be analyzed as having moved from the subject position in the embedded sentence to the SpecAgrOP of the main clause, this violates the Shortest Move Principle, since it skips over the first available position which is the SpecAgrSP. If this NP is analyzed as having landed in the SpecAgrSP position without skipping over it, then this creates problems for CASE licensing since AgrSP licenses the nominative and not the accusative case. Thus, Özsoy concludes that both solutions are far from providing satisfactory accounts for this construction. This problem is not encountered in the structures known as 'small clauses' which are similar to ECM constructions but have predicates that lack agreement. Presenting earlier analyses on similar constructions, Özsoy shows that 'bare' clausal complements follow the predictions made by the Minimalist Program with respect to CASE licensing. She also uncovers certain morphosyntactic properties and binding properties of small clause configurations in Turkish. The paper displays the problems in a syntactic theory that maintains that CASE is checked in a Spec–Head relation and raises crucial questions that need to be answered in any satisfactory account of this problem.

It is inevitable for verbal agreement morphology of Turkish not to take part in syntactic analyses that involve the verb and clause structure. The marking of the subject through agreement morphology on the verb may then render the subject NP optional and even redundant under certain pragmatic conditions. This property of subjects has led linguists to characterize Turkish as a pro-drop language. Balkız Öztürk in her paper titled " Turkish as a non-pro-drop

language" questions the canonical analysis of Turkish as a pro-drop language. The claims made in Enç (1986) and Erguvanlı-Taylan (1986) that the use of overt subject pronouns are conditioned by pragmatic factors, like topic shift, have constituted the initiating point of her syntactic analysis. She pursues the implications for syntactic theory of such a pragmatic phenomenon which governs the utilization of overt subject pronouns and comes to the conclusion that such pronouns are, in fact, not subject pronouns but topic pronouns. Once this view is assumed, then, Turkish no longer can be characterized as a pro-drop language, which is the point of view argued in this paper. In order to prove that the relation between the overt (subject) pronoun and the verb is not that of a Spec–Head relation, Öztürk brings in data from ECM constructions and certain adjunct clauses where the Spec positions are filled without agreement morphology to go along with it. This then suggests that there is no head of specifiers in such constructions. Furthermore, conditions that determine the surfacing of pronouns in genitive phrases, where the pronouns are generated in SpecDP position and agree with the head noun in person and number, are claimed to be parallel to those of overt pronouns generated in the SpecVP. Similarly, since genitive phrases where the head has no agreement exists in Turkish, this is given as further evidence for overt pronouns not being dependent on agreement on the head. After discussing a number of alternative analyses, Öztürk concedes that elimination of Agr as the head of the inflectional domain and assignment of its strong features to Topic better accounts for the facts. In the new analysis, agreement morphology is no longer a functional head but the VP-internal subject, while overt pronouns, being topic pronouns, are generated in SpecTopP and are subject to a constraint that ensures the coindexing of the VP-internal subject with the topic pronoun. Though B. Öztürk has concentrated on cases where overt subject pronouns are, in fact, topic pronouns, her analysis should, similarly, be able to handle situations where the overt pronoun, in the immediately preverbal position, is not the topic but the focus.

Notes

1. For a detailed overview and bibliography on the scholarship on Turkish in the twentieth century, in particular after the 1940's, see Johanson (1990).

2. I am grateful to Jaklin Kornfilt for initially inspiring the idea of holding a workshop on clause structure of Turkish at Boğaziçi University.

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Finite inflection in Turkish

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To the memory of Robert Lees (1922–1996),
the father of Turkish generative linguistics

1. Introduction

The morphosyntactic properties of the Turkish verbal and nominal inflection has been studied at great length by traditional and generative grammarians. Generally speaking, the order, shape and meaning of the affixes that represent tense, aspect, mood and agreement have been well identified. To this date, by far the most comprehensive and substantial treatment of these topics, as more or less everything else on Turkish grammar, is Deny (1921). Many salient characteristics of the topic have also been properly dealt with by Kononov (1956), Lewis (1967), Underhill (1976) and Ediskun (1985), among traditional type grammars. Johanson (1971), is a comprehensive study of Turkish aspect system. Aksu Koç (1988), Erguvanlı-Taylan (1986, 1988, 1996), Kocaman (1996), Kuruoğlu (1986), Slobin and Aksu (1982), Yavaş (1980, 1982a,b), provide detailed treatment of specific aspects of the semantics and pragmatics of tense in Turkish and observe many points that went unnoticed in previous studies. Adamović (1985) is an invaluable source for the historical development of Turkish verbal inflection. Finally, various properties of this topic have been concisely expressed in Kornfilt (1997).

The first generative morphosyntactic studies of the subject were taken up by Lees (1961, 1962, 1972, 1973), which is, to this day, the most comprehensive and formally sound analysis of the subject – although usually, it is either totally ignored, carefully circumvented or sadly misunderstood by some later work. George and Kornfilt (1981) were the first to observe the implications of verbal inflection in a general syntactic domain. And Erguvanlı-Taylan (1996) paved the way for the analysis presented here, by assuming the primacy of form over function and that function should be recovered from morphosyntactic form.

Recently there has been a much welcomed revival of interest in the morphosyntactic structure of the inflected verb in Turkish, among which Erdal (2000), Groat (1992), Orgun (1996), Tosun (1998), Good and Yu (2000) are among the ones I am familiar with. Moreover, a novel aspect of the topic came to light by Cinque (1999), concerning particular hierarchical ordering of Turkish tense, aspect, mood and modality as functional heads conforming to a universal hierarchical order.

I will specifically refer to some of these invaluable works in the course of the paper.

1.1 What is finite inflection?

Since this paper is on finite inflection, a working definition becomes necessary. Let us begin by observing the following inflected verb stem displaying the familiar affixes.

(1)

a.	b.	c.	d.	e.	f.	g.	h.	i.
verb root	causative	causative	passive	abilitative	negative	possibili-tative	aorist	person
yap	-tır	-t	-ıl	-a	-ma	-yabil	-ir	Ø

'It may not possibly made to be done.'

It has been observed for a long time in Turkish linguistics that derivation introduces either lexically or syntactically a number of functional affixes in a specified order, as in (1), above. The lexical and syntactic properties of these processes have been the subject of much detailed work, among which, Underhill (1964), Lees (1973), Sebüktekin (1974), Aissen (1974), Babby (1981) and Sezer (1991) may be counted. Particularly important is Aissen's (1974) observation for Turkish that the specific order of derivational affixes on the Turkish verb reflect the order of specific syntactic operations (transformations) that introduce them, which was later developed into the mirror principle of Baker (1985). Many obscure aspects of modality have been illuminated by Savaşır (1986), Kerslake (1996) and Cinque (1999).

But there is no clear-cut dividing line between derivation and the inflection of the finite verb in Turkish, especially in frameworks that do all verbal morphology in syntax, such as Baker (1985). Therefore, how inflection is to be separated from the verbal derivation of the extended stem is not at all clear. In

traditional Turkish grammars, on the other hand, usually that part of the verb that may be a complement to the infinitive affix *-mEk* is considered to belong to derivation and the rest to inflection. This is quite an insightful distinction that leaves out of derivation, typically tense and agreement. I will accept this distinction here and take inflection to be the representation of tense and agreement on a verbal stem, in other words the INFL of principles and parameters framework of Chomsky (1981).[1] I will also refer to inflection as "inflectional complex" and "finite verbal inflection".

More specifically, I will be concerned with seeking answers to the following questions.

(2) a. What are the smallest elements of the finite verbal inflection in Turkish?
b. How are these elements to be characterized in terms of category and function?
c. What are the general structural and semantic properties of the finite verbal inflectional complex?
d. What, if any, are the specific morphosyntactic well-formedness constraints on such inflectional complexes?
e. What if any, are the semantic well-formedness constraints on inflectional complexes?
f. How are these to be accounted for within an internally, explicit theoretical framework?

2. Basic properties and theoretical assumptions

In this section, I will outline the general morphosyntactic properties of tense agreement and the theoretical assumptions I will follow.

The verb stem, which may contain some level of derivational complexity shown in (1a–i), above, is followed by a number of inflectional affixes and/or clitics that appear in a predictable order.

(3) a. Verb stem -Tense1 -Tense2 -Tense3 -Agreement
b. gid -ecek -miş -se -m
go -FUT -INFER.PAST -IND.COND -1SG
'If it is the case that they say I will/would go…'

I shall initially refer to these forms as Tense1, Tense2 and Tense3. The morphological nature of these forms is quite important, and I will return to these issues

further below. For now, simply observe the following, which indicates the inflectional affixes that participate in the inflectional complex. The functions given in italics are to identify their general properties and not to exhaust the variety of functions these affixes may be associated with. I will return to the semantic properties of the affixes shortly.

(4) a. Tense1 forms
-DI *definite witnessed past;* **-sE** *subjunctive conditional;* **-mIş** *inferential past/present perfect;* **-Iyor** *continuous;* **-yEcEG** *future;* **-Ir/-Er** *aorist;* **-yE** *opt/subj;* **-mEli** *necessitative;* **-mEkte** *continuous*

b. Tense2 forms
i-DI/-(y)DI *definite witnessed past;* **i-sE/-(y)sE** *indicative conditional;* **i-mIş/-(y)mIş** *inferential.*

c. Tense3 forms
i-sE/-(y)sE *indicative conditional;* **i-mIş/-(y)mIş** *inferential*

I will assume that the Tense1 forms are morphosyntactically simple, although some of these are historically derived.[2] Notice also, that I consider Tense1, Tense2 and Tense3 as categories of forms (suffixes or clitics) which have to appear in a hierarchical order given above. We will also see later that Tense2 and Tense3 are morphosyntactically complex forms in predictable ways, and that this is crucial, as well as controvertial.

To be grammatically well formed, a finite verb must minimally contain a main tense, Tense1 above, and agreement in that order, a requirement observed by Turkic languages in general. It follows from this that agreement must always head a Tense affix — a seemingly trivial but important condition duly observed by Deny (1921), Lees (1962, 1972) and recently by Groat (1992), Erguvanlı-Taylan (1996) and Tosun (1998). We will see the implications of this later. The compulsory Tense1 is necessarily one of the affixes given under Tense1 in (4), above.[3]

Second, in line with Enç (1987), I use the term tense to refer to a syntactic category, much like a noun, verb, etc., the members of which have lexical descriptive content.[4] In fact we will see later that the tense forms are divided into subcategories that are distinguished with respect to the morphosyntactic characteristics [±Finite], [±Nominal]. It is important that they are not considered as purely functional categories.[5] In the present analysis, the category Tense contains affixes (or clitics) which may indicate tense, aspect or mood, or some combination of these, in the general semantic sense these terms are used — again, something that is observed by many. Notice for example among the

Tense1 affixes, *-Iyor* indicates continuous aspect; the future *-yEcEG* is a typical example of tense, the optative subjunctive *-yE* and the conditional *-sE* are typically characterized as mood. This is implicit in traditional grammars, quite explicit in Lees's work, as well as in some recent studies of the subject, but its full implications have not been so clear to most. What follows from such observations is that tense, aspect, mood are not morphosyntactic, but exclusively semantic characteristics, possibly features, and they do not figure in the morphosyntactic representation of the finite inflectional complex.[6]

We will see additionally that the semantic content of the tense affixes is crucially relevant in determining further the well formedness of the inflected verb. In other words, a formally well-formed inflection may be ruled out on semantic incompatibility, given the possible meanings associated with individual tense affixes. This indicates that the set of well-formed inflectional complexes is actually a subset of the inflectional complexes allowed by formal configurations. Finally, I will consider agreement and its peculiarities in Section 2, below.

2.1 The complex tense forms

Notice in (4), above, that some Tense1 and Tense2 forms are quite similar. It is as if the three Tense1 forms, *-DI, -mIş* and *-sE* have their matching Tense2 forms, *idi, imiş* and *ise,* respectively. Let us observe some of the properties of these forms in (5), below.

(5)

Tense1	**Function**	**Tense2 particle**	**Tense2 clitic**	**Function**
-DI	witnessed past[7]/ present perfect	i-DI	-y-DI	witnessed past
-mIş	inferential past/ present perfect	i-mIş	-y-mIş	inferential
-sE	subjunctive conditional	i-sE	-y-sE	indicative conditional

I will argue (a) that these two sets of Tense forms are semantically distinct in crucial ways; (b) that this distinction correlates with morphosyntactic form; (c) that the semantic differences do not correlate with scope or relative positioning of the forms in question; and (d) consequently the Tense1 and Tense2 forms are semantically and syntactically distinct.

Let me begin with the formal differences between the two forms. First, the initial *i-* of the particle forms of the Tense2 goes back to a defective verb *i-* in Old Anatolian. Other Turkic languages had this verb in the form of *-ir/-er*. This auxiliary, mostly identified as a "copula", exists only as a host to a small set of suffixes.[8] It has no existence outside a total of four such forms; for example, no other Tense1 affix in (4), above, may combine with this auxiliary to form such complex affixes. The following are ungrammatical.

(6) a. *hasta i **-yecek** -sin
sick AUX -FUT -2SG
'You will be sick.'
b. *gid -iyor i **-meli** -yim
go -CONT AUX -NECESS -1SG
'I must be going.'
c. *git -miş i **-ye** -yim.
go -INF.PAST1 AUX -OPT.SUBJ -1SG
'May I be gone.'

The affixal/clitic forms in (6), above, have developed from the independent forms by the initial *i-* becoming *y-*. The initial *y-* that develops this way falls together with all suffix-initial vowels and deletes regularly after a stem-final consonant.[9] The forms in (7a), below, are formed with the separate particle forms of Tense2 and (b) are formed with the affixal forms.[10]

(7) a. 0al -acák **i** **-di**
buy -FUT AUX -PAST2.3SG
'He was going to buy.'
'He should have bought.'

al -acák i -miş
al -FUT AUX -INF.PAST2.3SG
'It turns out they were going to/they will buy.'

hastá i -se
sick AUX -IND.COND.3SG
'If he is sick.'

b. al -acák **-tı**
buy -FUT -PAST2.3SG
'He was going to buy.'
'He should have bought.'

al -acák -mış
buy -FUT -INF.PAST2.3SG
'It turns out they were going to/they will buy.'

hastá -y -sa
sick -AUX -IND.COND.3SG
'If he is sick.'

Notice in (7b), above, with no part of the auxiliary overtly present, the Tense2 forms are characteristically distinguished as prestressing.

Consider additionally the following, which contain a Tense2 and a Tense3.

(8) a. iste -yecék -ti **-yse** -n
request -FUT -PAST2 -IND.COND -2SG
'If you were going to ask for it…'
b. sor -malí -ymış **-sa** -k
ask -NECES -INF.PAST2 -IND.COND -1PL
'If we ought to have asked…'

Notice in (8a,b), above, the three consecutive tense suffixes.

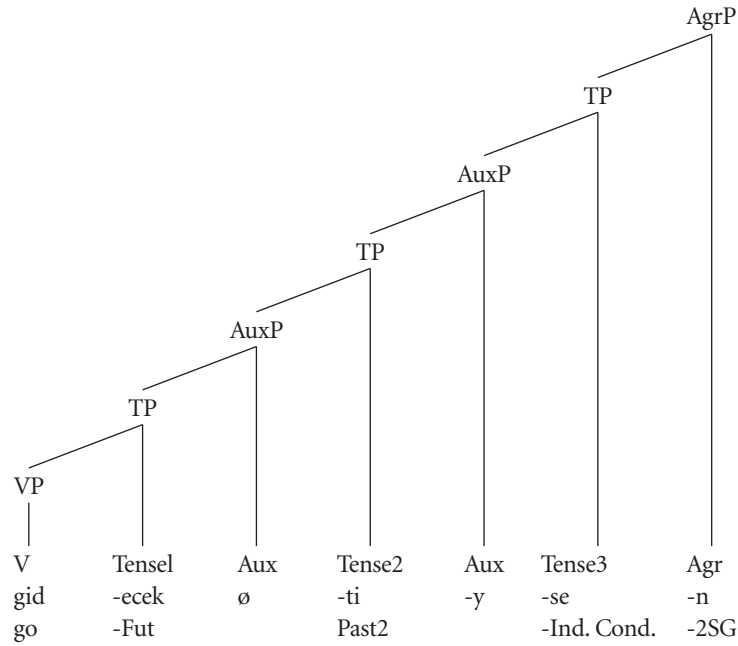
In summary, a Tense1 affix selected from among a set of affixes takes a full verb as its complement. A Tense2 and Tense3 form may follow this form. Notice also that Tense2 and Tense3 affixes may only be construed with the defective auxiliary stem *-i-*, or its cliticized form *-y-*. What this entails is that in Turkish, a tense affix may not directly be hosted by another tense affix, a fact observed of Lees (1962, 1972). Actually, there is a strict limitation on what Tense affixes may head; I will formulate this morphosyntactic constraint explicitly as (9), below.

(9) a. Tense affixes in Turkish may only head a verbal stem [+V, −N].
b. The auxiliary form *i-* is [+V, −N].

Notice that (9) is not sufficient to formally distinguish between Tense forms that attach to full verbs and the limited set that attaches to the auxiliary *i-*. I will return to this issue later on.

In (10), following Brendemoen and Csato (1986), I assume that in Turkish the S is headed by an Agr Phrase. With Groat (1992) and Tosun (1998), I am assuming the split Infl hypothesis of Pollock (1989) for Turkish, whereby, Tense and Agr are separate syntactic categories that form their own maximal projections.[11] Additionally, with Groat (1992), I am assuming an AUXP, a maximal projection of the auxiliary *i-*. Finally, I will argue below that each head in (10) takes a complement with which it shares morphological features.

(10)



2.2 The adverbial clitic *-(y)ken*

Turkish has the form *i-ken/-y-ken* 'while' that functions as an adverbial complementizer. Its formation is analogous to the Tense2 forms discussed above.[12] It contains the auxiliary *i-* and the Turkic Tense1 affix *-GEn*, which is no more a tense affix in modern Turkish. Unlike the other *i-*+Tense forms, *i-ken/-y-ken* forms do not take person agreement but share some morphosyntactic properties of the other Tense2 forms. First note in (11), that unlike other deverbal adverbial forms in (12), a verbal stem without tense may not host *-yken*.

(11) a. *git-**ken**
'while going…'
b. *ye-**yken**
'while eating…'

(12) a. ben gid -**ince**
I go -ADV
'When I go…'
b. oku -**yarak**
read -ADV
'By reading…'

The form *-iken/-yken* may only be attached to Tense1 forms.[13] Observe below.

(13) a. gel -ir **-ken** ekmek al.
come -AOR -while bread buy
'Buy bread when coming/on the way back.'
b. Yol -da gid -iyor **-ken** düş -müş
road- LOC go -CONT -while fall -INF.PAST1.3SG
'They say he fell when he was going on the road.'
c. Ev -e gid -ecek **-ken** bar -a git -ti -m.
home -DAT go -FUT -while bar -DAT go -PAST1 -1SG
'I went to the bar, when I was supposed to go home.'
d. Kalk -mış **-ken** bir su ver
rise -INF.PAST1 -while a water give.2SG
'While you are up (have risen), give me a [glass of] water.'

It can head nonverbal predicates, however, like the Tense2 forms.

(14) a. hastá-**yken**
'while sick'
b. yók-**ken**
'while not present'

The persistence of the specific morphosyntactic properties of *i-ken/-yken* are peculiar to its formal category and not to its functional category as an adverbial complementizer, indicating in this case, that it is the morphosyntactic category and not function that determines its complement selection. I will return to the complement selection properties of this form in Section 2.5, below.

2.3 Semantic properties of selected tense forms

The objective of this section is not to provide a substantial semantic analysis of the tense forms, nor to review the rather comprehensive literature on the topic. See references already cited in Section 1. Rather, I will illustrate some of the general properties of the semantic content of the tense forms and their implications for a theory of Turkish inflection.

Tense1 *-DI* and Tense2 *-yDI*

The Tense1 *-DI* is definite past or present perfect and present with psychological verbs. Observe the following.

(15) a. Dün saat beş-te gel-**di**-m.
yesterday clock five-LOC come-PAST1-1SG
'I arrived at five o'clock yesterday.'
b. Yeni gel-**di**-m.
just arrive-PAST1-1SG
'I have just arrived.'
c. Şimdi çok üzül-**dü**-m
now very sadden-PAST1-1SG
'I am very saddened now.'

In (15a) and (b), we have the definite past and the present perfect function of *-DI*, respectively. In (15c) we observe the present tense function of this suffix. With a number of finite verbs that indicate physical and psychological states, the unmarked reading of *-DI* is present.[14] The past reading is usually enforced with past adverbs.

(16) Dün ders-te çok acık-**tı**-m.
yesterday class-LOC very get hungry-PAST1-1SG
'Yesterday I was/got very hungry in class.'

The Tense2 *-yDI*, however, never has the present or the present perfect sense of Tense1 *-DI*. Observe below.

(17) a. *Şu an-da çok aç-**tı**-m
this moment-LOC very hungry-PAST2-1SG
'I am very hungry now.'
b. Dün akşam çok aç-**tı**-m
yesterday night very hungry-PAST2-1SG
'Last night I was very hungry.'

(17a) is ungrammatical, because the Tense2 suffix *-tı* (< *-yDI*) can only be interpreted as past and not as present or present perfect, and this is semantically inconsistent with the adverb *şu anda* 'at this moment'.

Second, recall that Tense1 *-mIş* either indicates inferential past or present perfect. Observe below.

(18) a. Dün gece çok iç-**miş**-im
yesterday night much drink-INF.PAST1-1SG
'(I realize that) I drank too much last night.'
(inferential, realizational after the fact)

b. Şimdi şurada otur-muş-um, dinlen-iyor-um.
now here sit-INF.PAST1-1SG rest-CONT-1SG
'Now that I have sat down here and resting…'
(perfect)

But Tense2 *i-miş/-ymIş* is ambiguous between inferential past and simply inferential readings. Observe below.

(19) a. Ali dün ev-de-**ymiş**
Ali yesterday home-LOC-INF.PAST2.3SG
'It turns out that Ali was at home yesterday.'
b. Ali şu anda ev-de-**ymiş**
Ali this moment home-LOC-INF.PAST2.3SG
'It turns out that Ali is at home now.'
c. Ali yarın ev-de-**ymiş**.
Ali tomorrow home-LOC-INF.PAST2.3SG
'It turns out Ali is/will be at home tomorrow.'
d. Ali yarın gid-ecek-**miş**.
Ali tomorrow go-FUT-INF.PAST2.3SG
'It turns out Ali will leave tomorrow.'

In (19a), *-ymIş* is clearly past. In (19b–d) it is only inferential. We will see later that in (19b,c) there is an underlying Ø present Tense.

The specific semantic properties of these suffixes will help us identify some semantically ill-formed combinations. First, consider (20), below, in which the inferential Tense2 *-ymIş* follows the witnessed past *-DI*.

(20) *git-ti-ymiş
go-PAST1-INF.PAST2.3SG
(No reading)

There is no semantically coherent reading for this form, given the semantic functions of the definite past or present perfect *-DI* and the necessarily inferential *-ymIş*. The verb+Tense1 form *git-ti* means '(S)he left' with a certainty on the part of the speaker, which is denied by the inferential or quotative nature of the Tense2 *-(y)mIş*.

The foregoing is a commonly observed fact in numerous studies on the topic, but its implications for the semantics of the tense forms in general have been ignored. If the Tense2 form *-ymIş* in (20), above, had a possible non-inferential reading, as does its corresponding Tense1 form *-mIş*, then there might have been an acceptable reading for it. What rules out this form is the

semantic incompatibility caused by the necessarily inferential semantic characteristic of *-ymIş*, which distinguishes it from Tense1 *-mIş*.

Now notice, below, that the inferential Tense1 *-mIş* and the Tense2 past *-yDI* may combine in that order to form the past perfect.

(21) yap-mış-tı-m
do-INF.PAST1-PAST2-1SG
'I had done it.'

Notice here that the Tense1 form *-mIş* does not mean inferential or quotative past, but only present perfect, followed by the exclusively past Tense2 *-yDI*.

The past perfect reading for this form, then, is due to the possible non-inferential reading of the Tense1 *-mIş*. Had this form been obligatorily inferential, as in the case of Tense2 *-ymIş*, we would expect the same semantic clash as in (20), above.

Notice below that the Past Tense1 and Past Tense2 also combine in that order to yield the past perfect.

(22) yap-tı-ydı-m
do-PAST1-PAST2-1SG
'I had done (it).'

The difference between (21) and (22) is that the latter is geographically dialectal and somewhat substandard. Again (22) is necessarily past perfect and it does not have a possible present perfect reading, because the Tense2 *-yDI* is necessarily past and not present perfect.

As another relevant case, consider the complex tense form in (23), below.

(23) yap-mış-mış-ım
do-INF.PAST1-INF.PAST2-1SG
a. 'It turns out that I had done it.'
b. 'They say that others say that I did it.'

The two readings of (23) also follow from the possible readings of the forms involved. In the (23a) reading, the inferential Tense2, the second *-mış*, is past, thus rendering the past perfect sense. In the (23b) reading, the same Tense2 *-mış* is only inferential, thus simply adding a second inferential sense to the action denoted by the verb.

Finally, I will consider the difference between the Tense1 *-sE* and Tense2 *isE/-ysE*. This sharp distinction, which is duly observed in many studies in Turkish linguistics, seems to have eluded others. Deny (1921), carefully distin-

guishes between the two by calling the former "conditional" and the latter, "suppositional". To illustrate this, he points out that while the former corresponds to the conditional verb in French, the latter corresponds to an *if*-clause with an indicative verb. Lees (1962) also separates the two by calling the *isE/-ysE* form "factive conditional", and the Tense1 *-sE,* "counterfactual". This distinction is a familiar one, studied by Adams (1970), among others. Also, drawing on earlier typological work on conditionals by Barker (1979), among others, Kuruoğlu (1986) distinguishes between "subjunctive" and "indicative" conditionals in Turkish. Consider below, two typical examples for illustrative purposes.

(24) a. Subjunctive conditional
Çamaşır-ı ben yıka-ma-**sa**-ydı-m, kim
laundry-ACC I wash-NEG-SUBJ.COND-PAST2-1SG who
yıka-yacak-tı?
wash-FUT-PAST2.3SG
'If I hadn't washed the laundry, who would have washed it?'

b. Indicative conditional
Çamaşır-ı ben yıka-ma-dı-**ysa**-m, kim
laundry-ACC I wash-NEG-PAST1-IND.COND-1SG who
yıka-dı?
wash-PAST1.3SG
'If I didn't wash the laundry, who washed (it)?'

Kuruoğlu (1986) also points out that indicative conditionals are contextually dependent. In Sezer (1998), I point out additionally, that Tense2 form *-ysE* means 'if indeed…/if its true that…/if so…' and it is discourse- or pragmatically conditioned. Lees's (1972) term "factive conditional" implicitly refers to this reference to established facts. Consider the following.

(25) a. Çarşı-ya gid-iyor-**sa**-n, haber ver.
market-DAT go-CONT-IND.COND-2SG news give.2SG
'If you are going shopping, let me know.'

b. Hasta-**ysa**-n yat
sick-IND.COND-2SG go.to.bed.2SG
'If you are sick, go to bed.'

c. Bugün çarşı -ya git-**se**-n, ne al-ır-dı-n?
today market -DAT go-COND-2SG what buy-AOR-PAST2-2SG
'What would you buy if you went/were to go to the market today?'

The two indicative conditionals in (25a,b), may not be uttered in out-of-the-blue situations, but the subjunctive conditional (25c) is bound by no such restriction.

Finally, observe below that the Tense3 forms, also construed with the copulative *i-*, may only represent indicative conditional readings.

(26) a. Git-me-miş-ti-**yse**
go-NEG-INF.PAST1-PAST2-IND.COND.3SG
'If it is the case that (s)he indeed had not gone…'
b. Gel-ecek-miş-**se**
come-FUT-INF.PAST2-IND.COND.3SG
'If they say (s)he will come…'

In (26a,b) above, *-yse* is again discourse dependant and these sentences will be discourse-impaired if uttered in out-of-the-blue situations.

It is precisely because of the semantic property of the indicative conditional that this form may only head indicative tenses and it may not head the subjunctive conditional *-sE* or the optative/subjunctive *-yE*.

What follows from the foregoing is that the distribution and the major semantic characteristics of tense is determined by what hosts the particular tense form; that is, Tense1 forms hosted by full verbs are distinct in distribution and meaning from the Tense2 forms hosted by the auxiliary *i-*.

2.4 Compound tense forms and the auxiliary *ol-*

Continuing with the general semantics of the tense forms, I will in this section, look into the well-known cases where some tense forms may be complements to the verb *ol-* 'be, become', and see how their meanings are determined.

Recall that only three Tense2 forms may morphosyntactically follow Tense1 affixes. These are the only tense forms that may be hosted by the auxiliary *i-*. Turkish inflection circumvents this formal limitation by commissioning the verb *ol-* 'be, become' to function as part of the inflectional complex.[15] This verb then may take all Tense1 forms.[16] Consider the following.

(27) a. var-mış ol-**acağ**-ız
arrive-INF.PAST1 be-FUT-1PL
'We will have arrived.'
b. çok iç-er ol-**uyor**-sun
much drink-AOR become-CONT-2SG
'You continuously/regularly become a heavy drinker.
c. uyu-yor ol-**malı**-sınız
sleep-CONT be-NECES-2PL
'You must be sleeping.'

d. bitir-miş ol-**ur**-sun
finish-INF.PAST1 be-AOR-2SG
'You'll have finished.'

Recall initially that the second Tense on the inflected forms of (27a–d) are those that could not be hosted by the defective auxiliary *i-*. But since *ol-* is a complete verb, it can host all Tense1 affixes.[17] Second, the auxiliary, *ol-*+Tense1 complex may host the familiar Tense2 forms *-yDI, -ymIş* and *-ysE*. Observe below.

(28) a. var-mış ol-acak-**tı**-k
arrive-INF.PAST1 be-FUT-PAST2-1PL
'We would have arrived.'
b. çok iç-er ol-uyor -**muş**-sun
much drink-AOR become-CONT -INF.PAST2-2SG
'They say you continuously/regularly become a heavy drinker.
c. uyu-yor ol-malı -**ydı** -nız
sleep-CONT be-NECES -PAST2 -2PL
'You must have been sleeping.'
d. bitir-miş ol-ur -**sa**-n
finish-INF.PAST1 be-AOR -IND.COND-2SG
'If you'll have finished…'

Thus *ol-*, displays the formal structure of the inflection of complete verbs with the Tense suffixes it hosts.

Now the semantics of the Tense1 forms on *ol-* are the predictable Tense1 readings and not of the Tense2 readings of these forms. Consider the following.

(29) a. *Bu günler-de çok iç -**er** -**di** -m
this days-LOC a.lot drink -AOR -PAST2 -1SG
'I used to drink a lot these days.'
b. Bu günler-de çok iç -**er** ol -**du** -m.
this days-LOC a.lot drink -AOR become -PAST1 -1SG
'These days I have become a habitual drinker.'

The difference between (29a,b) is striking, due to the semantic difference between Tense1 and Tense2 past in these sentences, respectively. Recall that only Tense1 has the possible present perfective reading, which renders (29b) compatible with the adverb *bu günlerde* 'these days', hence the grammaticality. In both cases the main Tense on the verb *iç* is aorist. In (29a) this is followed by the auxiliary *-y-* which is deleted by a phonological rule, and in (29b) the same aorist is followed by *ol-*, a full verb that takes Tense1 affixes. Clearly the sense of

the past *-DI* is not determined by its functional relation to the preceding aorist, but by the verb that hosts it.

Consider the preemptive adverb *bir defa*, which has the force of 'what's done is done', 'there's no turning back now', etc. This adverb can only be used with the present perfect Tense. Observe below.

(30) a. *Dün git-ti-m *bir defa.*
yesterday go-PAST1-1SG
'I went (there) yesterday and there is no turning back.'
b. Git-ti-m *bir defa.*
go-PAST1-1SG
'I have been there and I can't undo that.'

In (30a), the adverb *dün* 'yesterday' enforces a definite past reading, which is not compatible with the intended reading of *bir defa*. Now observe the following.[18]

(31) a. İç-**miş**-im *bir defa*
drink-INF.PAST1-1SG
'So I have drunk it. What can I say?'
b. *İç-**er**-**miş**-im *bir defa*
drink-AOR-INF.PAST2-1SG
'They say I habitually drink. So what can I say?'
c. İç-**er** ol-**muş**-um *bir defa.*
drink-AOR become-INF.PAST1-1SG
'I have become one who habitually drinks. So, what can I say?'

In (31a), the possible present perfect reading of Tense1 *-miş* is compatible with the preemptive adverb *bir defa*. The Tense2 *-miş* in (31b) is not present perfect, hence the ungrammaticality. Now in (31c), Tense1 *-muş* is present perfect, which is compatible with *bir defa*. Notice again in (31b) and (c) that the relative position of Tense1 *-mIş* to the aorist is the same, but this is not what determines the meaning of *-mIş* in these forms.

Finally let us consider comparable cases with the two conditional Tense affixes.

(32) a. *Sen yap-ma-**sa**-n, kim yap-tı?
you do-NEG-SUBJ.COND-2SG who do-PAST1
b. Sen yap-ma-**mış**-**sa**-n, kim yap-mış?
you do-NEG-INF.PAST1-IND.COND-2SG who do-INF.PAST1
'If you haven't done it, who has?'
c. *Sen yap-ma-**mış** ol-**sa**-n, kim yap-tı?
you do-NEG-INF.PAST1 become-SUBJ.COND-2SG who do-PAST1

In (32a–c) all of the conditional clauses (up to the comma) are independently grammatical. What makes (32a,c) ungrammatical is the main clause *kim yaptı,* which refers to a specific act that was committed. But the subjunctive conditionals in (32a,c) do not allow a factive reading that would make this reference possible, so they are semantically incoherent. The factive reference in the indicative conditional in (32b), however, gives a coherent reading with the main sentence, hence the grammaticality.

Again a comparison between (32b) and (c) shows that it is not the relative positioning of *-sa* with respect to *-mış* that determines its meaning but what its complement is. As we have seen in all of the cases in (29, 31, 32) semantic differences between Tense1 and Tense2 forms correlate with their complements. This is of course very clear from the nonverbal predicates that Tense2 forms take as complements with their predictable meanings. Observe below.

(33) a. Hasta-y-dı-m.
sick-AUX-PAST2-1SG
'I was ill.'

b. Hasta ol-du-m.
sick become-PAST1-1SG
'I got sick.'

d. Hasta-y-mış-ım.
sick-AUX-INF.PAST2-1SG
'They say I was ill.'
'They say I am ill.'

e. Hasta ol-muş-um
sick become-INF.PAST1-1SG
'I realize I got sick.'

f. Hasta-y-sa-m
sick-AUX-IND.COND-1SG
'If I am ill…'

g. Hasta ol-sa-m
sick be-SUBJ.COND-1SG
'If I were to become ill…'

Here the Tense1 and Tense2 forms are again semantically distinct and they may not mean what the other one means. Considering that in these cases there are no preceding tense affixes, these meanings cannot possibly be due to positioning with respect to another tense.

I will offer below a historical analysis of how the Tense2 forms may have been differentiated from Tense1 forms. To do this we have to consider the

semantics of the tense forms in Turkish in a different way. Let us assume that the semantic content of the tense forms are represented by a set of semantic features, as in the case of other lexical categories.[19]

Let us then look at a characterization of the meaning of the relevant tense forms in terms of features as a first approximation.

(34)		a.	b.	c.
	Tense1	-DI	-mIş	-sE
		[+Perfect,	[+Perfect,	[+Subjunctive]
		+Present]	+Present][20]	
		[+Past]	[+Past,	[+Subjunctive,
			+Inferential]	+conditional]
	Tense2	[+Past]	[+Inferential]	[+conditional]
			[+Past,	
			+Inferential]	

Essentially, what (34) says is nothing new; these properties of these tense forms have been known and repeated in literature all along. But only when we look at them in terms of distinctive semantic features that we begin to see how things might have taken shape.

Let us assume that historically the Tense1 forms in (34) had the meaning they have today. Notice that all three of them are ambiguous, a property of lexical categories. The ambiguity of the first two forms is already discussed elsewhere and above, so I will leave them aside. The ambiguity of the conditional is not all that clear in all literature on tense. Observe the subjunctive use of the conditional below.

(35) a. Acaba nere-ye git-**se**-m.
I.wonder where-DAT go-SUBJ.COND-1SG
'I wonder where I should go.'

b. Kim-e sor-**sa**-m, bir cevap al-a-mı-yor-um.
who-DAT ask-SUBJ.COND-1SG an answer get-ABIL-NEG-CONT-1SG
'Whoever I ask, I can't get an answer.'

c. Keşke ora-ya git-me-**se**-ydi-m.
I.wish there-DAT go-NEG-SUBJ.COND.-PAST2-1SG
'I wish I didn't go there.'

This gives support to the feature analysis in (34c). Assuming that [+Conditional] ordinarily designates the factive conditional, then subjunctive conditional is in fact a combination of the features [+Subjunctive] and [+Conditional].

If this analysis is correct, then the semantic differentiation of the Tense2 forms is quite straightforward. Notice in (34), that all of the Tense2 forms have differentiated by copying some semantic features of their sources, respectively.

There is, however, the formal aspect of the problem. With their differentiated meanings, Tense2 forms may only head the auxiliary *i-*, while Tense1 forms exclusively select full verbs as complements. I will consider this issue in some depth in the next section.

2.5 A feature-based analysis of Turkish tense

First, I will assume a checking theory similar to the one proposed by Chomsky (1995). According to this, morphosyntactic categories are identified by a set of morphosyntactic features selected from a universal vocabulary. These, in the present case, are, ±V, ±N and ±F(unctional).[21] Second, all forms lexical or purely functional will carry two types of features. These are the head features that mark specific properties of a head, and the complement features that indicate the formal properties of the complements of a head.[22] In line with Chomsky's (1995) full interpretation, I am assuming that in LF, only interpretable features will remain to avoid a crash that will rule out a particular form as ill-formed. To avoid this, all uninterpretable features must be deleted when checked within a local domain. A head checks its complement features against the head features of its complements.[23]

Let me begin by making a formal distinction between the two types of verbs considered so far, by specifying their head features as follows.

(36) a. Full verbs-that is, nondefective verbs, which have an infinitive form are [+V, −N, −F].
b. The defective auxiliary *i-* is [+V, −N, +F].

What this says in effect is that, they are both verbs but the former is a nonfunctional category while the latter is.

There is yet another problem. As is well known and as I will discuss in detail, Tense1 and Tense2 forms behave homorganically with respect to the agreement paradigms they select; that is, *-DI* and *-sE* select a specific agreement paradigm and *-mIş* selects another, regardless of their semantic and formal distributional differences. Kornfilt (1996), observing this, states that Tense1 and Tense2 may not be considered morphosyntactically distinct affixes, because if they are, then this will imply that their common agreement properties are accidental.[24] Kornfilt's position is surely a legitimate one but there is a natural

explanation for it within the feature theory adopted here. Let us continue with our assumption that originally, *-DI, -sE* and *-mIş* were Tense1 affixes with following complement (CF) and head features (HF).

(37) Tense1 forms
-DI, -sE, -mIş
CF [+V, −N, −F]
HF [−X] [+X]

What (37) says, is that *-DI, -sE* and *-mIş* could only take full verbs as complements, as indicated by the complement features they share. But they had two distinct head features between them, [−X] for *-DI* and *-sE,* and [+X] for *-mIş*. Let us assume that [−X] insured a specific agreement paradigm selection for *-DI* and *-SE*, and [+X] insured another paradigm selection for *-mIş*. Now let us further assume that semantic differentiation for each Tense form in (37) is also accompanied by a change in the complement features, but not in their head features. So the resulting Tense2 series have the following morphological features.

(38) Tense2 forms
-DI, -sE, -mIş
CF [+V, −N, +F]
HF [−X] [+X]

According to this scenario, the formal change that accompanied the semantic differentiation of the two series is the complement feature -F becoming +F, with all the other features remaining intact. Let us explicitly state this in (29), below.

(39) a. All Tense1 affixes carry the complement feature [+V, −N, −F].
b. All Tense2 affixes, namely, *-DI*, *-sE* and *-mIş*, plus the affix *-ken* carry the complement features [+V, −N, +F].

Let us see how this predicts some of the cases we have seen so far.

(40) a. *i -yecek
CF [+V, −N, −F]
HF [+V, −N, +F]
'will be'
b. *i -se
CF [+V, −N, −F]
HF [+V, −N, +F]
'if it were'

c. ol- sa
CF [+V,−N,−F]
HF [+V,−N,−F]
'If it were to happen'

In (40a), the form will crash at LF, because the uninterpretable features will remain for not having been checked, hence the ungrammaticality. In (40b), the intended subjunctive conditional reading is not possible, because the complement features of the subjunctive conditional do not check the head features of the auxiliary *i-*. In (40c), on the other hand, the complement features of the subjunctive conditional check with the head features of the full verb *ol-* and the form survives in LF.

Let us now look at a more complex form in (41), below.

(41) gid -ecek i -di -y -se
CF [+V,−N,−F] [+T] [+V,−N,+F] [+T] [+V,−N,+F] [+T]
HF [+V,−N,−F] [+T] [+V,−N,+F] [+T] [+V,−N,+F] [+T]
'If he was going to go'

In (41), above, the head features identify the formal properties of the forms involved. So *gid-* is a full verb, *-yecek, -di* and *-se* are tenses, and *i-/-y-* are auxiliaries, that is functional verbs. As for their complement features, *-ecek* always selects a full verb as complement, but the Tense2 forms *-di* and *-se* select functional verbs. The auxiliary selects a Tense, +T. The complement feature of all the heads matches the head features of the complements to their left, as expected. We will see later that the CF and HF specifications will have to be enriched to accommodate new facts. But before that, I will consider the different agreement paradigms and related phenomena.

3. Agreement paradigms and related issues

In this section I consider the tense forms and the types of agreement paradigms they select, and offer a very simple solution to the problem. I will discuss the conjugation types, the age-old distinction between the "true" and "participial" tenses, the participial tense forms of the embedded clauses, in that order. I will also consider in some depth Lees's (1961), (1962) and (1972) suggestion that the finite verbs with participial tenses contain an underlying auxiliary and an additional tense and argue that this is not the correct way to proceed, because it involves a clear violation of economy principles.

A well-known fact by now is that the choice of the idiosyncratic agreement paradigm on the inflected verb crucially depends on the type of tense affix. The general distribution of the three paradigms is as follows.

(42) a. The mixed paradigm heads only the optative subjunctive Tense *-yE.*
b. The stressed paradigm heads only the Tense1 and Tense2 forms *-DI* and *-sE.*[25]
c. The clitic paradigm heads the rest of the tense affixes; namely, the future *-yEcEg,* inferential past *-mIş,* inferential Tense2 *-mIş,* the aorist *-Er/-Ir,* continuous *-Iyor,* continuous *-mEktE,* and the necessitative *-mElI.* It also heads the predicate nouns, adjectives and postpositions in the present tense.[26]

Recall that verbal agreement necessarily heads a tense affix directly, so (42a–c), above, exhaust all the possible positions for the agreement forms in question here.

Putting aside the mixed paradigm, for the moment, I will illustrate the typical cases.

(43)

a.	b.	c.	d.
Aorist 'I go', etc.	Future 'I will go', etc.	'Inferential' 'They say I went', etc.	Necessitative 'I ought to go', etc.
gid-**ér**-im	gid-**ecéğ**-im	git-**míş**-im	git-**melí**-yim
gid-**ér**-sin	gid-**ecék**-sin	git-**míş**-sin	git-**melí**-sin
gid-**ér**-Ø	gid-**ecék**-Ø	git-**míş**-Ø	git-**melí**-Ø
gid-**ér**-iz	gid-**ecéğ**-iz	git-**míş**-iz	git-**melí**-yiz
gid-**ér**-siniz	gid-**ecék**-siniz	git-**míş**-siniz	git-**melí**-siniz
gid-**ér**-ler	gid-**ecék**-ler	git-**míş**-ler	git-**melí**-ler
gid-**er**-lér	gid-**ecek**-lér	git-**miş**-lér	git-**meli**-lér

Notice in (44) below that the same agreement paradigm heads nonverbal predicates.

(44)

a.	b.	c.	d.	e.
'I am well', etc.	'I am a teacher', etc.	'I am not', etc.	'I am present', etc.	'I'm not present', etc.
iyí-yim	öğretmén-im	değíl-im	vár-ım	yók-um
iyí-sin	öğretmén-sin	değíl-sin	vár-sın	yók-sun
iyí-Ø	öğretmén-Ø	değíl-Ø	vár-Ø	yók-Ø
iyí-yiz	öğretmén-iz	değíl-iz	vár-ız	yók-uz
iyí-siniz	öğretmén-siniz	değíl-siniz	vár-sınız	yók-sunuz
iyí-ler	öğretmén-Ø	değíl-ler	vár-lar	yók-lar
iyi-lér	öğretmen-lér	değil-lér	var-lár	yok-lár

The two other tenses are headed by a different paradigm.

(45)

a.	b.
Past1 'I bought', etc.	Subjunctive conditional 'If I were to buy', etc.
al-**dí**-m	al-**sá**-m
al-**dí**-n	al-**sá**-n
al-**dí**-Ø	al-**sá**-Ø
al-**dí**-k	al-**sá**-k
al-**dı**-níz	al-**sa**-níz
al-**dı**-lár	al-**sa**-lár

As the stress pattern indicates, the clitic paradigm affixes are prestressing, except for the 3PLURAL *-lEr,* which is the nominal plural suffix that is ordinarily stressed. The unstressed *-lEr* forms may be due to analogy, as suggested by Kornfilt (1996). Support for this position comes from the fact that *-lEr* in the stressed paradigm, where all affixes are stressable, is ordinarily stressed unless there is a prestressing affix in the inflection complex.

The full forms of the clitic paradigm are as seen in (44a). Various general phonological rules apply to derive the other forms. The suffix initial *y-* in the first-person forms is universally deleted after a stem-final consonant.

Since the stressed paradigm exclusively follows *-DI* and *-sE,* both ending in a vowel, no special phonological rules are needed for this paradigm except for vowel harmony.

And notice finally in (46), below, that the Tense2 forms are headed by the same paradigm as their corresponding Tense1 form.

(46)

a.	b.	c.
'I had come', etc.	'If I indeed arrived', etc.	'It turns out that if I indeed arrived', etc.
gel-míş-**ti**-m	gel-míş-**se**-m	gel-sé-y-**miş**-im
gel-míş-**ti**-n	gel-míş-**se**-n	gel-sé-y-**miş**-sin
gel-míş-**ti**-Ø	gel-míş-**se**-Ø	gel-sé-y-**miş**-Ø
gel-míş-**ti**-k	gel-míş-**se**-k	gel-sé-y-**miş**-I
gel-míş-**ti**-niz	gel-míş-**se**-niz	gel-sé-y-**miş**-siniz
gel-míş-**ti**-ler	gel-míş-**se**-ler	gel-sé-y-**miş**-ler
gel-miş-**lér**-di	gel-miş-lér-**se**	gel-se-lér-**miş**

In (46a,b), above, the stressed paradigm is used, the one that heads exclusively *-DI* and *-sE*, although the Tense1 of these forms is *-mIş* which selects the clitic paradigm. In (46c) the clitic paradigm is used because the complement to the agreement paradigm is Tense2 *-miş*, although Tense1 in these forms is *-sE*, which requires the stressed paradigm.

Let us formulate this as an explicit condition.

(47) The last (i.e. the highest) Tense determines the agreement paradigm.

The relevance of (47) will be apparent shortly.

The distinction between the two paradigms is claimed to have to do with the fact that there are essentially two sets of tense markers in Turkish. The so-called "true tenses", *-DI* and *-sE*, and the participial tenses, which constitute the set that is headed by the clitic paradigm. I will go into the history of this distinction in some detail, since there is a serious misunderstanding as to its origin in the current literature in Turkish linguistics.

This sharp distinction with this particular terminology is due to Lees (1962), (1972) and its implications are correctly evaluated by Dobrovolsky (1976). This claim finds independent support from the fact that forms such as *-yEcEg, -Er/-Ir, -mIş*, and *-Iyor*, become complements to some predicate expressions that normally head substantives.

This state of affairs was first observed systematically by Deny (1921:382), where he notes, "Mostly, the source of the conjugated verb forms in Turkish, as is evident from the way they look, is made up of nominal statements, having a

nominal form (a participle) as predicate, followed by an auxiliary (copula)". (My translation.). He goes on to compare these forms to,

(48) French: je suis parti 'I left'
German: ich bin gegangen 'I left'
English: I am going

It is obvious from this comparison that Deny's (1921) term "verb substantive" represents an auxiliary.[27]

Lees (1962, 1972), actually posits an underlying auxiliary ("copula", in his terms) and an additional underlying tense to all such forms as (43), (44) and (46c), above. I quote from Lees directly.

(49) We adopt the quite reasonable view that the Preterite [−DI] and Conditional forms [−SE] are the only "true" tenses in Turkish, all other finite-verb forms being taken as Participles plus Copula forms.
(Lees 1962: 144)

More specifically, Lees claims that verbal forms such as *gönder-ecek-sin* 'You'll send (it)', actually derive from the underlying form *gönder+yecek+i+Tns+sin.* As for the Tense (Tns) posited here, he notes that,

(50) […] The tense appears to be non-past, non-conditional, and we can say that it is the 'architense' Present, a neutralization between aorist and momentary [Iyor]. (Lees 1962: 68)

I will briefly explain here what Lees achieves by this, something that is not altogether transparent in recent work. He knows full well that a Tense affix always heads a verb, either a complete verb or an auxiliary/copula. And the auxiliary *i-*, is overtly present only when it hosts an overt tense affix and not otherwise. Finally, verbal agreement affixes ordinarily head a tense affix. So what Lees (1962, 1972) adds with this analysis to the inventory of lexical and grammatical forms is only the Ø present Tense affix and not a Ø copula. Therefore in Lees's framework, the predicate form in (51), below, will be derived as follows.

(51)

Underlying:	**Adj**	**Auxiliary**	**Tense (Present)**	**-1SG**
Lexical insertion	hasta	i	-Ø	-yIm
Aux deleted	hasta	Ø	-Ø	-yIm
VH, etc.	hastá			-yım
	'I am sick.'			

Note crucially here that it is not the auxiliary (copula) *i-/Ø* that selects the correct agreement affix on the predicate adjective. In fact agreement does not head the auxiliary, which is a verb. What exclusively selects the clitic agreement paradigm is the Ø present tense affix. Lees (1962, 1972) was very much concerned in maintaining the head complement relations in the inflectional complex.[28]

This analysis is problematic in one very important respect, and that is what to do with the extra tense in the finite verbal forms. This is initially noticed by Deny (1921:419), as he points out that the clitic paradigm is used with two functions: (a) as the present of the *i-* Auxiliary (his substantive verb) and (b) as personal agreement. In the first case, it indicates tense (present), mood (indicative) and person, as in (51a), below. In the latter case, it simply indicates the person on six tense forms, as in (51b).

(52) a. Hasta-y-ım.
sick-AUX-1SG
'I am sick.'
b. Sen gid-ecek-sin
you go-FUT-2SG
'You will go.'

What Deny is saying in effect is that we understand (52a), but not (52b), in the present tense. In other words, there is no present tense interpretation for (52b) in LF. Lees (1962) also notices this and notes that at some point in the derivation, the present tense in such forms as (52b) must neutralize.

I claim, following Deny (1921), that forms like (51) and (52a) *do* contain an underlying auxiliary and a Ø present Tense, but those like (52b) do not. On the plus side, this will save us the uneconomical strategy of introducing an auxiliary and tense in (52b) with no LF representation. Second note that (52b) upholds the basic principles of the inflectional complex. It contains the minimal requirement of Tense1 and agreement, to which Tense is complement. In (51) and (52a), above, the present Tense Ø is the complement to agreement.[29]

This analysis has one apparent drawback that needs to be discussed. Observe below.

(53) a. gid-ecek mi-Ø-Ø-sin
b. gid -ecek mi -sin
go -FUT Q AUX PRES -2SG
'Will you go?'

In (53a), which is Lees's representation of such forms, the agreement clitic *-sin* is directly hosted by the present tense affix Ø, as expected. In, (53b), which is the position I am adopting here, the agreement clitic is directly hosted by the question clitic *mI,* and not by a tense.

Given the obvious LF problems created by (53a), I believe we have to select (53b) as the representation of such forms. This will force us to accept the reality that not all agreement forms are directly hosted by tense affixes. The question that remains is: What selects the clitic agreement form *-sın* in (53b)? The answer is: It is the future tense affix *-ecek.* I will return to this, once I establish the relevant features of tenses and agreement affixes.

Two questions we need to address in this context are the following.

(54) a. How do native speakers know which agreement paradigm goes with which tense?
b. How is this knowledge formally represented?

These questions are implicitly addressed with vague references to participial and true tense distinction from Deny (1921) on, but formalism has never been attempted. In order to do this, I need to take an excursus on the types of tenses in Turkish.

3.1 Excursus on types of tenses

We have seen already that *ol-* may be predicated on a number of the so-called "participial tense" forms. In this section, I will consider few other expressions, such as, *değil* 'not', *gibi* 'like', *-yken* 'while', *-yE benziyor* 'look like…' that may take the participial tenses *-Iyor, -yEcEg, -Er/-Ir, -mIş* and *-mEktE,* just as they felicitously head predicate substantives and postpositions. First observe, below, that as predicted by many, the so-called "true tense" forms may not be headed by the expressions in question here.[30]

(55) a. *git-ti değil-im
go-PAST1 is.not-1SG
'It is not that I went.'
b. *git-se ol-du-m
go-SUBJ.COND become-PAST1-1SG
(No reading)
c. *bak-a gibi-sin
look-DAT like-2SG
(No reading)

d. *ye-di-y-ken
eat-PAST1-AUX-while
'While he ate.'
e. *git-ti-ye benzi-yor
go-PAST1-DAT resemble-CONT.3SG
'He looks like (he) went.'

As for the so-called "participial tenses", not all of them may felicitously appear with all such predicative forms. There are restrictions that need to be studied in depth. I am proceeding with the assumption, as more or less everyone else before me, that the infelicitous forms that arise are due to semantic (tense and aspect) incompatibilities. Therefore, the examples I am providing here mostly have illustrative value.[31]

In (56), below, *değil* is predicated on the participial tense forms.[32]

(56) Sen bar-a git-**me-z** **değil**-sin.
you bar-DAT go-NEG-AOR is.not-2SG
'It is not that you don't go to a bar.'

(57) a. Çok eğlen-**iyor** **gibi**-sin
a.lot fun.have-CONT like-2SG
'It's like you are having a lot of fun.'
b. Hiç çalış-ma-**mış** **gibi**-y-di.
none work-NEG-INF.PAST1 like-AUX-PAST2.3SG
'It was like he/she had not worked at all.'

The clitic form *-yken,* already discussed in Section 1.2, is an adverbial complementizer clitic that may take as complement the participial tense group.

One apparent problem is with the necessitative *-mElI,* which takes the clitic agreement but it does not allow any of the predicate expressions under consideration. Observe below.

(58) a. *Git-**meli** **ol**-acağ-ız
go-NECESS be-FUT-1PL
'We will have to go.'
b. *On-un-la konuş-**malı** **değil**-sin.
he-GEN-COM talk-NECESS not-2SG
'You need not talk to him.'

Possibly these predicative expressions require an indicative reading on their complements, and that *-mElI* is nonindicative in Modern standard Turkish; therefore, it is incompatible with such expressions. If this assumption is correct

then the restriction in question has to do with mood, that is semantics in the present framework.[33]

As observed by Deny (1921), the expression *-yE benziyor/benzer* is quite restricted. It may only be used with *-yEcEG* and *-mIş* productively and with *-Iyor,* in a rather limited fashion. Observe below.

(59) a. uyu-**yor-a** benzi-yor
sleep-CONT-DAT resemble-CONT.3SG
'He looks like he is sleeping.'
b. Dün gece çok iç-**miş-e** benze-r-sin
yesterday night a.lot drink-INF.PAST1-DAT resemble-AOR-2SG
'You look like you drank a lot last night.'
c. Az sonra yat-**acağ-a** benzi-yor-sun
a.little later go.to.bed-FUT-DAT resemble-CONT-2SG
'You look like you will go to bed a little later.'

Notice interestingly, that the tense forms in (59) are in the dative case. This is because the verb *benzemek* 'to resemble' takes dative complements.

(60) Sen baba-n-a benzi-yor-sun
you father-2SG-DAT resemble-CONT-2SG
'You look like your father.'

This is what is behind the distinction between participial tenses, in that they behave like substantives. But how this is going to translate into a descriptively adequate analysis has never been made clear. Additionally, consider below the participial tense forms that regularly appear on the embedded clause verb.

(61) a. [Ayşe'nin çok oku-**duğ**-u] bil-in-iyor.
Ayşe-GEN a.lot read-**PART**-3SG know-PASS-CONT.3SG
'It is known that Ayşe reads a lot.'
b. [Sen-in Amerika'ya gid-**eceğ**-in-i] söylü-yor-lar.
you-GEN America-DAT go-PART-2SG-ACC say-CONT-3PL
'They say that you will go to America.'
d. [Ben-im gel-**en**-im, gid-**en**-im] çok ol-ur.
I-GEN come-PART-1SG go-PART-1SG many be-AOR-3SG
'There are a lot of people who visit me.'
Literally: 'Very many are my comers and goers.'
e. Ben [on-un konuş-**ma**-sın-a] sinir ol-uyor-um.
I he-GEN talk-VN-3SG-DAT crazy.be-CONT-1SG
'I go crazy at his talking.'

In (61) we have the nonfinite substantive forms of the embedded verb followed by the possessive agreement paradigm which also marks possessive phrases. The possessive paradigm is the following.

(62)

benim	ev-**im**
senin	ev-**in**
onun	ev-**i**
bizim	ev-**imiz**
sizin	ev-**iniz**
onların	ev-**ler-i**

As is well known (62) is a different agreement paradigm than the other three we have seen.

Notice crucially that the participle forms with, *-DIG, -yEn* and *-yECEG* are actually tense forms. The first two are nonfuture and the last exclusively future. So given these facts, how are we going to distinguish formally between all of the tense forms in Turkish?

The answer to this question is quite straightforward. They can be classified in terms of the two features [±Finite] and [±Nominal].

(63) The head features of Tense affixes

	True Tenses *-DI, -sE*	**Participial Tenses** *-Iyor, -yEcEG,* **Ø present, etc.**	**Participles, VN** *-DIG, -yEn, -yEcEG -mE*
±Fi(nite)	+	+	−
±Nominal	−	+	+

Now the complement features of the different agreement paradigms are also distinguished along the same two parameters. Observe below.

(64) The complement features of the agreement paradigms

	Stressed paradigm	**Clitic paradigm**	**Possessive paradigm**
±Fi(nite)	+	+	−
±Nominal	−	+	+

With respect to ±Finite and ±Nominal features, tenses pattern exactly with the agreement paradigms.[34] So the selection of the correct agreement paradigm is quite straightforwardly handled in a checking theory of Chomsky (1995). As outlined above (section 2.5), all uninterpretable features must be checked and eliminated at LF. Therefore, in inflectional forms, if the [±Finite] and [±Nominal] features of the agreement and that of the tense match, then they are eliminated, and the form goes into LF with no uninterpretable features. If they do not check, then they are not eliminated and the derivation crashes at LF for carrying uninterpretable features. Observe some examples below.

(65) a. *git -tí- yim
CF: [+Fin, +N]
HF [+Fin, −N]
go -PAST1 1SG
'I went.'

b. *gel -ecek -ín
CF [+Fin, −N]
HF [+Fin, +N]
come -FUT 2SG
'You will come.'

c. *Sen-in gid -ecek -sin
CF: [+Fin, +N]
HF [−Fin, +N]
you-GEN go -FUT -2SG
'That you will go.'

d. Sen-in gid -eceğ -in
CF: [−Fin, +N]
HF: [−Fin, +N]
you-GEN go -FUT -2SG
'That you will go.'

Notice that this analysis requires that the Ø present Tense is specified as [+Fin, +N].

(66) hasta Ø Ø -sın
CF: [+Fin, +N]
HF: [+Fin, +N]
sick AUX present 2SG
'You are sick.'

As for the predicative forms on the tensed verbs, let us also assume that *değil, ol-*, *gibi, -yken* and *benze-* all carry the complement feature [+N]. This will insure that such predicative expressions will not crash at LF when they select the [+N]. This is somewhat more complicated but it can be worked out along the same lines.[35]

3.2 *mI* cliticization and the agreement paradigms

A well-known fact is that the yes/no question clitic interacts with the two agreement paradigms differently. Normally, it precedes the clitic agreement paradigm but follows the stressed paradigm. Observe below.

(67) With the clitic paradigm

a.	b.
Pres. Cont. 'Am I taking', etc.	Pres. Cont. 'Am I taking', etc.
al-ıyor **mu**-yum	*al-ıyor-um **mu**
al-ıyor **mu**-sun	*al-ıyor-sun **mu**
al-ıyor **mu**	*al-ıyor **mu**
al-ıyor **mu**-yuz	*al-ıyor-uz **mu**
al-ıyor **mu**-sunuz	*al-ıyor-sunuz **mu**
*al-ıyor **mu**-lar	al-ıyor-lar **mı**

Other Tense1+clitic agreement forms behave the same way.

(68) With the stressed paradigm

a.	b.
Simple past 'Did I go', etc.	Simple past 'Did I go', etc.
git-ti-m **mi**	*git-ti **mi**-m
git-ti-n **mi**	*git-ti **mi**-n
git-ti **mi**	*git-ti **mi**
git-ti-k **mi**	*git-ti **mi**-k
git-ti-niz **mi**	*git-ti **mi**-niz
git-ti-ler **mi**	*git-ti **mi**-ler

Other Tense1+stressed paradigm forms behave the same way.

The more general principle that regulates the position of the question clitic *mI* appears to be the following.

(69) In an inflectional complex, *mI* must immediately precede an auxiliary/copula if there is one. Otherwise *mI* appears at the end of the inflectional complex.

This now also predicts the following, with the stressed paradigm where *mI* is not final. Observe below.

(70)	a.	b.	c.
	'Had I gone', etc.	'Had I gone', etc.	'Had I gone', etc.
	git-ti **mi**-y-di-m	*git-ti-y-di-m **mi**	*git-ti-y-di **mi**-m
	git-ti **mi**-y-di-n	*git-ti-y-di-n **mi**	*git-ti-y-di-**mi**-n
	git-ti **mi**-y-di	*git-ti-y-di-Ø **mi**	git-ti-y-di **mi**
	git-ti **mi**-y-di-k	*git-ti-y-di-k **mi**	*git-ti-y-di **mi**-k
	git-ti **mi**-y-di-niz	*git-ti-y-di-niz **mi**	*git-ti-y-di **mi**-niz
	git-ti **mi**-y-di-ler	*git-ti-y-di-ler **mi**	*git-ti-y-di **mi**-ler
	git-ti-ler **mi**-y-di	*git-ti-ler-Ø-di **mi**	*git-ti-ler-Ø-di **mi**

Notice that in the ungrammatical forms (70b,c), *mI* does not immediately precede the auxiliary *-y-*, whereas in (70a) it does, although in this case the auxiliary is not the one that hosts the clitic agreement but the affix of the "true tense" paradigm.

Now in a theory that requires that participial tense forms are regularly followed by an additional auxiliary and the present tense, such as Lees (1961, 1962, 1963) and Kornfilt (1966), things get more complicated. Observe below in (71) that *mI* cannot appear to the immediate left of the clitic agreement forms, as was the case in (67), above.

(71)	b.	c.
	see-FUT Q-INF-Agr	see-FUT-INF Q-Agr
	'Do they say I will see', etc.	'Do they say I will see', etc.
	gör-ecek **mi**-y-miş-Ø-im	*gör-ecek-Ø-miş **mi**-Ø-yim
	gör-ecek **mi**-y-miş-Ø-sin	*gör-ecek-Ø-miş **mi**-Ø-sin
	gör-ecek **mi**-y-miş-Ø-Ø	*gör-ecek-Ø-miş **mi**-Ø-Ø
	gör-ecek **mi**-y-miş-Ø-iz	*gör-ecek-Ø-miş **mi**-Ø-yiz
	gör-ecek **mi**-y-miş-Ø-siniz	*gör-ecek-Ø-miş **mi**-Ø-siniz
	gör-ecek **mi**-y-miş-Ø-ler	*gör-ecek-Ø-miş **mi**-Ø-ler
	gör-ecek-ler **mi**-y-miş	*gör-ecek-ler-Ø-miş-**mi**

Therefore we need to revise (69), above, as (72), below.

(72) In the finite inflection complex, the question clitic *mI* must be directly headed by the first (lowest) auxiliary/copula. Otherwise *mI* heads the agreement.

Observe below how (72) predicts the forms in (73).

(73)	a.	b.
	'Do they say I should have gone', etc.	'Do they say I should have gone', etc.
	git-sé **mi**-y-miş-im	*git-sé-y-miş **mi**-Ø-yim
	git-sé **mi**-y-miş-sin	*git-sé-y-miş **mi**-Ø-sin
	git-sé **mi**-y-miş-Ø	*git-sé-y-miş **mi**-Ø-Ø
	git-sé **mi**-y-miş-iz	*git-sé-y-miş **mi**-Ø-yiz
	git-sé **mi**-y-miş-siniz	*git-sé-y-miş **mi**-Ø-siniz
	git-sé **mi**-y-miş-ler	*git-sé-y-miş **mi**-Ø-ler
	git-se lér **mi**-y-miş	*git-se-lér-Ø-miş **mi**-Ø

Again the forms in (73b) are ungrammatical although *mI* precedes the Ø-copula, a fact predicted by (72), above.

So the exclusive correlation between the Ø copula and the *mI* clitic is not correct. This fact is properly observed by Lees (1962, 1972) but not by some later work, among them Kornfilt (1996).

3.3 A clitic theory for Turkish

All analyses of the *mI*-cliticization inside the inflection complex have had to make various stipulations and refer to the clitics in one way or other.[36]

I will assume here a very simple clitic theory.

(74) a. Affixes and clitics are morphosyntactically distinguished.[37]
b. Affixes are exclusively hosted by their complements.
c. Clitics may be hosted by forms other than their complements.
d. Turkish inflectional clitics are the following,
The auxiliary *i-*
The agreement forms *-yIm, -sIn, -yIz, -sInIz.* (crucially not *-lEr*)
The question form *mI.*
e. *mI* may not be hosted by a clitic (base).
(Where *clitic base* is by definition, an affix that heads a clitic.)
f. The clitic agreement forms may not be hosts.
g. Agreement features have to check with the last/highest tense form.

The principles (74a–c) may well be part of UG. But for (74c) a language-specific identification of forms that may host clitics will be necessary. (74d–f), on the other hand, are fully language-specific. Notice also in (74d) that cliticity is not necessarily a paradigm feature, since the plural *-lEr* is excluded from the list; we will see the consequences of this shortly. (74e) uniquely distinguishes *mI.* What it insures in effect is that *mI* has to be the first clitic in the inflectional complex. (74f) uniquely distinguishes the agreement clitics as the highest head in the inflectional complex. In other words *mI* has to be the first and clitic agreement forms must be the last wherever they occur; surely a language-specific constraint on clitics.

The checking theory assumed above, with the complement and head features assigned to the elements of the inflectional complex, and the clitic theory presented in (74), above, exclusively constitute all of the formal well-formedness conditions on the inflected forms considered; as such, they replace the special condition stipulated in (69) and (72), above. Let us now see how this works.

Recall the two positions *-lEr* appeared in the third plural of the forms with Tense2 in (46), above, repeated below.

(75)

a.	b.	c.
gel-míş-ti-**ler**	gel-míş-se-**ler**	gel-sé-y-miş-**ler**
gel-miş-**lér**-di	gel-miş-**lér**-se	gel-se-**lér**-miş

This variation in the order of the clitic, the underlined forms in (75), and *-lEr* is not functional. In modern standard Turkish the lower form in each case is the standard, the upper ones are somewhat informal. Recall that *-lEr* is an affix, not a clitic; therefore it has to be hosted by its complement exclusively, as indicated in (74b). But in each case, there are two possible complements for *-lEr;* because *-lEr* belongs in both paradigms. In the lower forms, the clitics (which are underlined) are not hosted by their complements, something also sanctioned by (74c).

In the other persons, the variation in (75) above is not possible. Observe below.

(76)	a.	b.	c.
	'I had left.'	'If you indeed went.'	'It seems if we were to go.'
	git-míş-<u>ti</u>-**m**	git-míş-<u>se</u>-**n**	git-sé-<u>y-miş</u>-**iz**
	*git-miş-**im**-<u>di</u>	*git-miş-**sin**-<u>se</u>	*git-se-**k**-<u>miş</u>

In the ungrammatical forms in (76), (a,b) violate (74f), with the clitic agreement hosting *-di* and *-se*. If this form is taken as the stressed person affix then checking with *-miş* is violated. The ungrammatical form in (76c) violates (74f). Here the stressed person *-k* affix checks with *-se* but not with the highest Tense *-miş*.

Now let us look at another variation that involves other persons.

(77)	a.	b.
	'I had left', etc.	'I had left', etc.
	git-ti-y-di-m	git-ti-**m**-di
	git-ti-y-di-n	git-ti-**n**-di
	git-ti-y-di	git-ti-**Ø**-y-di
	git-ti-y-di-k	git-ti-**k**-di
	git-ti-y-di-niz	git-ti-**niz**-di

Notice here that nothing is violated in (74); crucially, the nonfinal stressed paradigm agreement affixes *do* check with the last/highest tense forms.

Next let us consider the variant order with the *mI* cliticization cases.

(78)	a.	b.	
(67)	al-ıyor-mu-yum	*al-ıyor-**um** mu	'Am I buying'

(68)	git-ti-m mi	*git-ti mi-**m**	'Did I go?'
(70)	git-ti mi-y-dim	*git-ti-**y-di-m** mi	'Had I gone?'
(71)	gör-ecek- mi-y-miş-im	*gör-ecek-**miş** mi-y-im	'Will I supposedly see?'
(73)	git-se mi-y-miş-im	*git-se-**y-miş** mi-yim	'Do they say I should have gone?'

In (78), above, except (68b), all ungrammatical forms violate (74e), where *mI* is hosted by a clitic, printed in bold. In (67b), additionally, (74f) is violated. This is because of the partial overlap between (74e) and (f). In (68b), on the other hand, the stressed affix is not hosted by its complement, a violation of (74b).

Finally, consider (81), below, which is different from the cases we have seen so far.

(79) *[[[[git] -**ti**] mi] -**yim**]
V TP QP AgrP

Here the problem is the mismatch between the Tense1-*ti* and the clitic agreement *-yim,* but the two are not adjacent, which is not a violation. This will be taken care of by feature checking, when the V *git* moves to Tense and then to Q, to become the complement of-*yIm.* Then the +N Tense feature of *-yIm* will not check with the [−N] feature of *ti,* hence the crash at LF.

4. Concluding remarks

In this study, I made the various claims with varying degrees of rigor. The first of these is that the basic structure of the inflectional complex in Turkish is not functional. Such functional concepts as tense, aspect and mood do not play a role in determining the basic formal structure of the inflectional complex. Tense forms have descriptive content, which may include functional concepts again with descriptive content, such as ±evidential, ±inferential, etc., but most probably purely functional concepts, such as tense, aspect and mood are not among these. What is needed is a set of semantic features that can make it possible to describe the semantic content of the tense forms, which will hopefully make it possible to make sharp comparisons between them. I also made the claim that the full semantics of the inflectional complex may be read off compositionally from the individual meanings of the tense affixes, in some

fashion yet to be sharpened. In a much underrated study, Erguvanlı-Taylan (1986), takes the position that there is a formal structure to finite inflection, and functional make-up may be read off from it. This also implies that the function is essentially delimited by formal structure. I am in full agreement with Erguvanlı-Taylan in the primacy of form, but it remains to be seen as to how much of the semantics and pragmatics of tense in Turkish rest on functional notions of tense, aspect and mood, as she maintains, and how much of it is straight contentive semantics. Against this position is Cinque (1999) with the claim that there is a set of universally determined functional heads that project independently of the morphosyntactic form, presumably at a different level of representation. Certainly Turkish with its rich morphosyntax and already available essential analyses provide an arena where various theoretical positions may be put to test, a much welcome enterprise.

More specifically, I defended the position that the Tense2 affixes are formally and semantically differentiated from the corresponding Tense1 forms and that the semantics of these forms may not be inferred in any sensible way from their complements or from their location respective to another tense. Also the elements of finite inflection are in a head-complement relation and their felicity is based on a checking theory within the Minimalist Program of Chomsky (1995). Finally, a clitic theory is proposed to account for the well-formedness condition of the situations that are not covered by the checking theory.

One relevant area left out of this study is the so-called suspended affixation, which in most part mimics the facts covered in our clitic theory, as quite substantial work by Orgun (1996) and Good and Yu (2000) illustrate.

Notes

1. Notice crucially here that the terms "inflection" and "derivation" do not coincide with lexical and syntactic derivation, respectively.

2. For example-*Iyor* is converbial *-I* joined with the, now obsolete, verbal root *yorı-* 'to advance, rally', etc.; the necessitative *-mElI* is transparently composed of the deverbal nominal *-mE* and the adjectival *-lI; -mEkte* is made up of the infinitive *-mEk* and the locative *-DE*. The future *-yEcEG* is also a candidate for a derivationally complex form containing the converbial *-yE* and the future *-cEG*. The form *-mEktE* is formal for *-Iyor,* and there are various grammatical limitations on it, which will not be discussed in this paper.

3. This is a peculiarity that persists in all of the Turkic languages. Different affixes may be used for different functions but there is always a specific set of affixes which correspond to Tense1 that has to appear in a fixed position inside the inflected verb.

4. See also Partee (1973) for a comparison of tense forms to pronouns.

5. The clear-cut distinction between substantive and functional categories is not unproblematic. The lexical category status of tense I am assuming here needs to be sharpened, something I will not be able to accomplish presently.

6. This is not to say, by any means that Turkish does not allow functional categories such as the negative (NegP), and possibly others, but that Tense is not a fully functional category. This position is also tacitly assumed in classical grammars, as well as by Lees and more recently in Groat (1992) and Tosun (1998). Against this hypothesis is Cinque (1999), where tense aspect and mood are indeed functional categories that obey certain universal conditions. I will briefly return to these issues briefly further below.

7. I will not consider the fine details of the distinction between witnessed and unwitnessed aspect in Turkish. See for this Aksu-Koç (1988) and Slobin and A. Koç (1982).

8. Turkish grammars usually identify this verb as *i-mek fiili* 'the verb *i-mek*', citing it in the infinitive form. This copulative base, however, never had an infinitive, showing clearly that it was defective all along, but it was also used with participial suffixes. One such relic form in Modern Turkish is,

i. ne **i -düğ** -ü belirsiz,
what is -PART -3SG unclear
'It's not clear what it is.'
'of unclear identity'

where the participial suffix *-DIG* is hosted by the auxiliary *i-*. In Ottoman grammars, the form was identified as *fiil-i cevherî* or *cevher fiil* 'substantive verb', which is what Deny (1921) calls it. Lees (1961, 1962) and (1972), among others, also explicitly identify this as a copulative form. I will return to the specifics of this issue later.

9. Still the best and most consistent phonology of modern Turkish is by Lees (1961), where an exhaustive phonology of Turkish is worked out.

10. Since both the independent forms and the clitic forms are prestressing, a special rule is usually assumed to mark the remaining vowel of the clitic forms after the initial *i-* has become *y*. But if we consider cliticity a morphological characteristic, which marks the first vowel of the clitic as prestressing, then there is no need for a special rule.

11. Tosun (1998) also assumes, correctly, I believe, that TP has a specifier, which hosts adverbs. Nothing hinges on this assumption in this study.

12. Some Turkic languages, Uzbek for one, have a Tense1 form, *-GEn*, which also combines with the auxiliary *e-*, the counterpart of *i-* in modern Uzbek, to form the Tense2 inferential marker, *e-gen.* Also the form *e-mes* 'is not' is historically construed with the auxiliary *e-* and the negative aorist *-mes.* See Aminova and Sezer (in preparation) for a treatment of modern Uzbek inflection.

13. Unlike the Tense2 forms, *-iken/-yken* may not follow the past *-DI,* the subjunctive conditional *-sE,* the optative/subjunctive *-yE,* and the necessitative *-mElI.* These Tense1 forms constitute a natural class. I discuss this issue in Section **2.5,** below.

14. These are properly observed by Yavaş (1980). The set includes verbs such as, *susa-mak* 'to get thirsty', *yorul-mak* 'to get tired'. Such verbs always indicate change of state; therefore,

these are best treated as some extension of the present perfect sense of *-DI*. Observe below that change-of-state cases are not compatible with durative adverbs, and stative forms are not compatible with adverbs that indicate change of state.

i. *Üç gün-dür acık-tı-m
three day-DUR get.hungry-PAST1-1SG
'I got hungry for three days now.'
ii. Birdenbire acık-tı-m.
suddenly get.hungry-PAST1-1SG
'Suddenly I got hungry.'
iii. Üç gün-dür çok aç-ım.
three day-DUR very hungry-1SG
'I have been hungry for three days now.'
iv. *Birdenbire aç-ım.
suddenly hungry-1SG
'Suddenly I am hungry.'

Vannebo (1979), as noted in Comrie (1985: 20), mentions similar verbs in Norwegian, that are used in the past with a present sense, although the specific example given in Norwegian does mean present in Turkish. See Sezer (1998) for a list of such verbs in Turkish.

15. The category of this *ol-* is not all that clear. There are reasons to believe that it does not function as an auxiliary but as a verb that takes complements with semantic (aspectual) restrictions. I will not discuss this issue here. See Lees (1962, 1972, 1973) and Kerslake (1998) for discussion of various aspects of the auxiliary in Turkish.

16. This statement is not really correct, as there are various semantic (mainly aspectual) restrictions on the Tense1 forms that may be hosted by *ol-*. I will not go into these issues in this paper, but see Yavaş (1982) and Erguvanlı-Taylan (1996) for some discussion.

17. Consider Deny (1921) and Elöve (1941: 465–469) for the basic meaning of such forms.

18. There are other meanings associated with this adverb, such as 'for once', 'give it a chance', etc. These sentences are ungrammatical with the intended preemptive reading of this adverb.

19. Actually, such an analysis may in the long run prove to be superior to the functional analyses based on concepts like tense, aspect and mood, as these approaches seem to yield dubious semantic results. Certainly a universal set of semantic features to characterize Tense has to be developed. What I am presenting here is nothing other than a heuristic.

20. Certainly there must be a way to distinguish formally between the present perfect *-DI* and the present perfect *-mIş*, an important issue I will ignore here.

21. I am employing the last category ±F, in the sense this feature is used by Radford (1997).

22. The third type, specifier feature that marks the properties of the specifier of a head plays no role in the present study.

23. Checking of the functional categories involve raising of the complement to the head position to collect the next affix. This will be relevant in cases where the question clitic *mI* intervenes between some Tense affixes and the agreement clitics. I will return to this issue in 3.2.

24. This leads Kornfilt (1996) to assume that *-DI, -sE* and *-mIş* are each single affixes, but that their meanings change with respect to the position they occupy in the inflectional complex. In the light of the observations made so far, it is not clear how such a system can be made to work formally or semantically.

25. This paradigm is called "short suffixes" by Lees (1962), and the "*k*-paradigm by Good and Yu (2000), because of the *-k* in 1PL.

26. This paradigm is also known with a variety of names. Deny (1921) calls it "enclitic", Lees (1962) calls it "long suffixes" or "copula-suffix paradigm", Good and Yu (2000) refer to it as "the *z*-paradigm" because of the *-z* in 1PL.

27. But Deny (1921) also indicates that *-Iyor,* which takes the clitic paradigm is actually not a participial. This is a somewhat complicated issue. Of the six tense affixes that are considered to be participial, only three, *-yEcEG, -Er-Ir* and *-mIş* can be used as premodifiers. I will return to the participial nature of these affixes in Section 3.1, below.

28. Kornfilt (1996), referring to the true-tense vs. participle-tense distinction, seeks a solution to the clitic agreement and some related issues by positing an underlying Ø copula in such forms. Kornfilt's (1996) acknowledgement of Lees (1961, 1962) as a "proposal similar to mine" and her claim to originality in the following words, "What is more markedly novel about the proposal I am making in this paper [Kornfilt (1996)] is that some of the simple finite verb forms (i.e. those illustrated in (2) [gid-ecéğ-im, git-míş-im, gid-ér-im, etc.]) are actually complex", [that is containing an underlying Ø copula] have no foundation in reality. Kornfilt (1996) also notes that Lees (1961, 1962) makes such claims "in passing", does not provide arguments, has the main goal of deriving all inflectional suffixes from single sources and gives rise to "[…] rules which are numerous and complicated". All this is based on a blatant misunderstanding of Lees (1961, 1962) on the part of Kornfilt (1996). Lees (1962:146) is fully conscious of the morphosyntactic objectives when he explicitly notes, that "since, as usual, the most general morphophonemic rules can be formulated only in terms of basic features of the syntactic organization of the sentence, we must provide at least a sketch of the types of syntactic patterns we presuppose sentences containing personal morphemes to have. Of course, no very strong case can be made for the details without delving very deeply into Turkish syntax […]". Finally, the numerousness of the rules in Lees (1961, 1962) is partly due to his commitment, as a nuts-and-bolts linguist, to explicitly accounting for all grammatical phenomena, great or small, as he never expected explanations to take care of themselves, but mostly due the *Syntactic Structures* model he worked in, where all of syntax, morphology and phonology were done in a single computational component. The complicatedness on the other hand is only apparent, due to his constant desire to collapse partially similar rules in a hard-to-read notation, something that usually confuses the uninitiated. Based on these observations, and specifically concerning the positing of an underlying copula in specific inflectional forms, there is no *novelty* or special merit in Kornfilt (1996) in comparison to Lees (1961, 1962).

29. Kornfilt (1966) motivates a copula for (51) to account for the clitic. In this theory the auxiliary is the clitic and the agreement is an affix. This has the same problem of economy as Lees's solution. Also as observed by Erdal (2000) the clitic paradigm itself is clitic. It is a well-

known fact that these are the cliticized forms of the personal pronouns on the Tense2 verbs and predicate substantives. See Adamović (1985) for extensive discussion of these forms.

30. Most systematic treatment of these forms is in Deny (1921). References also abound in later literature.

31. As duly observed by Erguvanlı-Taylan (1986:164) that forms such as (55a) are quite felicitous in the negative.

i. Erol'u sev-me-di değil-im.
Erol-ACC love-NEG not-1SG
'It's not that I didn't love Erol.'

Certainly there are semantic issues that override the distinction being made here, weakening the distinction between true and participial tenses, an issue that requires serious consideration.

32. The most substantial study known to me to date is Erguvanlı-Taylan (1986). It shown there that there are important semantic factors that affects these cases. I will not consider these important issues here.

33. The necessitative *-mElI* did not historically function this way. In Old Anatolian Turkish and in some modern Turkish dialects, *-mElI* does allow the participial tensed forms as complement. Observe below.

i. ben-i uldur-meli dugh-**meli** deghil
I-ACC kill-NECES beat up-NECES not-3SG
'They should kill me, not beat me up.' Adamović (1985:305)

Aksoy (1945–46) notes that in the southeastern Anatolian dialect of Gaziantep of Modern Turkish, *-mElI* can still be a complement to değil.

ii. gel-**meli** değil-im
come-NECES not-1SG
'I don't have to come.'

34. Notice that in both cases, [−Finite, −Nominal] category is empty. This means that in Turkish, if a tense or agreement paradigm is nonfinite, it must be nominal, which may well be a principle of universal grammar. Also in this context a short clarification is in order on the concept of finiteness of George and Kornfilt (1981), henceforth GK, and how it is different from the one conceived here. According to GK, finiteness in Turkish is associated with agreement, and by definition, any phrase that has agreement is finite. Finite phrases are then divided into gerunds and direct complements — the former covers the infinitive clause, and the latter covers the nonsubstantival phrases. Notice crucially that according to GK, nominal clauses/phrases with agreement are finite. Finally GK's finiteness does not distinguish between the participial and true tenses, nor of course, is it intended to.

35. Consider, however, footnote 31.

36. These issues have been addressed by Groat (1992), Orgun (1996), Good and Yu (2000). I will not discuss these analyses here but they deserve serious attention for their empirical and theoretical consequences. Particularly in the case of Groat (1992), it is important to see the

additional assumptions to incorporate these in a theory, which is compatible with the Minimalist Program.

37. Notice that this does not say anything about phonological distinction. In phonology clitics are distinguished as prestressing but behave like affixes in undergoing vowel harmony.

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A note on mood, modality, tense and aspect affixes in Turkish*

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The limited goal of this contribution is to analyse the order of the mood, modality, tense and aspect, verbal suffixes of Turkish in the light of my (1999) proposal on the functional structure of the clause. My hope is that the exercise, besides explaining away certain apparent counterexamples to a rigid hierarchy of functional projections, may shed a partly new light on this area of the grammar of Turkish.

In Cinque (1999), I examined the relative order of free (particles) and bound (suffixes) grammatical morphemes corresponding to mood, modality, tense, aspect and voice distinctions in the languages of the world. The recurrent picture that one finds in this domain is that they not only are rigidly ordered with respect to each other (as partly anticipated in such works as Bybee 1985; Foley and Van Valin 1984; and Dik 1989), but that each of the mood, modality, tense, aspect, and voice categories is made up, at a finer level, of a number of distinct heads, which also appear to be rigidly ordered.

The striking match between the order of these grammatical heads and the order of the corresponding adverbs was further taken there to suggest a rich and articulated functional structure above the lexical VP of the clause, where each adverb class corresponds to a mood, modality, tense, aspect or voice head in a one-to-one fashion (as does the specifier to a head in a classical X-bar structure — Chomsky 1970; Kayne 1994).

The order of such X-bar projections is approximately that shown in (1):[1]

(1) $\text{MoodP}_{\text{speech act}} > \text{MoodP}_{\text{evaluative}} > \text{MoodP}_{\text{evidential}} > \text{ModP}_{\text{epistemic}} > \text{TP}_{\text{Past}} > \text{TP}_{\text{future}} > \text{MoodP}_{\text{irrealis}} > \text{TP}_{\text{anterior}} > \text{ModP}_{\text{alethic}} > \text{AspP}_{\text{habitual}} > \text{AspP}_{\text{repetitive(I)}} > \text{AspP}_{\text{frequentative(I)}} > \text{ModP}_{\text{volition}} > \text{AspP}_{\text{celerative(I)}} > \text{AspP}_{\text{terminative}} > \text{AspP}_{\text{continuative}} > \text{AspP}_{\text{perfect}} > \text{AspP}_{\text{retrospective}} >$

$AspP_{proximative} > AspP_{durative} > AspP_{progressive} > AspP_{prospective} >$
$AspP_{inceptive(I)} > ModP_{obligation} > ModP_{ability} > AspP_{frustrative/success} >$
$ModP_{permission} > AspP_{conative} > AspP_{completive(I)} > VoiceP >$
$AspP_{repetitive(II)} > AspP_{frequentative(II)} > AspP_{celerative(II)} > AspP_{inceptive(II)} >$
$AspP_{completive(II)} > V$

Turkish is particularly interesting from this perspective in that it would seem to provide a number of striking counterexamples to the claim that functional heads (and their corresponding morphemes) are rigidly ordered with respect to each other. So, for example, the modal suffix *-(y)Abil-* appears at first sight to be freely ordered with respect to the negative morpheme *-mA*. Cf. (2):[2]

(2) a. oku-ya-ma-m (Kornfilt 1997:375)
read-ABIL-NEG-1SG
'I am unable to/not permitted to read.'
b. oku-ma-yabil-ir-im (Kornfilt 1997:375)
read-NEG-ABIL-AOR-1SG
'I might not read; it is possible that I do not read.'

At a closer look, however, the modal suffix in (2a) and (2b) differ not only in scope with respect to negation, but also in meaning. When it is to the left of the negative morpheme, *-(y)Abil-* is interpreted as a 'root' modal, with the meaning of "ability" or "permission". When it is to the right, it is instead interpreted as an alethic modal, referring to "possibility". This suggests that the same suffix can occur in two different functional heads, one higher than the (*-mA*) negation, corresponding to the $ModP_{alethic}$ of (1), and one lower, corresponding to either the $ModP_{ability}$ or $ModP_{permission}$ of (1).

This is confirmed by the fact, noted in Kornfilt (1997:375), that the two *-(y)Abil-* suffixes can occur simultaneously, separated by the suffix *-mA*:[3]

(3) Oku-ya-ma-yabil-ir-im
read-ABIL-NEG-ABIL-AOR-1SG
'I might be unable to read.'; 'It is possible that I shall be unable to read.'

So far, then, Turkish gives evidence for the order of functional heads shown in (4):

(4) $Mod_{Alethic} > Neg > Mod_{Ability} (> V)$

The possibility for a morpheme to fill two different slots (functional heads), with partly different meanings (here *-(y)Abil-*, with the meaning of POSSIBILITY and ABILITY/PERMISSION, respectively), is not unprecedented (see Cinque 1998 for other cases with suffixes, and adverbs).

Before seeing other such cases in Turkish itself, let us procede and try to establish the relative ordering of a number of other suffixes in this language. Granting the essential correctness of Baker's (1985, 1988) Mirror Principle, I will assume that an outer suffix corresponds to a functional head higher than that corresponding to an inner suffix, disregarding the insertion of auxiliary verbs to bear (outer) suffixes that for morphological reasons cannot stack onto some inner suffixes, as is the case with POSSIBILITY *-(y)Abil-* and PERFECT *-miş* in (5):[4]

(5) Mary John-un evlen-miş ol-abil-eceğ -in -i söyl-üyor
M. J.-GEN get married -PERF be-may/can -FUT -POSS-ACC say-PROG
'Mary says that John may have gotten married (by now).'
(Yavaş 1980: 77)

Here, *-(y)Abil-* cannot be stacked onto *-mIş*, for reasons that remain to be understood; hence the insertion of the auxiliary to support the outer suffix which otherwise would remain stranded. Ignoring the complication introduced by the insertion of auxiliaries, (5) provides evidence for the order V-(PERFECT)-POSSIBILITY-FUTURE, which in turn suggests that FUTURE tense is higher than ALETHIC modality (which is higher than PERFECT aspect).[5] Adding this relative order to (4), we get the order in (6) (I return below to the position of PERFECT aspect):

(6) Fut > $\text{Mod}_{\text{Alethic}}$ > Neg > $\text{Mod}_{\text{Ability}}$ (> V)

Like the *-mA-* negation suffix, also the PROGRESSIVE aspect suffix *-(I)yor-*, appears to intervene between POSSIBILITY *-(y)Abil-* and ABILITY/PERMISSION *-(y)Abil-*, for it follows ABILITY/PERMISSION *-(y)Abil-* (cf. (7a)), but it precedes POSSIBILITY *-(y)Abil-* (cf. (7b)), and is found between the two, when these cooccur (cf. (7c)):

(7) a. Oku-yabil-iyor-um (Kornfilt 1997: 374)
read-ABIL-PROG-1SG
'I am being able to read.'
b. Oku-yor ol-abil-ir (Kornfilt, personal communication)
read-PROG be-ABIL-AOR
'He might be reading.'
c. Oku-yabil-iyor ol-abil-ir (Kornfilt, personal communication)
read-ABIL-PROG be-ABIL-AOR
'He might be being able to read.'

As shown by (8), *-(I)yor-* follows the *-mA-* negation suffix (which, by the Mirror Principle, indicates that it is located in a head higher than the negative head):

(8) Koş-mu-yor (van Schaaik 1994: 40)
run-NEG-PROG
'He isn't running.'

The relative orders of Turkish suffixes seen so far are thus evidence for the order of heads shown in (9):

(9) Fut > $\text{Mod}_{\text{Alethic}}$ > $\text{Asp}_{\text{Progressive}}$ > Neg > $\text{Mod}_{\text{Ability}}$ (> V)

Similarly, the PERFECT aspect suffix *-mIş* appears to be outside ABILITY/PERMISSION *-(y)Abil-* (10a) and inside POSSIBILITY *-(y)Abil-* (10b), and is found to separate them when they cooccur (10c):

(10) a. Oku-yabil-miş ol-ur (Kornfilt, personal communication)
read-ABIL-PERF be-AOR
'He has been able to read.'
b. Oku-muş ol-abil-ir (Kornfilt, personal communication)
read-PERF be-ABIL-AOR
'He might have read.'
c. Oku-yabil-miş ol-abil-ir (Kornfilt, personal communication)
read-ABIL-PERF be-ABIL-AOR
'He might have been able to read.'

The PERFECT aspect suffix *-mIş*, like the PROGRESSIVE aspect suffix *-(I)yor-*, occurs outside the negative suffix *-mA-*. See (11):

(11) Türk-leş-tir-il-me-miş-ler-den-siniz (van Schaaik 1994: 39)
turk-become-CAUS-PASS-NEG-PERF-pl-abl-2PL
'You are of those who didn't have themselves been turkified.'

It thus seems to fall, like *-(I)yor-*, between the modal of alethic possibility and negation:

(12) Fut > $\text{Mod}_{\text{Alethic}}$ > $\text{Asp}_{\text{Progressive}}$ > Neg > $\text{Mod}_{\text{Ability}}$ (> V)
$\text{Asp}_{\text{Perfect}}$

We can ask what the relative order is between PERFECT aspect and PROGRESSIVE aspect. Quite generally, PERFECT aspect appears to be higher than PROGRESSSIVE aspect. This is shown directly by English ((13a)) and Temne ((13b)), among other languages, and (in the reverse order) by the serialization of the corresponding suffixes in Imbabura Quechua ((13c)):

(13) a. John has been winning (English)
J. PRES PERF PROG
b. i tè po yirè ke-ko (Temne — cf. Cinque 1999: 193)
I FUT PERF PROG go
'I will have been going.'
c. shamu-ju-shka-ni (Imbabura Quechua — cf. Cinque 1999: 163)
come-PROG-PERF-1SG
'I have been coming.'

Turkish in this respect appears problematic. For one thing, the location of PERFECT aspect *-miş* after PROGRESSIVE aspect *-(I)yor* is given as rather marginal by Yavaş (1980: 63) (see (14a)); secondly, the opposite order between the two is judged as perfectly acceptable by Kornfilt (1997: 363) (see (14b)):

(14) a. ??John dün çalış-ıyor ol-muş ol-malı
J. yesterday work-PROG be-PERF be-must
'J. must have been working yesterday.' (Yavaş 1980: 63)
b. Hasan böylelikle yarış-ı kazan-mış ol-uyor-du
H. thus competition-ACC win-PERF be-PROG-PAST
'Hasan was thus being the winner of the competition.'
(Kornfilt 1997: 363)

Whatever the reasons for the marginality of (14a), it appears that the order V-*mIş* Aux-*(I)yor* of (14b) receives an interpretation which is rather different from the one expected. Kornfilt (1997: 363) glosses (14b) as "…was being the winner", rather than "…was having won…", with what looks like a resulting state reading.

I would like to propose that *-mIş* is actually ambiguous between a (marginal) PERFECT aspect interpretation, when it is located higher than PROGRESSIVE aspect (as in (14a)), and a pure RESULTATIVE aspect interpretation, which is lower than PROGRESSIVE aspect (in fact one of the lowest heads, perhaps). In (15), a sentence given by Kornfilt (1997: 363), the two (PERFECT-*mIş* and RESULTATIVE *-mIş*) are found to (marginally) cooccur:[6]

(15) ??Hasan böylelikle yarış-ı kazan-mış ol-muş-tu
H. thus competition-ACC win-RES(?) be-PERF-PAST
'H. had thus become the winner of the competition.' (Kornfilt 1997: 363)

If correct, then, the order of heads displayed by Turkish so far is:

(16) $\text{Fut} > \text{Mod}_{\text{Alethic}} > \text{Asp}_{\text{Perfect}} > \text{Asp}_{\text{Progressive}} > \text{Neg} > \text{Mod}_{\text{Ability}} (> \text{V})$[7]
$\text{Asp}_{\text{Resultative}}$

-Miş has another well-known interpretation in Turkish; that of a reportive PAST:[8]

(17) a. Hasan dün opera-ya git-miş
H. yesterday opera-DAT go-REP.PAST
'H. reportedly went to the opera yesterday.'

There is some evidence that under this interpretation it occupies a functional head which is higher than that occupied when it has the PERFECT (and, a fortiori, the RESULTATIVE) aspect interpretation.
In its 'reportive (PAST) tense' interpretation it follows the FUTURE tense suffix ((18a));[9] in its PERFECT aspect interpretation, it precedes it ((18b)):

(18) a. John Türkiye-ye gid-ecek-miş
J. T.-DAT go-FUT-REP
'Reportedly, John will go to Turkey.' (Yavaş 1980:41) (reported)
b. John hafta-ya tez-in-i bitir-miş ol-acak
J. week-DAT thesis-POSS-ACC finish-PERF be-FUT
'J. will have finished his thesis (by) next week (*Apparently/reportedly J. will finish…') (Yavaş 1980:74)

More generally, as Kornfilt (1997) notes, when "*-mIş* for the reported past is the first suffix in a morphological sequence including the conditional form [and other tense markers (p. 546, fn 59)], its function is that of perfective aspect rather than that of a tense marker" (p. 344). Each usage, then, is apparently possible only relatively to a specific position in the sequence of suffixes. A case in point is (19), from Yavaş (1980:62):

(19) John çalış-mış-tı
J. work-PERF-PAST
'J. had worked (*Apparently/reportedly J. worked)'

In sum, *-mIş* can either encode resultative aspect, perfect aspect, or reportive/inferential/evaluative PAST. For the latter usage, it is tempting to propose that *-mIş* is generated in T_{Past} and then raised to either $Mod_{Epistemic}$ (inferential), or $Mood_{Evidential}$ (reportive), or $Mood_{Evaluative}$ (surprise/unexpectedness). If so, Turkish would give evidence for the higher functional heads of (1) shown in (20), which combined with (16) gives (21):

(20) …$Mood_{Evaluative}$ > $Mood_{Evidential}$ > $Mod_{Epistemic}$ > T_{Past} …

(21) $Mood_{Evaluative}$ > $Mood_{Evidential}$ > $Mod_{Epistemic}$ > T_{Past} > T_{Future} > $Mod_{Alethic}$ > $Asp_{Perfect}$ > $Asp_{Progressive}$ > Neg > $Mod_{Ability}$/$Asp_{Resultative}$ (> V)

To recapitulate, both the *-(y)AbIl* and the *-mIş* suffixes can apparently occupy, even simultaneously, different slots (heads), each corresponding to a distinct function:[10]

(22) Oku-yabil-miş ol-abil-ir
read-ABIL-PERF be-POSSIB-AOR
'He might have been able to read.' (Kornfilt, personal communication)

(23) Rejim yap-mış-mış
diet make-PERF-REP.PAST
'Reportedly, he dieted.' (Yavaş 1980: 68)

(24) ??Hasan böylelikle yarış-ı kazan-mış ol-muş-tu
H. thus competition-ACC win-RESULT(?) be-PERF-PAST
'H. had thus become the winner of the competition.' (Kornfilt 1997: 363)

Other suffixes of Turkish appear to occupy different positions, depending on the function they perform.

One of these is the (non reportive) PAST suffix *-DI,* which in addition to this usage apparently has (pace Yavaş 1980: Ch. 2) a usage as an Anterior Tense marker (Aksu-Koç 1988: 20; Kornfilt 1997: 349).[11] The two can, in fact, cooccur, yielding the pluperfect interpretation:[12]

(25) a. Hasan dün saat beş-te ödev-in-i
H. yesterday o'clock five-LOC assignment-3SG-ACC
bit-ir-di-y-di
finish-CAUS-ANT-*y*-PAST
'H. had finished his assignment yesterday at five o'clock.'
(Kornfilt 1998)

Some indications exist that *-(y)AcAK* too may be ambiguous between two functions: a pure Future Tense interpretation ("will") and a Prospective Aspect interpretation ("be about to/almost"), with, as a consequence, a different location in the hierarchy of (1). Indications to this effect may be I) the double translations that are often assigned to the morpheme (cf. (26)); II) the unequivocal Prospective Aspect rendering of *-(y)AcAK* when it is used as a participle not allowing stacking of *-DI* (cf. (27b)), vs. the Future Tense reading when it allows stacking of *-DI* ((27a)); and III) the sequences "ecek ol-muş-tu" and "ecek ol-uyor" found by Gerjan van Schaaik in his corpus (and pointed out by him in his talk — van Schaaik 1999).[13]

(26) Yarın yağmur yağ-acak
tomorrow rain fall-FUT or PROSP
'Tomorrow it will/is going to rain.' (cf. Yavaş 1980: 89)

(27) a. Dün gel-ecek-ti
yesterday come-FUT-PAST
'He was going to come yesterday.' (Yavaş 1980: 23)
b. Hasan kapı-yı aç-acak ol-du
H. door-ACC open-FUT-PROSP be/become-PAST
'Hasan was about to open/almost opened the door.'
(Kornfilt 1997: 341)

Similarly (if not more clearly), the suffix *-(y)-sA* appears to be ambiguous between two functions: one as a conditional complementizer, and one as an irrealis marker. An indication that, depending on interpretation, it fills different positions in the hierarchy of (1) is given by the order of *-(y)-sA* with respect to other suffixes whose position can be determined unambiguously. So, for example, Conditional *-(y)-sA* follows the Reportive PAST suffix (cf. (28)), which follows, among others, the Aspect suffixes and the absolute Future Tense suffix. This suggests that the corresponding functional head is higher than at least T_{Past}:

(28) oku-yor-muş-sa-m
read-PROG-REP.PAST-COND-1SG
'If I am/was said to be reading' (Kornfilt 1997: 367)

When, on the other hand, *-(y)-sA* precedes T_{Past} (as in (29)), its interpretation is that of a counterfactual conditional, or a wish referring to the past (cf. Kornfilt 1997: 368), which leads me to conjecture that it occupies the lower $Mood_{Irrealis}$ head:[14]

(29) a. Oku-sa-y-mış
read-COND-cop-REP.PAST
'They say that if he were to read.' or 'They say "If only he would read!"' (Kornfilt 1997: 368)
b. Oku-sa-y-dı-n
read-COND-y-PAST-2SG
'Had you read/if only you had read!' (Kornfilt 1997: 368)

Another suffix that appears to have various (related) usages is *-mAlI,* which ranges from a meaning of obligation ((30a)), to a meaning of alethic necessity ((30b)), to an epistemic meaning ((30c)):[15]

(30) a. Oku-malı-yım
read-OBLIG-1SG
'I have to read.'
b. John hafta-ya evlen-miş ol-malı
J. week-DAT marry-PERF be-NECESS
'John must have gotten married (by) next week.' (Yavaş 1980: 76)
c. Hasan orada ol-malı
H. there be-EPISTEM
'Hasan must be there.' (Kornfilt 1997: 376)

What remains to be seen is whether it occupies one or more positions, depending on interpretation. The position of the suffix in its alethic reading of necessity appears to fall in between $\text{Mood}_{\text{irrealis}}$ and $\text{Asp}_{\text{perfect}}$ as expected from (1). See the contrast between (31a) and (b):[16]

(31) a. ?Git-miş ol-malı ol-sa-ydı
go-PERF be-NECESS be-IRR-PAST
'Had s/he have to have gone.' (Kornfilt, personal communication)
b. *Git-miş ol-sa ol-malı-ydı (Kornfilt, personal communication)

If the above interpretation of the facts is correct, there may be no real reason to conclude from the apparent variable ordering of certain suffixes in Turkish that "the order among inflectional suffixes is slightly flexible [while] grammatical function changing affixes are rigidly fixed " (in the partial order: V-RECIPOCAL-CAUSATIVE-PASSIVE)(Göksel 1993: 18). Functional heads are rigidly fixed, though one and the same morpheme, by filling different heads (with concomitantly different functions), may give the impression of changing places.

Notes

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1. Although no language (with the possible partial exception of Eskimo-Aleut languages) displays the entire array of functional heads, languages do display the entire array of functional specifiers (AdverbPhrases), thus pointing to the universality of such structure.

2. The *bil* part of the suffix deletes in front of negation. Cf. Kornfilt (1997:374f) for discussion.

3. This order is interestingly matched (in the expected mirror image form) by the order of alethic possibility modals and root (ability/permission) modals in such double modal varieties as Hawick Scots:

i. He'll might could do it (Brown 1992:75)
FUT POSSIB ABIL V

In both cases, the ability (/permission) modal head appears to be closer to the verb (stem) than the possibility.

4. See Kornfilt (1996) for arguments that, even in the case of certain suffixes apparently stacked onto another suffix, there is an overt, *-y-*, or abstract, -0-, copula, separating them and supporting the outer suffix.

5. Note that the order FUTURE > ALETHIC POSSIBILITY is also overtly displayed in the Hawick Scots example (i) in Fn 3.

6. The marginality of (15) is perhaps related to that of (14a). Yavaş and Kornfilt appear to give to these sentences the same grammaticality judgment (?? rather than *).

7. The fact that the progressive form of a resulting state is possible in Turkish but not in English is perhaps to be related to the fact that in Turkish the *-(I)yor* form is possible with stative verbs as well (cf. (i)); a fact which may indicate that it is more likely a CONTINUOUS aspect rather than a PROGRESSIVE aspect suffix, as Kornfilt (1997:357) conjectures.

i. Hasan fazla çabuk konuş-tuğ-un-u bil-iyor-du
H. too fast talk-FNOM-3SG-ACC know-PROG-PAST
'H. knew that he was speaking too fast.' (Kornfilt 1997:357)

8. As in other languages, the same form can be used to denote the inferential character of the assertion, or surprise/unexpectedness (its 'admirative', i.e. evaluative, usage). See (i):

i. a. John bugün çalış-ıyor-muş
J. today work-PROG-INFER
'Apparently, John is working today.' (Yavaş 1980:44) (inferential, or reportive)
b. Ne de çok elbise-m var-mış!
what also a lot dress-my exist-UNEXP
'How many dresses I have!' (Yavaş 1980:47) (surprise)

9. The future in the past (or "conditional") form is also used in Italian to convey a report:

i. Gianni sarebbe morto ieri
G. would have died (future in the past) yesterday
'They say that G. died yesterday.'

10. From (23) and (24), one should expect the marginal possibility of something like (i), where the three *-mIş* occur simultaneously. Jaklin Kornfilt (personal communication) tells me that for her (i) is indeed possible with the same grammaticality status as (24):

i. ??Hasan böylelikle yarış-ı kazan-mış ol-muş-muş
H. thus competition-ACC win-RES(?) be-PERF-REP.PAST
'H. had reportedly thus become the winner of the competition.'

11. "Examples like [*Hasan balığı ye-di* 'H. ate the fish/has eaten the fish'] are systematically ambiguous between a simple past reading (the first translation) and a present perfect reading (the second translation)" (Kornfilt 1997: 349, who also refers in this connection to Lewis 1975: 127 and Johanson 1971: 67).

12. The 'distant past' interpretation which can be imposed to *-DI* + *-DI* sequences, as in (i) (Yavaş 1980: 16) is not incompatible with taking *-DI* to be both a Past Tense and an Anterior Tense morpheme. The Italian Pluperfect has a similar occasional 'distant past' interpretation (*Avevo pensato ti facesse piacere* 'I thought it would please you'). Other cases where the same morpheme expresses both Past Tense and Anterior Tense are found in Korean (Cinque 1999: 53), and in Sranan and Haitian Creole (Cinque 1999: 61ff). Cf.also English *-ed*.

i. Bir zaman-lar John ile tanış-tı-y-dı-m
one time-PL J. with meet-*DI*-COP-*DI*-1SG
'I once met John.'

13. In "ecek ol-muş-tu" and "ecek ol-uyor", *-(y)AcAK* appears lower than PERFECT aspect and PROGRESSIVE aspect, respectively. These are positions inaccessible to a pure (or absolute) FUTURE Tense. The second (of which he found 4 examples) is particularly telling as Cinque (1999: 75) documents the order PROGRESSIVE aspect > PROSPECTIVE aspect (and their adjacency) in many languages. Also see Cinque (1999: 209n63) for languages in which the FUTURE Tense morpheme is identical to the PROSPECTIVE aspect morpheme. It could turn out, judging from II) and III) in the text, that participial *-(y)AcAK*, which does not allow stacking of other suffixes, is the form specialized for Prospective Aspect.

14. Alternating with *-(y)-sA* in the position preceding T_{Past} is the optative suffix *-(y)A*, another Irrealis suffix:

i. Oku-ya-y-dı-m
read-OPT-Y-PAST-1SG
'Would that I had read.' (Kornfilt 1997: 372)

As Kornfilt notes (p. 372), (i) can be used also in place of (29b), and with the same interpretation as (29b). Eser Erguvanlı-Taylan (personal communication) informs me that the structuralist tradition also recognized two separate uses of *-(y)-sA*. *-sA*, for what I called "Irrealis", and *-(y)-sA*, for what I called "Conditional".

15. In (30b), it can also have an epistemic interpretation.

16. The "aorist" suffix *-(A)r,* which expresses the generic (and habitual) present, was not discussed here, as it is unclear to me which head, it can fill. From (ia–b), it would seem it can occupy a head between T_{Past} and $Mod_{Alethic}$ of Possibility (but it could be that it can occupy more than one):

i. a. Hasan piyano çal-ar-dı
H. piano play-AOR-PAST
'Hasan used to play the piano.'
b. John evlen-miş ol-abil-ir
J. get married-PERF be-POSSIB-AOR
'John may have gotten married (by now).' (Yavaş 1980: 76)

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Periphrastic tense/aspect/mood

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Introduction

In this paper I will address the question as to how the expression of tense and aspect in certain periphrastic constructions as described in Mixajlov's classification (1961, 1962, 1965) relate to the theoretical approaches of tense and aspect systems as advanced by Johanson (1994) and Dik (1997).

Mixajlov (1964:7) defines so-called periphrastic constructions as a number of analytical means to express the course (progress), tense, and/or modality of an action as denoted by some verb. As he states in his introduction, "…эти формы выражают, во-первых, начало, длительность, завершение, результативность действия; во-вторых, выполняют функцию уточнения настоящего, прошедшего и будущего времени; во-третих, выражают различные модальности", that is, "these forms express first of all the beginning, duration, termination, and the result of some action; secondly, they fulfil the function of indicating the present, past, and the future tense; thirdly, they express several modalities".

As a matter of fact, these descriptions reflect the order in which periphrastic constructions are treated in his book. In this way, there seems to be a stark parallelism with the Aktionsart-system, as we find in, for instance, Russian. Furthermore, Mixajlov claims that Turkish has an extremely rich system of periphrastic constructions. This is indisputably true, but due to the more or less limited character of the present paper, we will deal with three types of constructions only. The ones that will presently be taken into account are to some extent comparable with those constructions as discussed in Van Schaaik (1996), which, in turn, can all be analysed as term-based expressions. Hence, the types of construction to be presented here are morphologically based on combinations

of (1) *-yor* and *ol*; (2) *-EcEk* and *ol*; (3) *-Er/-mEz* and *ol*. However, the way in which these periphrastic constructions will be analysed is not intended to be an exhaustive overview of Tense/Aspect and Mood systems, but rather, this paper will only provide a sketchy outline of possible approaches to a more detailed in-depth analysis.

In this paper it will be shown that the forms referred to by 1) above are all either tense or mood, whereas those listed under 2) and 3) express aspect only, due to the combined application of a tense marker to a (variable) verb root and the tense marker *-DI* to the auxiliary *ol*.

The paper is organised as follows. Section 1 gives an overview of the constructions involved; Section 2 provides some theoretical background with respect to tense, Section 3 deals with aspect, and Section 4 with mood. Section 5 goes into the question as to how the expression of tense, aspect and mood relates to the multilevel hierarchy, as advanced in Functional Grammar (henceforth: FG) (cf. Dik 1997; Hengeveld 1988). In the Sections 6–9 constructions based on the combinations *-yor ol*, *-EcEk ol* and *-Er/-mEz ol* will be analysed in detail, and Section 9 deals with the conclusions.

1. Periphrastic constructions

As a working definition we might say that a periphrastic construction is a part of a clause that contains a verb marked for tense (or for aspect, too), followed by *ol* to which a marker for Tense/Aspect/Mood has been attached. Typically, some periphrastic constructions of Turkish express either tense, aspect or mood, other forms however express combinations such as tense/aspect or tense/mood. In this paper the following main construction types will be discussed: tensed forms (1); aspectual forms (2)–(5); modal forms (6)–(9):

(1) […] *uzun süren bir yalnızlığ-ı* ***bekli-yor*** ***ol-acak-lar***
long lasting a loneliness-ACC await-PRES2 *ol*-FUT-AGR3PL
'[…] they will be awaiting a long lasting loneliness.'

(2) […] *bank-lar-da, bazen, bir iki kişi* ***otur-uyor ol-ur-du***
bench-PL-LOC sometimes one two person sit-PRES2 *ol*-PRES1-PROJ1
'[…] on the benches there were sometimes sitting one or two people.'

(3) *Mektub-a bir daha* ***bak-acak ol-du*** *ama, ceb-in-de*
letter-DAT once more look-FUT *ol*-PAST1 but pocket-PS3-LOC
bul-ama-dı
find-NEGPOT-PAST1
'He wanted to look at the letter once more, but couldn't find it in his pocket.'

(4) *Yemek-ler-in-i yalnız* ***ye-r*** ***ol-du***
meal-PLUR-PS3-ACC alone eat-PRES1 *ol*-PAST1
'He gradually came to eat his meals alone.'

(5) *Göz-ü sen-den başka bir şey* ***gör-me-z*** ***ol-du***
eye-PS3 you-ABL other thing see-NEG-PRES1 *ol*-PAST1
'His eyes became to see no one but you.'

(6) *Dut ağacın-ın üzerinde* ***otur-uyor ol-uyor-du-k***
mulberry tree-GEN on sit-PRES2 *ol*-PRES2-PROJ1-AGR1PL
'We used to be sitting in a mulberry tree.'

(7) *Aynı şaşkınlığ-ı o da ben-im göz-ler-im-de* ***oku-yor***
same amazement-ACC he too I-GEN eye-PL-PS1-LOC read-PRES2
ol-malı-ydı
ol-'must'-PROJ1
'He, too, must have been seeing the same amazement in my eyes.'

(8) *Bu durum bebeklik-te başlı-yor* ***ol-abil-ir***
this state babyhood-LOC begin-PRES2 *ol*-POT-PRES1
'It may be the case that this state starts during babyhood.'

(9) *"Eğer* ***kork-uyor ol-sa-ydı-m*** *çukur-a atla-ma-z-dı-m"*
if fear-PRES2 *ol*-COND1-PROJ1-AGR1SG pit-DAT jump-NEG-PRES1-1SG
de-di
say-PAST1
'"If it were the case that I feared I wouldn't have jumped into the pit", said he.'

As for the data this study is based on, a wide variety of electronic texts was scanned for the occurrences of the forms referred to above. This text collection, containing almost 2 million words, comprises some 35 contemporary novels, 18 documentary texts, 19 texts based on interviews and spontaneous speech, 14 newspapers and 13 magazines.

Certain combinations of some tense marker plus a form in *ol*, such as *-EcEk olacak* and *-Er ol-ur*, may be thought to be non-existent on theoretical grounds, whereas other combinations turn out to be attested in very low

numbers only. The constructions this study focuses on are all highly frequent. In the table below, impossible formations are indicated by '*', unattested forms by '0', low frequent forms by a number (the absolute number of their respective occurrences), and highly frequent forms by '++'. The distribution of forms is as follows:

(10)

	-EcEk	**-Er**	**-mEz**	**-yor**	
1	*	0	0	6	ol-*(may)acak
2	++	*	0	5	ol-ur(+sa)
3	++	++	++	++	ol-du
4	1	++	0	0	ol-muş-tu
5	4	4	0	1	ol-uyor
6	0	0	0	0	ol-makta
7	1	2	0	1	ol-malı
8	0	0	1	++	ol-abil(ir)
9	0	0	0	++	ol-amaz
10	0	0	0	++	ol-sa

Negative forms were detected as well, with the following results: *-mEyEcEk ol-ur(sa)* (3); *-mEyEcEk ol-sa* (4); *-EcEk ol-ma++* (0); *-Er ol-ma++* (0); *-mEz ol-ma++* (0); *-yor ol-ma++* (0). Note that '++' in the latter four examples indicates that any suffixes after the negative marker *-me* weren't attested either on the basis of the previously defined search string.

As for the way the table in (10) is organised, for the forms listed under 1–2 (*ol-acak, ol-ur(+sa)*) it is tentatively assumed that they express tense only, for those under 5–6 (*ol-du*, *ol-muş-tu*, *ol-uyor*, *ol-mak-ta*) that they express aspect, and for those under 7–10 (*ol-malı*, *ol-abil/olamaz*, *ol-sa*) that they express mood.

2. On Tense

According to Dik (1989:202), who largely follows Comrie (1985), a first approximation to a description of tense can be formulated as follows: 'Temporality distinctions serve to locate the SoA, as designated by some predication, at some interval along the time axis'.

In this way, tense is seen here as the grammatical expression of some sort of temporality, as can be illustrated by the following examples for Past tense and Future tense respectively:

(11) Past Tense
Hasan ***gel-di***
Hasan come-PAST1
'Hasan came/has come.'

(12) Future Tense
Hasan saat iki-de ***geli-ir/-iyor/-ecek***
Hasan hour two-LOC come-PRES1/PRES2/FUT
'Hasan comes/is coming/will come at two o'clock.'

Most languages have a basic opposition between 'Past' and 'Non-Past' and within these systems some finer distinctions are made at the levels of 'Past' (such as 'remote past' versus 'recent past') and 'Non-Past' (such as 'present' versus 'future').

According to Johanson (1971, 1994) we find for Turkish the following labels for the expression of what is termed in his work 'Aspektotempora'. A first, tripartite, division is made at the level of finite expressions for tense/aspect: *anterior, non-anterior,* and *prospective.* In terms of simplex, that is non-compositional, forms, there are within the group of 'non-anterior' expressions three ways of expressing the 'present': present1 (*-ir*), present2 (*-iyor*), and present3 (*-mekte*). Furthermore, the subclass 'prospective' contains one simplex form, future (*-ecek*), and the subclass 'anterior' has two simplex forms: the non-postterminal (*-di* = 'praeteritum simplex') and the postterminal (*-miş* = 'praeteritum inductivum'). Summarizing these divisions we get the following picture:

(13)

present1	-ir	(non-anterior)
present2	-iyor	(non-anterior)
present3	-mekte	(non-anterior)
future	-ecek[tir]	(prospective; futurum simplex)
past1	-di	(anterior; non-postterminal; praeteritum simplex)
past2	-miş	(anterior; postterminal; praeteritum inductivum)

Of course, all kinds of combinations of various tense/aspect markers are possible by introducing a second reference point in the past or future (relative to the 'moment of speaking'). In Johanson's approach such compositional forms are analysed as follows: *prospective oriented* (*-miş ol-acak*); *postterminal* (*-miş-tir* = praeteritum constativum); *non-postterminal* (*-di-ydi* = praeteritum mnemonicum); plus a whole series of forms which are subcategorised under the label *anterior oriented*: *intraterminal* (*-ir-di* = imperfect1, *-iyor-du* = imperfect2; *-mekte-ydi* = imperfect3); *postterminal* (*-miş-ti* = plusquamperfect); and two

(anterior oriented) *prospective* forms: future of the past (*-ecek-ti* = futurum praeteriti) and finally, the prospective oriented ('perfective') form *-miş ol-acak-tı*. Examples of the usage of such compositional 'past tense' forms are:

(14)	*gel-ír-di*	'came/used to come'	imperfect1
	gel-iyór-du	'was coming, was to come'	imperfect2
	gel-mekté-ydi	'was coming, was to come'	imperfect3
	gel-míş-ti	'had come'	plusquamperfect
	gel-ecék-ti	'would come'	futurum praeteriti
	gel-miş ol-acák-(tı)	'will/would have come'	prospective oriented

The anterior oriented forms are all composed by means of a basic tense/aspect marker plus the application of the enclitic (unstressed) 'past tense marker' *-(y)DI*. Clearly, in Johanson's analysis only two compositional forms are based on the application of the auxiliary verb *ol*: the prospective oriented forms *-miş ol-acak* and *-miş ol-acak-tı*. It is also clear that forms such as the ones which are the topic of this paper can not be accommodated for in this analysis: *-yor ol++*, *-EcEk ol-du* and *-Er/-mEz ol-du*.

3. On Aspect

Some authors, especially those of (older) (learning) grammars of Turkish do not make too much of a difference between tense and aspect: at best we find descriptions in the style of "*-yor* is comparable to 'present continuous' or 'progressive form' *-ing* in English. As we have seen in Section 2, Johanson (1994) combines Tense and Aspect into "Aspektotempora", a system that seems to make a lot of sense for 'simple' and compositional tensed constructions, but his model does not go into any of the periphrastic forms as listed in (1)–(9). However, Kornfilt (1997), also being inspired by Comrie (1978) does make a distinction between Tense and Aspect in a very recent work on Turkish, although it is not always clear in what sense certain terms are used, e.g. does 'Imperfect' stand for Tense or Aspect. We will return to this matter below.

Largely inspired by Comrie (1976), Dik (1989: 186), makes the following distinctions, which we will use here as working definitions: "The pre-theoretical term Aspectuality covers a number of semantic distinctions", and "[the term] 'Aspect' is reserved for those aspectuality distinctions which are grammatically coded rather that lexically".

Furthermore, Aspectuality covers *Aktionsart, Imperfective/Perfective, Phasal Aspectuality, Quantificational Aspectuality* and these notions will be dealt with in the Sections 3.1–3.4.

3.1 Aktionsart

Aktionsart (Modes of action) is designated by the predicate and its arguments and generally speaking Aktionsart is not grammatically coded. For the present paper most relevant types of SoA[1] as defined within the framework of FG are [±Dynamic], [±Telic], [±Momentaneous], [±Control]. Let us pick out just two of these types of SoA to show in what sense they might play a role with respect to what is grammatically expressed in the constructions under consideration. The feature [±Control] can be exemplified by: *John opens the door* [+Control] versus *The tree fell down.* Generally, it is assumed that the feature [±Control] determines whether a verb can be used in orders or requests or in using an imperative form. **Fall asleep!,* **Be intelligent!* are said to be ungrammatical because the underlying verbs are all specified for [−Control], although many exceptions can be attested: *Don't die!; Don't fall out of the window!; Drop dead!*

For Turkish, the feature [±Control] seems to be relevant for the description of what type of so-called dative verbs can be passivized. Passivization of such verbs is only possible if the first argument is the 'controller' of the situation, that is, if the referent of the first argument has the power to determine whether or not the SoA will obtain. Compare:

(10) a. *Polis suçlu-ya megafon-la bağır-dı* [+Control]
policeman suspect bullhorn-INST shout-PAST2
'The policeman shouted at the suspect with a bullhorn.'

b. *Suçlu-ya megafon-la bağr-ıl-dı* [+Control]
suspect bullhorn-INST shout-PASS-PAST2
'They/It was shouted at the suspect with a bull-horn.'

(11) a. *Ayşe açık yara-ya el-i-yle değ-di* [−Control]
Ayşe open wound-DAT hand-PS3-INST touch-PAST1
'Ayşe touches the open wound with her hand.'

b. **Açık yara-ya el-i-yle değ-il-di* [−Control]
open wound-DAT hand-PS3-INST touch-PASS-PAST1
'The open wound was touched by her hand.'

In (10a–b) 'controlled' events (Action) are expressed by *bağır-* (active — 'to shout') and *bağr-ıl* (passive — 'to be shouted') respectively, whereas a 'non-controlled' event (Process) can only be expressed in the active voice (cf. (11a)).

The feature [±Telic] has to do with the question whether an Action or Process has a natural termination point (cf. Comrie 1976:44). A [+Telic] interpretation is possible when both arguments of a two place verb (such as *write*) are expressed, but only as [−Telic] when the second argument has not been specified. Compare:

(12) a. *J. wrote a poem about Brunhilde Wagner* (*for/*in two hours*) [+Telic]
b. *J. wrote* (*in/*for two hours*) [−Telic]

As can be inferred from these examples, a [+Telic] interpretation is possible when we include a noun phrase that specifies the time span in which the action is accomplished — the poem is finished, whereas leaving out the second argument, *in casu* 'a poem about Brunhilde Wagner' allows only for a [−Telic] interpretation, irrespective of the occurrence of a noun phrase that specifies the duration of the action ('for two hours') — from (12b) it cannot be inferred that the writing (possibly one or more works of poetry) has been finished, only that 'John has done some writing'.

Another domain in which telicity plays a role is that of logical inferences. A sentence based on a verb of movement in combination with a locative noun phrase allows for a [−Telic] interpretation only and the expression of 'duration' is possible, as is exemplified by (13a). Taking a directional noun phrase in combination with such a verb, however, leads to a [+Telic] interpretation, as is shown in (14a). But what is more, is that the logical inference represented in (13b) holds, whereas the one in 14b) does not.

(13) a. *John was walking in the park* (*in/*for two hours*) [−Telic]
b. → John has walked in the park

(14) a. *John was walking to the library* (*for/*in two hours*) [+Telic]
b. → *John has walked to the library

For all that matter, a central issue here is of course to what extent 'telicity' is grammatically coded. As has been indicated above, this is generally not the case but for Turkish there are some indications that there is some interplay with markers for tense/aspect. Kornfilt (1997:362) sketches a picture that is not very transparent at first glance, but the 'acid-test' for duration and time span sheds some more light on the matter. Let us firstly consider Kornfilt's examples:

(15) a. *Hasan bir masa* ***yap-tı*** [+Telic]
H. a table make-PAST1
'Hasan made a table.'

b. *Hasan bir masa* ***yap-ıyor-du*** [±Telic]
H. a table make-PRES2-PROJ1
'Hasan was making a table.'

Assuming that the verb *yap* 'do, make, build' is not lexically coded for 'telicity', as opposed to for instance one of the meanings of *çalış* 'try, attempt', the reason that (15b) can only be interpreted as [−Telic] is due to the fact that there is the present marker *-ıyor* (pres2), giving a 'non-anterior' (cf. Johanson 1994: 248) and 'intraterminal' (cf. Johanson 1994: 254) flavour to the overall interpretation of the temporal flow of the action. In other words, what is being referred to is an on-going action taking place in the past.

It should be noted that in the sense of 'make', the second argument of *yap* in (15) cannot be left out. In this respect this case differs from the examples presented in (12). Nevertheless, the feature [±Telic] can still be tested on the basis of expanding (15a) with *iki saat içinde* 'in two hours', and (15b) with *saatlerce* 'for hours' or *saat yediden beri* 'since seven o'clock', as can be shown by the following oppositions:

(16) a. *Hasan* ***iki saat içinde /*saatlerce*** *bir masa yap-tı* [+Telic]
Hasan 2 hours in /for hours a table make-PAST1
'Hasan made a table in two hours.'

b. *Hasan* ***iki saat içinde*** *bir masa yap-ıyor-du* [+Telic]
Hasan 2 hours in a table make-PRES2-PROJ1
'Hasan made a table in two hours.'

c. *Hasan* ***saatlerce /saat yediden beri*** *bir masa yap-ıyor-du* [−Telic]
Hasan for hours /since 7 o'clock a table make-PRES2-PAST1
'Hasan was making a table for hours/since 7 o'clock.'

d. *Hasan* ***senelerce /aylarca /haftalarca /günlerce*** *masa yap-tı* [−Telic]
Hasan for years /months /weeks /days table make-PAST1
'Hasan (has) made tables for years/months/weeks/days.'

What counts in (15) and (16) is the opposition between the stressed *-tı* ((15a)–(16a)) and the stressed *-ıyor* (which ends up as a compositional form through expansion by the unstressed *-(y)DI* (proj1)) in (15b)–(16b–c), which constitutes an opposition that also can be analysed in terms 'perfective' versus 'imperfective', and hence, the use of the aspecto-temporal markers *-tı* (perfective interpretation) and *-ıyor* (imperfective interpretation) itself might lead to a [+Telic] interpretation.

Contrasting (16d) with (16a) reveals that also the category Number contributes to a possible [−Telic] interpretation. Whereas (16a) cannot be

expanded by a phrase denoting the duration of the event, (16d) is perfectly grammatical with such expressions. Clearly, in (16a) *masa* 'table' is specified for Number by *bir* 'one/a', but *masa yap* in (16d) can be considered as a verb with an 'incorporated object',[2] meaning as much as 'to make tables'. Hence, (16d) allows for a [−Telic] interpretation only since it is about some activity characterised by *masa yap*, specified for duration but not giving any clue about the actual number of tables being or having been produced.

3.2 Imperfective/perfective

This system forms a bipartite system in which an SoA is presented from an outside point of view, as one complete indivisible whole (*Perfective*) or from an inside point of view, that is, as non-complete or in progress (*Imperfective*). Especially the value 'Imperfective' may in actual usage get several other *interpretations:* e.g. *progressive* (SoA ongoing), *habitual/recurrent* by virtue of some habit), *iterative*, occurring repeatedly), or *continuous*. But these interpretations are distinct from the corresponding aspectual values. Typical examples are (Russian):

(17) a. *Ja čital knigu* (imperfective)
'I read/was reading the/a book.'
b. *Ja po-čital knigu* (perfective)
'I have read the/a book.' (from beginning to end)

By means of (17a) it can be reported that 'some reading' was performed, whereas by means of the perfective prefix *po-* it is in (17b) explicitly stated that the whole book was read.

3.3 Phasal aspectuality

This type of aspectuality has to do with what can be said at some reference point on the temporal dimension in relation to the occurrence of the SoA.[3] The most important notions are *Prospective, Ingressive, Progressive, Egressive, Perfect.*

(18) John is going to work (prospective)
John starts working (ingressive)
John is working (progressive)
John stops working (egressive)
John has worked (perfect)

Phasal Aspects thus have a temporal component, but the semantics is more complex than just locating the SoA on the temporal axis. Some of them, for

instance the expression of 'progressive' in (19), are based on a 'locative' metaphor. Consider:

(19) *Çocuk* ***dön-düğ-ün-de,*** *ihtiyar adam iskele-de* ***uyu-mak-ta-ydı***
child return-PRT-PS3-LOC old man pier-LOC sleep-INF-LOC-PROJ1
'When the child came back, the old man was sleeping on the pier.'

In fact, we find two 'locative metaphors' in (19): *çocuk dön-düğ-ün-de* "in the child's coming back" → 'when the child came back', and *((adam uyumak)-ta)-ydı* "((the man sleep)-LOC)-PAST" → 'the man was sleeping'.

3.4 Quantificational aspectuality

Quantificational Aspectuality does not 'enter' into the definition of the SoA itself: it deals with (1) *Habit* (habitual propensity of the participant involved); (2) *Frequency of occurrence* (including: *Semelfactive* ('just a single time'), *Iterative* ('several times'), *Frequentative* ('many times'), *Distributive* ('several times, different participants'); (3) *Continuity* ('all the time, without interruption'); (4) *Intensity* ('with high speed/intensity, to a high degree').

4. On Mood

Dik (1997:205, 251) distinguishes three types of modality: (1) *Inherent Modality*, (2) *Objective Modality*, (3) *Propositional Modality.*

Distinctions for *Inherent Modality* show how a participant is involved in a certain SoA with respect to *ability* ('can', 'be able', 'be willing to'), *obligation* ('must', 'have to'), or *permission* ('may', 'be allowed to').

Distinctions for *Objective Modality* express how the speaker evaluates the likelihood of occurrence of some SoA or the chances that some SoA will obtain, and there are two sub-areas: expressions for *Epistemic Objective Modality* by means of which the speaker assesses the actuality of some SoA in terms of his knowledge in general along the scale of "Certain-Probable-Possible-Improbable-Impossible"; and there are expressions for *Deontic Objective Modality* by means of which the actuality of some SoA is evaluated in terms of moral, legal, or social norms, all running along the lines of "Obligatory-Acceptable-Permissible-Unacceptable-Forbidden".

Distinctions for *Propositional Modality* signal the speaker's personal commitment to the truth of a proposition. Personal responsibility for the

content of the proposition is conveyed through expressions for *Subjective Modality* and *Evidential Modality.* For Subjective Modality two sub-areas can be distinguished: *Personal opinion* (according to the speaker's opinion it is certain, probable, possible, etc. that some proposition is true) and *Volitional* (the speaker wishes or hopes that some proposition is true). For Evidential Modality we can distinguish three sub-areas: *Experiental* (on the basis of his previous personal experience the speaker concludes that the proposition in question holds), *Inference* (on the basis of available evidence the speaker infers that some proposition is true), and *Hearsay* (on the basis of what the speaker has been told, he takes the proposition for true), often referred to as *Quotative* or *Reportative.*

5. Expression of Tense, Aspect, and Mood

Within Functional Grammar linguistic expressions are analysed in terms of the 'underlying clause structure' (cf. Dik 1989; Hengeveld 1989). This is a complex abstract structure, which can be divided into several levels or layers: the topmost layer (level 4) represents the clause itself, a structure that is associated with 'speech act'. This is in fact the utterance itself and the relevance to distinguish this layer is found, *inter alia*, in the observation that reference can be made to an utterance, for instance by means of a demonstrative. This can be exemplified by the following fragmentary dialogue: A– *Seviyorum seni, biliyor musun?* 'I love you, do you know that?' B– *Keşke bunu söylememiş olsaydın* 'I wish you hadn't said that', in which *bunu* of (B) may be about the entire clause of (A) or about either of its parts. One layer further down in the hierarchy (level 3) we find the structure of the proposition, the mental correlate of which is 'possible fact'. Also to this type of entities reference can be made, for instance, when saying *Onu öylesine sevdiğini hiç tahmin edemedim* 'I really had no idea that you loved him that much', in which the embedded clause *Onu öylesine sevdiğin* 'you love him that much' expresses a fact, being true or false (a property which is taken as a typical for facts). Of course, both the propositions based on the matrix predication and embedded predication are facts, or more precisely 'possible facts' in 'possible worlds'. For the construction of an underlying clause structure it is first of all required to build up a predication. Predications (level 2) are formed by taking a predicate from the lexicon for which a number or terms (level 1) are to be constructed, the latter being based on lexical predicates as well. The idea of layered structures can be schematised thus:

Structure	Type of entity	Order	Variable
Clause	speech act	4	E
Proposition	possible fact	3	X
Predication	state of affairs	2	e
Term	entity	1	x

Various distinctions for tense, aspect, and mood are thought of being brought about by the application of operators. It is assumed that tense forms are the formal expression of predication operators, applied at level 2. As for aspect, *Aktionsart* is seen as being designated by the predicate and its arguments and since various distinctions are not grammatically coded, they should be accounted for in the lexical domain. In as far as aspectual oppositions such as *Imperfective/Perfective* are to be taken as 'inflectional', viz. the corresponding grammatical expressions are the result of the application of operators, or as 'derivational' (cf. the Russian example in (17), Section 3.2), or as 'fluctuating' over both systems, is not quite clear. The various ways of expressing distinctions in the realm of *Phasal Aspectuality* and *Quantificational Aspectuality* leads to the assumption that in many cases some operator or combinations thereof are applied for which a mapping is more or less easily accounted for by the expression rules. For Mood three levels are relevant. First, *Inherent Modality* is dealt with at level 1, e.g. *çalış* 'work' *calış-**abil*** 'to be able to work/may work'. Second, expressions for *Objective Modality* are related to operators applied on level 2 and/or to the usage of modal particles, e.g. Epistemic Objective *yorul-(**muş-sun-dur**)* '(I take it that) you must be tired'; Deontic Objective *git-**meli**-sin* 'you must/should go' (moral or social obligation). Third, for the different forms of *Propositional Modality* it is assumed that they signal the application of an operator on level 3, e.g. *gel-me-**sin*** 'may he not come/he shouldn't come' (Subjective Modality — volition); *Ayağı kırık-**mış*** 'his leg is broken' (Evidential Modality — inferential or reportative).

In many a case it is not the combination of affixes as such but rather the context that (co-)determines how a certain expression should be interpreted. For instance, *gid-**eme**-z* 'he cannot go' expresses inherent modality (ability — level 1) in the context of *Ayağı kırık* 'his leg is broken', but in the context of *İnşaata girmek yasaktır* 'Forbidden to enter the construction site', it simply expresses objective deontic modality (permission — level 2).

With respect to the linear ordering of suffixes that allow for an interpretation in terms of tense, aspect, and mood distinctions the following observation may

be relevant. As is claimed by Dik (1997:296) in languages which distinguish Objective and Subjective moods in the verb, these can be combined in such a way that the latter distinction has scope over the former, e.g. *gel-eme-z ol-abil-ir-di* 'It may have been (tense) the case (subjective mood) that he was not able (inherent modality)/could not come (objective deontic modality)'. Especially this phenomenon makes it sometimes difficult to determine what the contribution of each morpheme or particle (*?olabilir*) is to the overal interpretation.

6. Tense, Aspect, Mood in constructions based on *-yor ol*

In the sections (6–9) some data will be presented and analysed, and in order to determine what can be derived from possible presuppositions and information given in the context, every example of relevant data will be followed by a brief discussion with respect to its overall interpretation, all based on explanations and judgements of native speakers of Turkish. Each section will be concluded by a summary of these interpretations together with a tentative analysis.

6.1 Tensed forms

(21) [...] *uzun süren bir yalnızlığ-ı* ***bekli-yor ol-acak-lar***
long lasting a loneliness-ACC await-PRES2 *ol*-FUT-AGR3PL
'They will be awaiting a long lasting loneliness.'

The combination *bekli-yor ol-acak* 'will be awaiting' is in principle a tensed form since the future suffix *-EcEk* cannot be attached to a verb root ending in *-Iyor*. Hence, the usage of *ol* can be regarded as the application of an auxiliary element. Contrary to the tensed compositional past (cf. (14) in Section 2), the prospective oriented (compositional) past, e.g. *gel-miş olacak(-tı)* 'will/would have come', and compositional conditional expressions (which are not discussed as such in this paper), the future marker *-EcEk* is the sole suffix that requires the auxiliary *ol*. In this way, 'tensed' is here seen from the perspective of *ol-acak*.

6.2 Aspectual forms

(21) "*Beyin kanama-sı* ***geçir-iyor ol-abil-eceğ-im***"
brain bleeding-CM 'have'-PRES2 *ol*-POT-FUT-AGR1SG

düşün-dü-m
think-PAST1-AGR1SG
'I thought: it would be possible that I was having a bleeding in the brain.'

The form *geçir-iyor ol-abil-eceğ-im* exhibits a sequence of three morphemes: pres2 (*-Iyor* = non-anterior); pot (*-Ebil* = potentialis), and future (*-EcEk* = prospective). Roughly speaking, a translation of (21) in English could be rendered as "It will be possible (may be the case) that I am having a bleeding in the brain (cerebral hemorrhage)". Disregarding the modal *-Ebil*, this structure resembles (29) on the basis of the sequence of 'pres2' and 'future'. Yet, looking at aspectuality from the perspective of *geçir-iyor* implies that *ol* must be seen as an auxiliary.

(22) […] *bank-lar-da, bazen, bir iki kişi* ***otur-uyor ol-ur-du***
bench-PL-LOC sometimes one two person sit-PRES2 *ol*-PRES1-PROJ1
'[…] there used to be one or two people sitting on the benches.'

In contrast to (29) and (21), the form *ol-ur-du* cannot be considered an auxiliary form for the following reasons. The suffix pres1 (*-Ir* = non-anterior) is according to Johanson (1994) a sort of 'neutral' present tense/aspect marker which is (as opposed to pres2 (*-Iyor* = non anterior)) very suitable to express the 'habitual/repetitive' aspectual character of some events. Therefore it can be regarded as an expression for Quantificational Aspectuality, as touched upon in Section 3.4. Basically, the suffix *-Ir* behaves like an ordinary tense marker, since it is expanded by the projectional suffix *-(y)DI* (proj1 = past). Another important point is that *ol* is not only used as a pure auxiliary — a carrier for grammatical material, but also as an independent verb in the following senses: 'to become; to happen/occur'. Taking the latter meaning, (22) can be interpreted as "It used to happen/occur, sometimes, that one or two people were sitting on the benches", or as "It happended regularly that …". In this respect *bir iki kişi otur-uyor* should be seen as a complement of the independent verb *ol* 'to happen/occur'.

(23) *Dut ağacı-nın üzerinde* ***otur-uyor ol-uyor-du-k***
mulberry tree-GEN on sit-PRES2 *ol*-PRES2-PROJ1-AGR1PL
'It occurred that we were sitting in a mulberry tree.'

A somewhat different and at the same time also more complicated situation underlies the analysis and interpretation of (23). Whereas the subject of the verbal complex in (22), being 'third person singular', shows no verb agreement in any of the verbal parts, such subject agreement is expressed in (23) through

ol-uyor-du-k for 'first person plural'. Another difference with (22) is, of course, that (23) has a double sequence of the suffix pres1 (*-Iyor* = non-anterior): *otur-uyor ol-uyor-du-k*.

In this case it is very likely that *ol* should be seen as an auxiliary or even more so an independent verb in the sense of 'to be'. One argument to consider *ol* in this case as an auxiliary is found in the observation that many sequences of certain suffixes are morphotactically blocked: a double expression of *-iyor* seems to be impossible (comparable to *-iyor ol-acak* in (20)) and hence, an auxiliary element should be used to facilitate simultaneous expression of two 'conflicting' morphemes. An argument in favour of regarding *ol* as expressing 'to be' is motivated by the fact that *ol-uyor-du-k* contains the suffix *-(y)DI* (proj1) plus the copular form *-k* 'we', expressing agreement. The former suffix locates the whole at some point along the temporal axis (i.e. non-anterior → 'past') and the agreement suffix binds it to the (covert) subject 'we'. Taking these circumstances into account, the complex construction *Dut ağacı-nın üzerinde otur-uyor ol-uyor-du-k* can be conceived of as expressing something along the lines of "We were/happened to be (continuously)" (= *ol-uyor-du-k*) entities to be characterised as "(continuously) sitting in a mulberry tree" (= dut ağacın-ın üzerinde *otur-uyor*). In Van Schaaik (1996) it was advanced that the latter type of structure can be regarded as a term-based construct, corresponding to a headless relative clause, i.e. 'someone who is sitting…'. It remains to be seen, however, what kind of (morphological and syntactic) circumstances determine the plausibility of such an analysis for the current type of construction.

6.3 Modal forms

In this section three modal forms will be discussed: Necessity (6.3.1), Possibility (6.3.2), Hypothetic Modality (6.3.3).

6.3.1 *Necessity*

(24) *Aynı şaşkınlığ-ı o da benim göz-ler-im-de* ***oku-yor***
same amazement-ACC he too my eye-PL-PS1-LOC read-PRES2
ol-malı-ydı
ol-'must'-PROJ1
'He, too, must have been reading the same amazement from (in) my eyes.'

As for (24), the interpretation of *oku-yor ol-malı* hardly poses any problems: *ol* can be seen as an auxiliary to which the modal suffix *-mElI* (necessitative) has

been attached, because this is just another type of suffix that cannot directly follow any other form but a bare verb root. Compare: *git-meli* '(s)he has to/must go' with *gid-iyor ol-malı* '(s)he must be going' in the sense of 'it must be the case that (s)he is going'. For the former construction we could stipulate that *-mElI* expresses an obligation that pertains to the subject proper, but for the latter construction the modality expressed is about the state of affairs designated by *gid-iyor* '(s)he is going' rather than about some subject. Hence, an interpretation along the lines of 'it must be so that…' seems very plausible, the more so as the connector *that* introduces an event or action (SoA) rather than a first order entity (here: the subject).

(25) *Burada otur-uyor-sa-nız* ***tanı-yor*** ***ol-malı-sınız***
here sit-PRES2-COND2-AGR2PL know-PRES2 *ol*-NECES-AGR2SG
'If (since) you sit here, you must know (her/him).'

A construction similar to that of (24) is found in (25), although in (25) we see that person agreement is expressed in the auxiliary ('carrier element'), *in casu* on *ol* as in *ol-malı-sınız,* and not on the verbal form that characterises the referent of the copular form *-sınız* 'you'.

6.3.2 *Possibility*

(26) *Bu durum bebeklik-te* ***başlı-yor*** ***ol-abil-ir***
this state babyhood-LOC begin-PRES2 *ol*-POT-PRES1
'This state may begin during babyhood.'

What is expressed by (26) is two things: (1) *the fact that* some State of Affairs may hold, e.g. *olabilir* 'it may be so that'; and (2) a specification of that State of Affairs, e.g. *Bu durum bebeklikte başlıyor* 'this situation begins when they are a baby', leading to an overall interpretation "It may be the case that this situation is beginning when they are a baby". In (26) *ol* cannot be considered as a pure auxiliary in the sense that it functions as a mere carrier for grammatical material that cannot be combined with other suffixes, but here it clearly functions as a kind of independent construct, more so because it contains the tense marker pres1 (*-Ir*). Typically, in (26) it is a proposition that is presented as being 'true' and therefore we may assume that the markers expressing possibility and present are applied on the propositional level and not on the level of the event (SoA) proper.

(27) *"Numara* ***yap-ıyor ol-ama-z****",* *de-di-m,* *"çok üzgün*
pretend-PRES-2 *ol*-NEGPOT-PRES1 say-PAST1-AGR1SG very sad

görün-üyor-du"
look-PRES2-PROJ1
'It can't be (the case) that he was pretending, I said, he was looking very sad.'

The negative counterpart of *olabilir* is *olamaz* 'it cannot be (the case) that', and hence, for (27) we get an analysis very similar to that of (26). Again, a proposition is presented, *numara yapıyor* 'he is pretending' negated by *olamaz*.

6.3.3 *Hypothetic Modality*

(28) *"Eğer* ***kork-uyor ol-sa-ydı-m*** *çukur-a*
if fear-PRES2 *ol*-COND1-PROJ1-AGR1SG pit-DAT
atla-ma-z-dı-m" *de-di*
jump-NEG-PRES1-PROJ1-1SG say-PAST1
'If I would have been fearing I wouldn't have jumped into the pit, said he.'

The italicised part of (28) is a so-called irrealis form: the State of Affairs described by *korkuyor* 'fearing' is presented as hypothetical, and it can only be interpreted as propositional in the sense of 'if it were the case (but it isn't), then' and, thus, the logical inference is that the relation between *korkuyor* and its subject is 'false'. The entire proposition 'if I was fearing' is projected in the past, which is expressed by the unstressed marker proj1 (*-(y)DI*). Similar to the case of previous examples expressing modality, the occurrence of *ol* can be seen as a propositional auxiliary.

(29) […] *kent-in neresin-de* ***otur-uyor ol-ur-sa-k*** ***(ol-alım)***
city-GEN where-LOC live-PRES2 *ol*-PRES1-COND2-AGR1PL
'[…] where-ever we are living in the city.'

Example (29) represents a so-called 'realis' form and it can, roughly speaking, be analysed along the lines of (28), albeit that *ol-ur-sa-k* differs from *ol-sa-ydı-m* with respect to the internal order of suffixes: *ol-ur-sa-k* contains a tense marker (*-Ir* = pres1) followed by the unstressed modality marker *-ysE* (proj3), whereas *ol-sa-ydı-m* is built up by the stressed modality marker *-sE* (mod3) being followed by the unstressed marker proj1 (*-(y)DI*)). The effect of having this particular ordering in (29) leads to an interpretation where the emphasis is not on the question whether 'we are living' or not — that is beyond any doubt the case, but on what is expressed by *kent-in neresin-de* 'in what place of the city', a viewpoint that is corroborated by the occurrence of *ol-alım* 'let us be'. So, literally (29) reads as 'what ever we are as inhabitants of some place in

the city, let us be (such inhabitants)'. Also here, *ol* can be regarded as a propositional auxiliary.

6.4 Summary and analysis I

Ad 6.1: Tensed forms. The verbal form represented in (20), *bekl-iyor ol-acak*, can be considered as a compositional tensed form, comparable to those discussed in Section 2 (cf. (14)). For each of the tense markers we assume an underlying operator, which is applied at level 2: [fut pres2 *bekle*].

Ad 6.2: Aspectual forms. The form in (21), *geçir-iyor ol-abil-ecek,* contains the modal element *-Ebil* which can be regarded as expressing Epistemic Objective Modality, leading to an interpretation along the lines of 'it may be the case that…' or 'it is possible that…'. Besides a pure temporal element, there is furthermore a clear aspectual element in (21): *-EcEK* shows that the SoA should be seen as a prospective (future) one, whereas *-Iyor* signals the actuality (progressive character) of what is designated by *geçir* 'to undergo'.

The constructions represented in (22) and (23) both express *Quantificational Aspect:* (22) signals a *Habitual, Repetetive,* or *Iterative* characterisation of *otur* 'to sit', and (23) expresses the *Continuity* (in the past) of an "ongoing" action (*otur-uyor*).

As for the expression of operators, we could of course assume that these are applied by stacking them to the verbal predicate. For the verbal construct in (21) we would get [fut pot pres2 *geçir*], for (22) [past pres1 pres2 *otur*], and for (23) [past pres2 pres2 *otur*]. Furthermore, the expression rules must contain a rule that prevents simultaneous expression of all operators on the verbal predicate, *ergo* this rule describes *ol*-support, that is the introduction of the auxiliary *ol* after the expression of "Pres2". On the other hand, whereas for constructions such as (21), all expressing some form of 'it is the case that…', it is clear that we are dealing with a sort of Polarity distinction (cf. Dik 1997: 242) that expresses the logical extreme "certainty" of Epistemic Objective modality (level 2–cf. Section 4) and which is expressed through the auxiliary form *ol*, for (22) and (23) the question might be posed if the element *ol* could be considered an independent verb in the sense of 'to happen/occur'. An argument in favour of such a view would be the actual usage of *ol* in that particular sense, as in *Kusursuz cinayet ol-ur mu? Türkiye'de ol-uyor* 'Do perfect murders happen/occur? They do happen/occur in Turkey'. A counterargument, however, is provided by the general rule saying that the embedded verb (sentential object) of a verb that takes non-first order arguments, is nominalised, as can be demonstrated by:

Bazen oraya git-tiğ-im ol-uyor-du 'It happened/occurred that I went there sometimes'. Taking this factor as decisive, we assume that the forms of (22) and (23) are derived by the application of a series of operators as well.

Ad 6.3.1: Modal forms — Necessity. Applied to the bare verb root *-mElI* expresses Inherent Modality (level 1), but applied on level 2 it expresses Deontic Objective Modality, or on level 3 Subjective Modality, e.g. *git-meli* '(s)he must go' versus *gid-iyor ol-malı* '(s)he must be going'/'it must be the case that (s)he is going'. However, for the examples in (24) and (25) it seems rather difficult to determine what kind of modality is actually expressed. As Dik (1989: 205.206) states about Objective Modality that it "allows us to express what we think of the chances of occurrence of the SoA in terms of what we know about SoAs in general" and about Subjective Modality that "the speaker takes personal responsibility for the content of the proposition" (in terms of certainty, possibility, or likelihood of its truth), for both (24) and (25) readings are possible along the lines of both types of modality. (24) can equally well be interpreted as expressing "certainty" in the sense of 'it is (certainly-probably) the case that…', as well as in the sense that the speaker *assumes* that the proposition holds, viz. is true. In (25) the *assumption* of the speaker is expressed somewhat more clearly, due to the logical inference that is made: 'if (since) it is the case that you are sitting here, then it must be the case that you know him/her'. In other words, for (25) it is quite certain that the speaker takes *tanı-yor* 'know-pres2' for true. Hence, the necessity forms of (24) and (25) could be regarded as originating from level 3 (proposition), and for both cases an operator can be assumed and if applied after tense or aspect, the auxiliary *ol* must be introduced. With respect to the order of suffixes, two remarks are in place.

First, there is a general tendency across languages to order suffixes for tense, aspect, modality and copular forms in a 'centripetal' fashion (cf. Dik 1989: 342) and furthermore, certain distinctions take others in their scope (cf. Dik, 1989: 252; Hengeveld 1988). These 'principles' might explain that forms such as *ol-acak-lar* in (20), *ol-abil-eceğ-im* in (21), *ol-uyor-du-k* in (23), and *ol-malı-sınız* in (25) need not be taken as finite forms *per se*. A similar argument can be advanced for the unstressed suffix *-(y)DI* (glossed as proj1) which can be considered as an aspectual expression of 'perfective' (cf. 3.2) or 'perfect' as a form of Phasal Aspectuality (cf. 3.3). In brief, modal and aspectual markers as well as copular elements have scope over what is 'embedded': *tanı-yor ol-malı-sınız* can therefore be seen as *((tanı-yor) ol-malı)-sınız* which renders, reading from right to left, 'you must be knowing'.

Second, as we have seen in the discussion of (23) and (24), another angle from which an interpretation of *((tanı-yor) ol-malı)-sınız* can be approached is regarding *tanı-yor* as a headless relative clause. As a matter of fact, the question underlying these deliberations is of course whether the complex constructions we have been dealing with so far are the result of a simultaneous and sequential application of a series of operators or that these constructions are based on some headless relative clause. As has been indicated in the discussion of (23) this heavily depends on secondary factors, such as morphological and syntactic indicators that make a 'nominal' viewpoint plausible. Therefore we will tentatively assume for all the examples discussed above that the 'necessitative' marker is the expression of an operator that is applied to the propositional layer (level 3).

Ad 6.3.1: Modal forms — Possibility. As we have seen in Section 4, expressions for possibility, too, can be regarded as the formal expression of some operator being applied on either level 3 (proposition) or level 2 (predication). As is the case with the necessity-suffix, the suffix expressing possibility may be attached to a bare verb root at level 2: *başla-yabil* 'can/may begin'. Construction (26), however, can only be interpreted as signalling the possibility that some SoA obtains: 'it may be the case that…'/'it is possible that…', due to the fact the preceding verb form expresses tense/aspect. Therefore, it is the likelihood that the SoA referred to by *başl-ıyor* 'is beginning/begins' is true which is expressed by (24). A similar situation is found in (27), although this 'likelihood' is presented by means of a negative form: *numara yap-ıyor ol-ama-z* 'it cannot be the case that […] is pretending'. For both constructions we assume an operator at level 3 (proposition).

With respect to negated forms in which 'possibility' is involved, there is a number of combinations that may shed some light on the problem as to how various modality distinctions are related to some level of description (= structural level). Generally speaking, we may say that what *-Ebil* expresses is mostly a matter of (contextual) interpretation. It may express *Inherent Modality* (ability or permission), as in *başla-yabil-ir* '(s)he is able to begin'/'(s)he may (is allowed to) begin'. On the other hand, taking the notions 'possible' and 'permissible', as related to Objective Modality, we might get an Epistemic and a Deontic Objective interpretation for such a construction as well.

Now, applying a negation operator at either level (1 or 2) requires the attachment of a suffix that differs in make-up from *-Ebil: başla-ya-ma-z* which expressed both the 'inverted' values of ability or permission ('(s)he is not able to begin'/'(s)he may not (is not allowed to) begin'. Clearly, the suffix *-E-mE* consists of a gerundial element (identical to the one in *-E-bil.* cf. Lewis,

1975: 174) plus the negator *-mE*. Reverse application of negation and modality is possible as well, which allows for both an 'ability' or 'permissive' reading, as in: *yap-ma-yabil-ir-im* 'I am able not to do (it)' and as attested in a recent newspaper: *Din adamları: İyi olmayan depremzedeler oruç tut-ma-yabil-ir* 'Religious experts: Victims of the earthquake who do not feel well are allowed not to fast'. As a matter of fact, also forms containing sequences such as *mi-yor ol-abil* are possible, as can be exemplified by *Sen buna gereksinim duy-mu-yor ol-abil-ir-sin, ama benim için çok önemli* 'It may be the case that you are not seeing/feeling the necessity of it, but for me it is very important', and *Yüzme bil-mi-yor ol-abil-eceğ-im-i aklına bile getirmiyor* 'It does not even occur to him that it could be the case that I don't know how to (can't) swim'.

In sum, periphrastic forms in *ol-abil* are clearly distinct from simple forms in *-Ebil,* the former being represented at the propositional level and the latter at the level of the predicate/predication (level 1/2).

Ad 6.3.1: Modal forms — Hypothetic. The two forms discussed in (28) and (29) are both 'hypothetical' in the sense that the proposition expressed by the verb form preceding the auxiliary *ol* is by definition 'false'. Thus, *kork-uyor* 'fear-pres2' in (28) is to be taken as 'not true', and hence, we include this kind of constructions into the types to be dealt with at level 3. The construction of (29), however, is a somewhat different case. This construction is not 'hypothetical' in a strict sense: the issue is not "*whether* we live but *where* (it is the case that) we live". For (29), then, we assume the predicational level to be associated with the corresponding operator.

7. Aspectual forms based on the Future Tense Marker

7.1 Some data: *-EcEk ol*

(30) *İlkin bıçağ-ı pantolon-un-a doğru* ***götür-ecek ol-du,***
first knife-ACC trousers-PS3-DAT towards bring-FUT *ol*-PAST1
ama sonra birden vazgeç-ti ve hızla yer-e sapla-dı,
but then suddenly give.up-PAST1 and fast floor-DAT throw-PAST1
bıçağ-ın kan-ın-ı bu şekilde temizle-di
knife-GEN blood-PS3-ACC this way clean-PAST1

'First he was about/wanted to bring/just brought the knife towards his trousers, but then he changed his mind and threw it on the floor, in this way he cleaned the blood from the knife.'

In (30) both aspectuality as well as tense is expressed. In its entirety, the fragment *bıçağı pantolonuna doğru götürecek oldu* 'he wanted/was about to bring the knife towards his trousers' relates to the past, signalled by the suffix *-du* (past1). The usage of *ol*, however, makes *götür-ecek ol-du* distinct from *götür-ecek-ti* which is a compositional tensed form expressing 'future in the past'. By means of the form *götür-ecek ol-du* some sort of aspectuality is expressed which, for the moment, at best can be described as conveying the idea of an SoA which is about to obtain (Phasal Aspectuality, see Section 3.3). However, on the basis of the context it is not immediately clear whether the construction should be labelled 'prospective' or 'ingressive', since it cannot be determined to what degree of completeness the action intended has been performed. Although it is stated in the first coordinated sentence that the subject suddenly gave up his action, there are no clues whether it was initiated or not.

(31) *Ben kendi sandalye-m-i* ***uzat-acak*** ***ol-du-m:***
I own chair-PS1-ACC hold out-FUT *ol*-PAST-1SG
"karış-ma sen!" de-di, *"git, iki kahve söyle bize!"*
mix-NEG you say-PAST go two coffee order for us
'I wanted/was about to offer my own chair; "don't meddle in (these affairs)", he said, "go order two coffee for us!"'

For (31) we may assume that we deal with an initiated action on the basis of what is said by *karışma sen!* 'Don't interfere', for it is not very likely that the person issuing this order would be aware of the intentions of the subject other than by (telepathy or) having seen what the other person (subject, narrator) was up to. So here an interpretation of 'ingressive' is possible.

(32) *Tüccar bir şey* ***söyli-yecek ol-du,*** *fakat*
merchant something say-FUT *ol*-PAST1 but
kadın sözünü kes-ti: *Yok, yok!* *Geç-ti* *bunlar* *artık!*
woman interrupt-PAST1 no no PASS-PAST1 all.this by.now
'The merchant wanted/was about to say something, but the woman interrupted him (saying): No, no, that's all over now!'

(33) *Pozdnişev kötü bir şey* ***söyli-yecek ol-du,***
Pozdnişev bad thing say-FUT *ol*-PAST1
fakat kendini tut-tu *ve* *aceleyle:*
but himself hold-PAST and hastily
Orada nasıl yaşa-dığ-ın-ı, *ne* *yap-tığ-ın-ı*
there how live-PRT-PS3-ACC what do-PRT-PS3-ACC

bil-mi-yor-um, *dedi*
know-NEG-PRES2-1SG say-PAST

'Pozdnişev was about to say something bad, but he held himself back and said hastily, I don't know how he lives there and what he does.'

A similar difference between two interpretations can be revealed by contrasting (32) with (33), which run parallel with respect to *bir şey söyliyecek oldu* 'was about to say something'. For (32) it cannot be determined whether the act of saying had been initiated (lest how much the merchant had been able to utter), but for (33) it may be assumed on the basis of *kendini tuttu* 'he held himself back' that Pozdnişev has not even produced a single sound.

(34) *Mektub-a bir daha* ***bak-acak ol-du,***
letter-DAT once more look-FUT *ol*-PAST1
ceb-in-de *bul-ama-dı* *mektup yok ol-muş-tu!*
pocket-PS3-LOC find-NEGPOT-PAST1 letter disappear-PAST2-PROJ1

'He wanted to look at the letter once more, but he couldn't find it in his pocket, the letter had disappeared!'

The context of (34), then, makes pretty clear that the action of looking at the letter can not have been possibly initiated, since in the coordinated sentence it is stated that the subject could not even find this letter. Here we get at best an 'immediate prospective' type of interpretation.

(35) *Fuschia karşı koy-mak için ağz-ın-ı* ***aç-acak ol-du,***
oppose-INF to mouth-PS3-ACC open-FUT *ol*-PAST1
ama yap-abil-eceğ-i bir şey yok-tu
but do-POT-FUT-PS3 a thing NEGEX-PROJ1

'He wanted to open his mouth in order to oppose to Fuschia, but there was nothing he could do.'

Also the aspectuality expressed in (35) can be interpreted as 'immediate prospective' or 'ingressive', since the context does not give any clue with respect to the stage to which the act of speaking has developed.

(36) *Fuschia konuş-mak için* *ağz-ın-ı* ***aç-acak ol-du,*** *ama*
talk-INF in.order.to mouth-PS3-ACC open-FUT *ol*-PAST1 but
Malko-nun yüz ifade-sin-i *görünce konuş-mak-tan*
Malko-GEN face expression-PS3-ACC seeing speak-INF-ABL

vazgeç-ti
refrain-PAST1

'Fuschia wanted to open her mouth in order to speak, but when she saw Malko's face she refrained from talking.'

The verbal complex of (36) can only be regarded as 'immediate prospective' because *vazgeçti* in the coordinate clause signals that the act of speaking has not even been initiated.

7.2 Summary and analysis II

What all constructions in Section 7.1 share is the element *-EcEk* which often expresses 'intention' rather than sheer 'future'. A second common factor is that this type of construction is obviously restricted to [+animate] first arguments (subjects), which implies that the distribution of this construction is limited to verbs having the feature [±Control]. For this reason constructions such as **Ağaç düş-ecek ol-du* 'The tree was about to fall' can be expected to be non-existent, because 'intention to do something' presupposes the possibility to exercise control over the action (including its initiation, duration, termination).

A second shared property of these constructions is that they, at least at first glance, express some type of Phasal Aspectuality that is centred around or oriented towards the initial phase of the action described. In a number of cases (cf. (30), (31)) there is indeed an indication that the action was initiated — leading to an *Ingressive* interpretation, whereas for others (cf. (33), (36)) its is clear that the action is not initiated but about to begin — leading to an *Immediate Prospective* reading; and in a limited number of cases (cf. (32), (35)) it is impossible to determine to what stage the action has been completed. I think that, as an old saying goes, appearances are deceptive, so that the factor that binds these constructions should not be sought in the initial phase of the action involved but at the termination. In other words, all these constructions (irrespective to the question whether they have been initiated) have not finished, so here we can say that all SoAs are [−Telic].

There are three possible scenarios to arrive at *-EcEk oldu:* First, to some verbal [±Control] predicate, which expresses change/transition and which hence has a natural end point [+Telic], some 'Imperfective' (?Future) operator is applied, which leads to an incompatibility: 'incomplete' versus 'end point'. This can be resolved by a re-interpretation along the lines of 'action attempted (conative) but not finished'. This analysis would work well if we had an

'imperfective', but we don't have one since 'Future' as a Tense marker can hardly be associated with 'Perfective' (external viewpoint, action completed) or 'Imperfective' (internal viewpoint). Furthermore, also *oldu* will be left unexplained.

Second, perhaps a better, but still insufficient solution would be to assume an operator that expresses the Phasal Aspect 'Prospective' directly as *-EcEk oldu* 'going to', which is the closest we can get in terms of a general interpretation. An important point, however, is that 'Prospective' only, in the sense of 'going to', may be too narrow, because it gives no explanation for those cases in which the feature [+Telic] is converted into [−Telic]. In other words, Prospective entails "action not (even) started let alone finished", and leaves no room for an interpretation like "the action has been started BUT not finished.

Third, an approach that does not have the aforementioned shortcomings could be found in assuming an operator denoting 'Conative', which by means of the expression rules provides for the 'fixed' sequence *-EcEk oldu*. It should be noted that this sequence is indeed fixed: markers other than *-du* do not occur.

8. Aspectual forms based on the Negative Present Tense Marker

8.1 Some data: *-mEz ol*

(37) *Uyku-lar* ***tut-ma-z*** ***ol-du*** *son gece-ler,*
sleep-PL hold-NEG-PRES2 *ol*-PAST1 last evening-PL
uyanık gör-ül-en düş-ler de var,
awake see-PASS-PRT dream-PL too EXISTENT
düş-ler birbirinin ardına takılmış, gel-iyor
dream-PL each other after 'hooked' come-PRES2
'During the last nights I couldn't catch any sleep and there were dreams that I could see while awake, the dreams came chained one after another.'

The situation described in (37) is of a somewhat complex nature: *uyku-lar* 'sleep-PLUR' denotes several, individuated instances of 'falling asleep/being asleep'. About the latter 'states' or 'events' it is predicated that they did not obtain, not as such (which is of course implied) but rather from the perspective of a possibly gradual decrease of its coming about. The situation is obviously contrasted with previous situations which, in a highly implicational way, cannot be characterised by *tut-ma-z ol-du*. What is described here is a gradual change of the frequency, intensity, quickness, or easiness with which 'falling asleep/

being asleep' takes place, and hence, (37) basically expresses some sort of quantitative aspectuality'.

(38) *Gene birbiri-miz-e ihtiyaç* ***duy-ma-z*** ***ol-du-k,***
yet one-PS1PL-DAT need feel-NEG-PRES1 *ol*-PAST1-AGR1PL
arkasından da kavga patlak ver-di
afterwards and quarrel break.out-PAST1
'We gradually felt less and less need for one another, and afterwards quarrels broke out too.'

In (38) some gradual decline with respect to *ihtiyaç duy* 'feel (experience) the need' is described. Again an example of Quantificational Aspectuality is represented, although it is hard to determine on the basis of the context alone whether the State of Affairs must be thought to be modified for Frequency, Frequentative, Continuity, or Intensity — to mention only the most likely ones. A characteristic of the constructions in *-mE-z ol-du* is that the morpheme *-z* and its affirmative counterpart *-Ir* (both 'pres1') may express 'habituality' when used independently.

(39) *En sonra bun-a* ***aldırış et-me-z*** ***ol-du-lar***
finally this-DAT pay attention-NEG-PRES1 *ol*-PAST1-AGR3PL
'And eventually they started to pay less and less attention to this.'

Quantificational aspect is also expressed in (39), where reference is made to *Intensity* (the 'degree or extent to which' attention is being given, *aldırış et,* as represented by *less and less* in the translation), its *Frequency* ('less often') or its *Continuity* ('not all the time').

(40) *Mustafa'-nın şiddet-i-nin neden-ler-i konusunda*
M.-GEN violence-PS3-GEN reason-PL-PS3 with respect to
kendi kendim-e soru ***sor-ma-z*** ***ol-du-m***
myself-DAT question ask-NEG-PRES1 *ol*-PAST-AGR1SG
'With respect to the reasons of Malko's violence, I stopped asking myself questions.'

A total termination of some habitual action is expressed in (40). The following sequence of aspectuality may be involved to arrive from 'habitual' to 'not any more': habitual — less frequent — termination'. In that respect an interpretation based on *Quantificational Aspectuality* (habitual, frequency) evolves into (and eventually overlaps with) in a terminal point which falls under *Phasal Aspectuality* (cf. 3.3): 'Egressive' — 'stops to ask' in (40).

(41) *Yaşa-mak artık ilgi-m-i* ***çek-me-z*** ***ol-du,***
live-INF PART interest-PS1-ACC draw-NEG-PRES1 *ol*-PAST1
güçlü ilaç-lar sayesinde ayak-ta dur-abil-iyor-um
strong drug-PL thanks.to floor-LOC stand-POT-PRES2-AGR1SG
Mustafa durum-un fark-ın-da bile değil
M. situation-GEN notice-PS3-LOC even NEG

'I lost my interest in living, thanks to strong drugs I am able to remain standing, (but) Mustafa does (is) not even notice (aware of) the situation.'

For (41) an interpretation similar to that of (40) can be given, since what is expressed is a total termination of a previous habitual State of Affairs. This is represented in the translation by *I lost my interest in living* (*yaşa-ma-k ilgi-m-i çek-mez ol-du* 'life ceased to draw my attention').

(42) *Bu hem çılgın hem de iddialı tasarı-nın girdab-ın-da*
this both mad and pretentious plan-GEN whirlpool-PS3-LOC
sürüklen-ir-ler-ken, kork-ar-ım ki gitgide ayak-ları
go.on-PRES1-AGR3PL-SIM fear-PRES1-AGR1SG that gradually feet-PS3PL
yer-e ***bas-ma-z*** ***ol-du***
ground-DAT press-NEG-PRES1 *ol*-PAST1

'While they went on in the whirlpool of a both frenzy and pretentious plan, I'm afraid that they gradually lost contact with reality.'

In (42) the adverb *gitgide* 'gradually/more and more' is used to reinforce what is expressed by *ayakları yere basmaz oldu,* literally: 'their feet stop touching (stepping on) the ground' → "they lost contact with reality".

(43) *Beyn-im* ***çalış-ma-z*** ***ol-du,***
brains-PS1SG work-NEG-PRES1 *ol*-PAST1
zihinsel açı-dan ciddi bir biçim-de tüken-di-m
intellectual viewpoint serious a form-LOC wear.out-PAST1-AGR1SG

'My brains started to function less and less, from an intellectual point of view I am worn out in a serious way.'

Roughly speaking, the interpretation of (43) runs along the lines of (39). The functioning of the brains is referred to in the sense of its *Intensity* ('less clear(ly)/good/efficient/productive'), its *Frequency* ('less often'), or its *Continuity* ('not all the time'), all with the same obvious result. Given a situation to be described by either (a) 'my brain works (as a rule)' or (b) 'my brain is working

(just now or accidentally'), it remains to be seen whether (43) can be interpreted as 'my brain stops working' as the inverted value of (a) and (b).

(44) *Artık iş-in-den* ***zevk al-ma-z*** ***ol-du***
any.more work-PS3-ABL enjoy-NEG-PRES1 *ol*-PAST1
'(S)he doesn't like her/his work any more.'
'(S)he began to enjoy her/his work less and less.'

Finally, (44) is ambiguous with respect to its overall interpretation. Due to the occurrence of the adverb *artık,* which means 'not any more' in a negated context and which functions as an indicator of some 'starting point', two interpretations are possible. (1) a gradual decrease of the degree (in terms of *Intensity, Frequency,* or *Continuity*) to which *zevk al* 'to enjoy' applies, so that it is expressed that a termination point has been reached, and (2) taking the adverb *artık* as a 'starting point', (44) can be interpreted as the beginning of a new situation which is characterised as 'less and less enjoying his work'. In this respect, (44) is an example of a construction where Quantificational Aspectuality 'overlaps' with *Phasal Aspectuality* (cf. 3.3) in the sense that the aspect 'Ingressive' (begins to (less) enjoy) is expressed.

8.2 Summary and analysis III

Contrary to the constructions of Section 7, all expressing *Phasal Aspectuality,* the constructions related to Section 8 express *Quantificational Aspectuality.*

In a number of constructions (cf. (37), (38), (39), (43), (44)) an interpretation in terms of a (gradual) decrease of 'Frequency/Intensity/Speed' with which some SoA occurs (used to occur) is possible, whereas in others (cf. (40), (41), (42)) it is rather the total termination of some previously 'Habitual' action that is emphasised. Generally speaking, for this type of construction we can say that *-mEz oldu* signalls the 'egressive' ("stops to") nature of some (repeated, regular, habitual) SoA. Similar to the case of *-EcEk oldu,* it would again be very attractive to assume an operator denoting: 'Egressive Habitual', which by means of the expression rules provides for the 'fixed' sequence *-mEz oldu.* Also for this sequence it should be noted that the number and type of suffixes is indeed fixed: other markers than *-du* do not occur. (cf. (10) — constructions in *-mEz ol-abil-ir* can be accounted for in terms of modality, cf. Section 4–6).

9. Aspectual forms based on the Affirmative Present Tense Marker

9.1 Some data: *-Er ol*

Whereas the constructions in (37)–(44) all have in common that they express, in one way or another, that some aspectual characterisation (not overtly expressed) of some event has the propensity to decrease (in terms of *Habituality, Frequency, Intensity* etc), thereby reaching some (prospective) termination point, the constructions of (45)–(50) show something in an opposite direction.

(45) *Bu arada hiç beklenmedik başka pürüz-ler, içten içe*
in the meantime EMPH unexpected other problem-PL secretly
geliş-ip birden patlak veren pürüz-ler ortaya ***çık-ar ol du***
develop-ing suddenly be discovered problem-PL emerge-PRES1 *ol*-PAST1

'In the meantime other, totally unexpected problems secretly developed, (and) problems that were suddenly discovered began to appear/pop up.'

In (45) *ortaya çıkar oldu* can be seen as the expression of the beginning of some (new) situation. Although *ortaya çık* is strictly speaking neutral with respect to the Aktionsart [±Momentaneous][4], some sense of this feature is conveyed by the usage of the adverbial phrase *birden* 'suddenly'. Yet, the central point here is the beginning of a new State of Affairs, a view which is corroborated by the fact that additional information provided by the context gives a clue with respect to a previous situation. The clause immediately preceding the main clause tells us about *hiç beklenmedik pürüzler* 'problems that were not expected at all' have developed, so by logical inference we may conclude that the problems referred to and specified in the main clause were not present in the previous situation. The fact that *pürüz-ler* 'problems/all kind of problems' is used as a plural form gives the whole a flavour of 'at several moments'/'at intervals'. This 'iterative' character of 'the popping up of the problems' is of course not expressed as such, but may be part of an overall interpretation on the basis of the plural.

(46) *Ev-de gene cıvıldayan, şarkı söyleyen ses-in-i* ***duy-ar***
house-LOC again chirping singing voice-PS3-ACC hear-PRES1
ol-du-k
ol-PAST1-1PL

'And at home we began to hear again her chirping voice singing (songs).'

Also in (46) the role of an adverbial expression (*gene* 'again') gives a clue with respect to the kind of situation preceding the present one. In its entirety, (46) tells us that 'we started to hear some voice', not 'out of the blue' so to speak but rather, in the context of a recent, immediately preceding absence of a State of Affairs that could be described by *duy* 'hear/feel/perceive' plus its complement containing *şarkı söyle* 'sing (a song)'. The occurrence of *gene* 'again', however, points out that this situation has been existent some time before but that it was non-existent (interrupted) at the moment that represents the perspective from which the new situation is described. The emphasis, of course, is on the transition from one situation to another, possibly with some 'habitual' or 'iterative' associations (*singing* regularly, at certain intervals, but note that these aspectual properties are 'commanded' by *duyar olduk*).

(47) *Öyle ki, devamlı söylenme-ler-i sona er-di*
thus that continuous grumble-PL-PS3 stop-PAST1
ve ev-de kıyısından köşesinden iş bile ***yap-ar ol-du***
and house-LOC out-of-the-way places-ABL work even do-PRES1 *ol*-PAST1
'And so it happened that his continuous grumbles came to an end and that he even started to do something at home in out-of-the-way places.'

A transition from one situation to another one is also expressed in (47) by the opposition between *devamlı söylenme-ler-i sona er-di* 'his continuous grumbles came to an end', a situation that lasted for some time (*Quantificational Aspectuality* expressing *Continuity,* as can be inferred from the adjectival *devamlı* 'continuous'), and what is said by *iş bile yapar oldu* 'he even started to do something'. The latter expression contains the modal adverb *bile* 'even' which may be regarded as having *iş* 'work; here: something' in its scope. This entails that a situation to be characterised by *iş yap* did not obtain before, and hence an interpretation of *iş yapar oldu* as 'ingressive' ('start to …') is achieved through the domain of Phasal Aspectuality.

(48) *Deniz kenar-ın-a gitgide seyrek* ***in-er ol-du-k***
sea side-CM-DAT gradually seldom go.down-PRES1 *ol*-PRES1-AGR1PL
'We went down to the sea side more and more infrequently.'

The fragment in (48) allows for an interpretation in which the most important key words are: *Frequency* and *Ingressive*. The ingressive interpretation is due to the fact that *in-er ol-du* is used, which signals a new situation at the background of a preceding one. The aspect of *Frequency* is expressed as such by means of the adverbial expressions *seyrek* 'seldom/rarely', and the speed (*Intensity)* with

which the process of change took place is specified by *gitgide* 'gradually'. In fact, (48) could be seen as the expression for the initialisation of a series of States of Affairs which in its entirety is described by *denize in* 'to go down/descend to the sea', but for which it is highlighted that its frequency is (gradually) decreasing.

(49) *Bun-lar-ı gören anne-m yüz ört-mek-ten*
this-PL-ACC seeing mother-PS1SG face cover-INF-ABL
yüksün-ür, babaanne-m-den bu konuda destek
regard.as.a.burden-PRES1 grandmother-PS1SG-ABL this respect support
ar-ar ol-du
seek-PRES1 *ol*-PAST1
'My mother, seeing all this, regarded covering her face as a burden, (and) sought more and more support from my grandmother.'

In contrast to (48), in (49) an increase of *Frequency* or *Intensity* is expressed, although there are no adverbial expressions that support this view. Again, the basic aspectual feature is initialisation ('ingressive') of some (repetitive, iterative) SoA.

(50) *Yemek-ler-in-i yalnız* ***ye-r ol-du***
food-PL-PS3-ACC alone eat-PRES1 *ol*-DU
'S/he ate his food more and more often alone.'

The only possibility for (50) is that *yer oldu* expresses aspectuality with respect to *Frequency,* rather than anything else, an interpretation which is more or less determined by the occurrence of *yalnız* 'alone'. Leaving out this (circumstantial) adverbial phrase would lead to an odd type of sentence. Furthermore, *yalnız* 'alone' bears some emphasis since it is placed in pre-verbal position and therefore it can be said to attract aspectual connotations. A precise interpretation without a richer context is rather difficult. The interpretation represented by the translation is more or less affected by the interpretations given for the examples discussed previously, but as a matter of fact the *Frequency* in (50) can also be regarded as 'zero', leaving room for interpretations such as 'all of a sudden'/'completely'.

9.2 Summary and analysis IV

A construction type related to the one represented in Section 8 is exemplified in Section 9: the *-mE-z* in Section 8 is the negative ("mirror image") of *-Er* in 9. Assuming that the overall interpretation of the sequence *-mE-z ol-du* is 'stops to'

(egressive), it is safe to assume that *-Er ol-du* marks the opposite 'starts to' (ingressive) for it marks that a new period is entered for which some action is performed at the background of a regular or habitual basis (*Quantificational Aspectuality*). This is most clearly shown by (45), (46), (47), (49), whereas somewhat more emphasis on 'frequency' is expressed by (48) and ((50). Also for these constructions an operator could be assumed; besides the operator 'Egressive Habitual', expressed as the fixed sequence *-mEz oldu,* we would have 'Ingressive Habitual' as well, leading to the sequence *-Er oldu.*

9.3 Conclusions

With respect to semantic interpretation, the analyses given so far do not drastically deviate from those of Mixajlov (1961:77). For the constructions in *-EcEk oldu* he describes their overall meaning as "Перифрастическая форма на *-(y)acak oldu* выражает *попытку* [italics are mine] совершения действия в отдаленном прошлом", that is, "The periphrastic form in *-(y)acak oldu* expresses an attempt to finish an action in the remote past". Indeed, in many of the Russian translations of his examples it is reflected that the key notion is 'attempt' or 'volition', witness the usage of verbs such as попытался; (по)пробывал 'tried' and хотел было 'wanted' respectively.

A similar conclusion can be drawn for the constructions in *-Er oldu* and *-mEz oldu.* As Mixajlov (1961:31, 32) states, the former "выражают *начало* [italics are mine] действия в прошлом с оттенком обычности", that is, "[it] expresses the beginning of an action in the past with a shading of habituality", which is in many a case rendered in translation as forms of стать + infinitive 'to begin to'; whereas the latter conveys the opposite idea: "выражают *полную завершенность* [italics are mine] действия", that is, "[it] expresses a total completion of the action", which in turn is translated on the basis of forms of перестать + infinitive 'to stop to'.

The expression of these three aspectuality markers can be accounted for in terms of operators to be applied at the level of the predication (level 2). Since each of the aspectual interpretations cannot be attributed to individual contributions of (other) operators/markers for tense or aspect, the type of aspectuality expressed by *-EcEk oldu, -Er oldu,* or *-mEz oldu* cannot be predicted in a decompositional way. This is most clearly revealed by opposing for instance the compositional form *gid-ecek-ti* '(s)he would go' (= futurum praeteriti) with the periphrastic form *gid-ecek ol-du* '(s)he wanted to go (but didn't)'. Both forms, of course, relate to the 'past' which is expressed by *-ti* and *-du* respectively, but

what the *semantic* contribution of *ol* is in the latter form remains unclear. Therefore, the easiest way to account for the periphrastic form as a whole is to assume an operator 'Conative' which triggers the attachment of the 'suffix sequence' *-EcEk oldu* when applied to [+Control] verbs.

Since the periphrastic forms *-Er oldu* and *-mEz oldu* are not decompositional either, the operators 'Ingressive (Habitual)' and 'Egressive (Habitual)' could be assumed, to be applied on level 2 (predication) in such a way that the expression rules generate these suffixes in their entirety.

Notes

1. For a typology of State of Affairs, see Dik (1989: 89 ff).

2. For object incorporation in Turkish, see Nilsson (1986).

3. For a more detailed account, see Dik (1989: 190).

4. Usually, a verb describing a [+Momentaneous] event cannot be combined with an aspectual verb signalling the beginning, continuation or end of that Event (cf. Dik, 1997: 111). From the example below it follows that *ortaya çıkmak* 'to appear/pop up/emerge' is not specified for this feature.

> *Haliyle bu durum-da da kırışıklık-lar ortaya çık-ma-ya başlı-yor*
> consequently this state-LOC too wrinkled spot-PL appear-INF-DAT begin-PRES2
> 'And thus, in this situation too all kind of wrinkled spots begin to appear.'

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On the relation between temporal/aspectual adverbs and the verb form in Turkish

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1. Introduction

It is well known that temporal relations and modal notions in Turkish may be expressed through grammatical markers, i.e. as tense and mood on the verb, as well as through lexical means, like adverbs and particles (Tosun 1998; Özsoy & Taylan 1993; Taylan 2000). Aspectual notions would, likewise, be expected to get encoded similarly in the form of verb inflection and adverbs. However, it is also well known that verbal grammatical markers in Turkish do not always have a differentiated function, such that a certain verb inflection may express tense/aspect and/or mood simultaneously (Aksu Koç and Slobin 1982; Aksu Koç 1988; Kornfilt 1997; Taylan 1997). The fact that such different semantic categories may be subsumed under a single morpheme, then, makes the analysis of the Turkish verbal coding system an intricate matter.

That there is a close interplay between temporality and aspectuality, as expressed in the form of verb morphology, has well been established by all those working on tense and/or aspect in Turkish (Kornfilt 1997; Johanson 1994). In fact, Johanson (1994) merges these two categories into the hybrid category of "aspekto-tempora" in analyzing the verb paradigm in Turkish. Therefore, in order to determine how (or if) grammatical aspect can be differentiated from tense, we need to start our analysis by first giving a language-independent semantic characterization of these categories and then proceed to analyzing how the language has coded them. Our analysis, however, will be carried in both directions, that is, when necessary it will go from language-particular morphemes to language-independent semantic categories or from language-independent categories to language-particular coding.

Assuming that aspect is a category in Universal Grammar as argued in Smith (1997), basic types of aspect need to be explicitly defined and their distinct properties determined in order to be able to investigate the kinds of parametric variations exemplified in different languages. The main motive behind this study is to contribute to the understanding of how aspect as a semantic category operates in a language like Turkish where there are no verbal grammatical markers just to signal aspectual oppositions as in Slavic languages. In trying to uncover the aspectual interpretation conveyed in a sentence, it is necessary to analyze, in addition to the particular grammatical markers, the contribution of the verb type, its arguments and adverbs as the lexical means through which different kinds of semantic information are expressed. Since aspectual distinctions expressed by the verb or the verb complex have been analyzed in terms of features like [±dynamic], [±durative] and [±telic], one set of temporal/aspectual adverb(ial)s investigated in this study is characterizable in terms of such features. The other set of adverbs looked into are those expressing an orientation point, which is another crucial feature in defining aspectual categories, in particular the perfect. By including adverbials into this research, one of the aims has been to determine the nature of the co-occurrence restrictions or dependency relations resulting from the interaction of the adverb(ial) with situation type and/or grammatical aspect. It will also be shown that certain adverb(ial)s from these two defined sets under negative polarity have different distributional patterns, as well as a determining role in the aspectual interpretation of the sentence. Furthermore, the results of this analysis will point to a number of implications for the syntax and semantics of Turkish.

First a brief presentation of the different approaches to the category of aspect and the distinctions between aspectual categories will be given in Section 2. In Section 3 the Turkish verbal inflectional paradigm will be viewed in terms of the definition of aspect adopted in the previous section. Section 4 will illustrate the behavior of the defined set of the adverb(ial)s when the situation type and grammatical aspect are varied. Finally, the implications of the findings will be discussed with respect to how aspect as a notional category is expressed in the language and questions will be raised for further research.

2. The category of aspect

Aspect as a semantic category may get expressed in the lexical semantics of the verb (aktionsart), together with the constituents in the verb complex/phrase (the arguments, particles) as well as verb inflection and adverbs. Therefore,

aspectual information coded at the lexical versus inflectional level has been distinguished under a variety of terms in different theoretical approaches. Comrie's analysis of aspect (1976) focuses predominantly on grammatical morphemes as markers of aspectual distinctions. Thus defining grammaticalized aspect as the expression of the "internal temporal consituency of an event" (1976: 3), Comrie proceeds to his language independent typology of aspect where he views the main opposition to be between the perfective and the imperfective. Perfective aspect presents a situation in its entirety as completed, while the imperfective presents the situation as viewed from within, focusing on a particular internal stage. The imperfective is further subdivided into the habitual and continuous aspects, the latter containing the progressive, non-progressive distinction. The perfect is treated as yet another type of aspectual category which does not directly give information about the situation itself but rather expresses that the situation is relevant to two time-points, such as indicating the present relevance of a past situation (Comrie: 52). Though the status of perfect as to whether it is a tense or aspect has been a topic of dispute, it is quite clear that it expresses both temporal and aspectual information.[1] The perfect, by locating a situation prior to reference time allows for a secondary orientation point. This reference time may be the same as speech time (ex. *John has read the book*) or prior to speech time (ex. *John had read the book last Monday*) or after the speech time (ex. John *will have read the book by next Monday*) (Smith 1997: 106–7).

The term *aktionsart* has been used, though with some variation, to refer to the inherent lexical semantics of the verb as a source of aspectual distinctions. Aktionsart is covered by *situation types* in Smith's two component theory of aspect (1997) and by *states of affairs* (SoA) in the functional grammar treatment of aspect (Dik 1989). Situation types are characterized not only by the lexical semantics of the verb but also by the nature of the arguments (such as whether the direct object is quantized or cumulative, etc.) and adverbs in the verb complex; thus, situation types are more inclusive than aktionsart. Smith uses the features [±dynamic], [±durative] and [±telic] to distinguish between situation types, which fall into the following categories:[2]

i. states: [−dynamic], [+durative] and [−telic]
   ex. *John is tall; John resembles his father.*
ii. actions: [+dynamic], [+durative] and [−telic]
   ex. *John is playing soccer; He listened to music.*
iii. accomplishments: [+dynamic], [+durative] and [+telic]
   ex. *John walked to the bus stop; He made that sculpture.*

iv. achievements: [+dynamic], [−durative] and [+telic]
ex. *John found his hat; John broke the window.*
v. semelfactives: [+dynamic], [−durative] and [−telic]
ex. *John winked; John knocked on the door.*

As opposed to lexical means, aspectual information signaled through grammatical morphemes is viewpoint aspect in Smith's terms, which constitutes the second component of her theory. Viewpoint aspect makes visible the situation expressed in the sentence just like the lens of a camera makes the objects visible (Smith 1997:61). The perfective viewpoint presents a situation as a closed whole between its initial and final endpoints; whereas, the imperfective focuses on an interval, which may obtain at the preliminary, internal or resultant stages of a situation with no information about its end points (Smith 1997:66–77). The perfective and imperfective which are typically expressed through verb inflection in languages are the major viewpoint aspects.[3] The overall aspectual interpretation of a sentence, then, is the outcome of the interplay between situation type and viewpoint aspect. For example, the progressive viewpoint is by definition [+durative]; therefore, when a semelfactive situation, such as *John coughed*, which is [−durative], is presented in the progressive viewpoint (i.e. *John was coughing*) the situation type shifts to multiple-event activity (Smith 1997:48–50). Similarly, adverbs have been noted to trigger shifts in situation types. The addition of a durative adverb like *for an hour* will change the semelfactive situation given above to an activity in *John coughed for an hour.*[4]

Aspect has received a major place in functional grammar treatments of language, too (Foley and Van Valin 1984; Dik 1989). The clause is made up of several underlying levels/layers of formal and semantic organization and aspectual information is represented either as an operator or as a satellite at the relevant level of structure.[5] States of affairs which are analogous to Smith's situation types are designated at level 2 by the predication in the form of a predicate frame with its arguments specified. Operators express modifications which occur at the relevant level through grammatical morphemes; tense, grammatical aspect and mood are, then, operators which apply at different levels. Satellites, on the other hand, express modifications through lexical means, such as adverbs (Dik, Hengeveld, Vester & Vet 1990; Hengeveld 1990). The distinctions in the typology of SoA's result from the internal semantic features of the predicate; the different SoA categories in FG are characterized in terms of the parameters [±dynamic], [±control], [±momentaneous], [±experience] and [±telic].

The brief discussion above indicates that though aspect as a semantic category has been handled in somewhat different ways in different theoretical frameworks, nevertheless, there appears to be agreement on treating grammaticalized aspect at a different level than lexically expressed aspect. The analysis of the Turkish data in the present study is predominantly carried out making use of Smith's definition of viewpoint aspect and her classification of situation types, which constitute the two components of her theory of aspect.

3. Grammaticalized aspect in Turkish

The main verb in a Turkish sentence may have a complex morphological structure, involving the stringing together of a number of different types of verbal morphemes. The order of verbal morphemes may be represented as:

V + (voice) + (neg.) + (mod.) + TAM- I + (TAM-II) + agreement + (-DIr)
ex. çağır -ıl -ma -yabil -ir -miş -iz
call -PASS -NEG -MOD -AOR -EVID -1PL
'Apparently it is possible that we may not be called (invited)'

There are two slots for tense, aspect and/or modality (TAM) affixes to occur in and they are the slots occupied by the aorist (*-ir*) and the evidential (*-miş*) in the above example (i.e. following the voice, negative or epistemic modality markers, in case they are present). The aorist morpheme is then a slot I affix, while the evidential fills slot II.[6] The only obligatory marking on a verbal predicate (when not in the imperative mood) is a TAM-I marking that occupies slot I and an agreement morpheme; morphemes from all other categories are optional. This also means that a TAM-II morpheme can occur in slot II only when a TAM-I morpheme is present.

Given that perfective aspect is defined as the grammaticalization of the completeness/boundedness of a situation, then it is typically the affix -DI from paradigm I, most commonly known as the definite past tense morpheme, that signals this notion. Example (1) below could be a possible answer to the question *Ayşe bu sabah ne yaptı?* 'What did Ayşe do this morning?':

(1) Ayşe tavuğ-u pişir-**di**
chicken-ACC cook-PAST
'Ayşe cooked the chicken.'

The morpheme *-di* here expresses that the event of cooking the chicken (an accomplishment) took place prior to the moment of speech (therefore past), is

completed (perfective aspect) and that the speaker has first hand information about the event (factive). Thus it expresses past tense, perfective aspect and factive mood simultaneously, all of which are clearly related semantically (Taylan 1997).

However, the same morpheme can be interpreted as expressing perfect aspect in a context where the event in (1) has taken place but still has present relevance, in which case the sentence would have the reading 'Ayşe has cooked the chicken'. Thus, the grammatical morpheme -DI appears to be unspecified as to whether it is a marker of the perfective or perfect aspect; it is the pragmatic context or the presence of certain adverb(ial)s (as will be shown in Section 4) that will specify the particular viewpoint.[7]

The morpheme that has been analyzed as having the perfect aspect function is, in fact, the affix -mIş, which additionally may express the evidential mood, past reference or other pragmatic extensions of its aspectual/modal functions (Slobin and Aksu-Koç 1982). In a statement like the one given in (2) which may be uttered upon realizing that Ayşe's car is no longer in the car park,

(2) Ayşe git-**miş**
go-PERF
'Ayşe has gone/left.'

-miş expresses that the event (Ayşe's going) is inferred from a certain evidence (Ayşe's car being not in the car park) which is a result of a prior event, obtaining in the present. The morpheme -mIş, then, encodes both perfect aspect as well as evidential mood.[8]

If, however, example (2) were uttered as an answer to a question like *Geçen ay Ankara'ya kim gitmiş?* 'Who went to Ankara last month?', the sentence *Ayşe gitmiş* would be interpreted as being in the perfective aspect ('Ayşe went'), since the event is over and has no current relevance. The fact that the verb is inflected with -mIş instead of -DI does not always reflect an aspectual distinction, since both -mIş and -DI does express the perfective as well as the perfect aspect, but rather expresses a modal differentiation. -DI conveys that the speaker has direct experience concerning the realization of the event expressed in the proposition, while -mIş signals that the source of information about the event stated is not the speaker but some other party. In short, the verbal affixes -DI and -mIş, which are in a paradigmatic relationship with each other occupying the same slot, always contrast in their modal functions (factive vs. evidential, respectively) but need not always contrast in the aspect or tense they express, in which case the contribution of the adverb(ial)s or context becomes crucial for the correct semantic interpretation.

Given that the imperfective aspect focuses on an interval that obtains at a certain stage of the event (preliminary, internal or resultant), then, it is the morpheme -Iyor from paradigm I that expresses imperfective aspect in Turkish. Example (3) below illustrates that -Iyor makes visible an internal stage of the situation which spans between the initial and final endpoints:

(3) Ayşe tavuğ-u pişir-**iyor**
chicken-ACC cook-IMPERF
'Ayşe is cooking the chicken.'

In the traditional grammar books of Turkish the morpheme -Iyor is labeled as the marker of the present or present progressive tense. However, since it can be followed by a past tense morpheme (e.g. *Ayşe tavuğu pişir- iyor-du* 'Ayşe was cooking the chicken') -Iyor cannot truly be the present tense morpheme; it would be semantically contradictory to have both the present tense and the past tense co-occur. -Iyor can freely occur with stative verbs in Turkish (e.g. *Ayşe annesine benziyor* 'Ayşe resembles her mother'); therefore it cannot be expressing progressive aspect which never combines with stative verbs.[9] Thus, this morpheme is analyzed as a general imperfective aspect marker which also expresses primarily present tense in the absence of any tense/aspect morpheme following it. In such cases, -Iyor may be open to a future reference interpretation. The time reference of this morpheme is disambiguated by context or the presence of adverbs, as illustrated in (4a) and (4b) below.

(4) a. Ayşe tavuğ-u şimdi pişir-iyor
chicken-ACC now cook-IMPERF
'Ayşe is cooking the chicken now.'
b. Ayşe tavuğ-u yarın pişir-iyor
chicken-ACC tomorrow cook-IMPERF
'Ayşe is cooking the chicken tomorrow.'

Analyzing -Iyor as the general imperfective with primarily a present tense interpretation is not, by any means, a unique phenomenon. Many languages, one of which is Arabic, have similar coding systems (Comrie 1976: 78–82).

There are other aspectual distinctions expressed through grammatical means, like the habitual and the prospective encoded by the aorist (-Ir/-Er) and the future (-(y)EcEK), respectively, or expressed through different types of periphrastic constructions (van Schaaik, this volume; Kornfilt 1997).[10] However, these distinctions do not fall into the scope of this study, our research being concerned only with the interaction of the defined set of adverbials with the imperfective, perfective or perfect viewpoint aspects and the different situation types.[11]

4. Temporal/aspectual adverbs in Turkish

As aspectuality involves information about durativity and (un)boundedness of the situation, one set of the temporal adverb(ial)s considered in this study are those characterizable by the aspectual [±durative], [±telic] features, which are used in the specification of viewpoint aspect as well as situation types. Thus, locating adverbials (at seven o'clock, etc.) and frequency adverbials (every week, etc.) are not included in the study. A further significant property of aspectuality being the temporal relation between the situation and the specified orientation point, adverbs having the [+orientation pt.] feature have been included into the investigation. The analysis of the behavior of the adverb(ial)s that fall into the sets defined above has revealed (i) the kinds of constraints operative on the cooccurrence of the adverb(ial)s, situation types and/or viewpoint aspect, (ii) how the interaction of these adverb(ial)s with situation type and viewpoint determines the overall aspectual interpretation, and that (iii) the feature [±control] is needed to account for the patterning of certain adverb(ial)s used in stative situations.

If compatibility of semantic features is expected between adverb(ial)s, situation type and viewpoint aspect, then durative adverb(ial)s should co-occur with statives, activities and accomplishments, all of which are [+durative]. With regard to viewpoint aspect, since the imperfective focuses on an interval of the situation, be it the preliminary, internal or resultant stage, durative adverb(ial)s would be most compatible with this viewpoint.

The feature [+telic] expresses that the event has a natural end point; therefore, [+telic] and [+durative] adverb(ial)s would be expected to be compatible with accomplishments, which share the same two features. Furthermore, a perfective viewpoint which presents an event in its entirety, that is, as bounded, would be expected to be compatible with telic adverb(ial)s. Along the same lines, adverb(ial)s having the features [−telic] and [+durative] should cooccur with statives and activities, which share these two features.[12]

However, the investigation of the behavior of adverbials having (a) [+durative], [−telic] and (b) [+durative], [+telic] features has revealed that the cooccurrence constraints observed cannot be explained by the compatibility of their semantic features, and that adverb(ial)s, in particular, of group (a) show different distributional properties.

4.1 [+durative] [−telic] adverbials

Based on their distributional patterns adverb(ial)s with [+durative] and [−telic] features fall into the following subgroups:

Those that are compatible:

i. only with activities and statives (as predicted)
ii. with activities, statives and shifted semelfactives
iii. with all situation types except achievements.

4.1.1 *Adverbials compatible only with activities and statives*

Adverbials of this category are formed by the postposition *için* 'for' following an expression of time, such as *bir hafta için* 'for a week', etc. or by time expressions derived with *-lIğInE* as in *bir haftalığına* 'for a week'.[13] These adverbials are compatible only with situation types that share the same features [+durative] and [−telic], namely activities and statives, as seen by the grammaticality of (5) and (9b). Accomplishments and achievements which are [+telic] and semelfactives which are [−durative] are not compatible with this set of adverbials, as the ungrammaticality of (6), (7) and (8) illustrate. Adverbials of this set do not shift a semelfactive situation to an activity, as some durative adverbials do. For the compatible situations no restrictions on viewpoint aspect are observed.

(5) Nazan *iki hafta için* burada çalış-tı/çalışıyor (activity)
two week for here work-PAST/work-IMPERF
'Nazan worked/is working here for two weeks.'

(6) *Nazan *iki gün için* okul-a yürü-dü/yürü-yor (accomplishment)
two day for school-DAT walk-PAST/walk-IMPERF

(7) *Nazan *iki gün için* Ankara-ya var-dı/var-ıyor (achievement)
two day for -DAT reach-PAST/reach-IMPERF

(8) *Nazan *iki hafta için* öksür-dü/öksür-üyor (semelfactive)
two week for cough-PAST/cough-IMPERF

(9) a. *Nazan *iki hafta için* hasta/hasta-ydı (stative)
two week for sick/sick-PAST
b. Nazan *iki hafta için* burada/burada-ydı
two week for here/here-PAST
'Nazan is/was here for two weeks.'

The behavior of these adverbials with statives, where it is felicitous in one instance (9b) but not in the other (9a) calls for an explanation. Here the feature

[+control] seems to be at play; states which emerge without the will or control of the subject, like *hasta* '(be) sick' in (9a), are not compatible with adverbials of this group, while states which come into being as a result of the will or control of the subject, like *burada* '(be) here' in (9b), are compatible with them. In the non-past form of (9b), the time span expressed by the adverb is interpreted as including the present and extending into the future. Thus the feature [+control], utilized by functional grammarians in typologizing the SoA's, emerges as a significant feature for the characterization of a distinction among statives, which gets reflected in the compatibility pattern of the adverbials. These adverbials express the duration for which the state or activity holds, will hold or has held.

4.1.2 *Adverbials compatible with activities, statives and shifted semelfactives*
These are derived adverbials like *aylarca* 'for months'; *haftalarca* 'for weeks', etc., or adverbials expressing a specific duration like *beş saat* 'five hours', *iki yıl* 'two years', etc.[14] These adverbials are not compatible with [+telic] situations like accomplishments and achievements as expected; this incompatibility is illustrated by the ungrammaticality of (11) and (12). Though semelfactive situations are [−durative] and [−telic], the presence of an adverbial of duration from this set causes a shift in the situation type and the shifted situation is now interpreted as a derived activity; hence the grammaticality of (13). The felicitous examples (10) and (13) indicate that these adverbials prefer the perfective viewpoint. When the verb has the general imperfective affix -Iyor, however, the sentence would be acceptable only with a habitual reading.[15] In fact, the presence of another adverbial like *her gün* 'every day' in (10) makes the habitual reading very clear (i.e. *Nazan her gün saatlerce yürüyor* 'Nazan walks for hours every day).

(10) Nazan *saat-ler-ce/beş* *saat* yürü-dü/?yürü-yor (activity)
hour-PL-ADV/five hour walk-PAST/walk-IMPERF
'Nazan walked/walks for hours/five hours'

(11) ?*Nazan *saatlerce/beş* *saat* okul-a yürü-dü/yürü-yor
hour-PL-ADV/five hour school-DAT walk-PAST/walk-IMPERF
(accomplishment)

(12) *Nazan *saat-ler-ce/beş* *saat* Ankara-ya var-dı/var-ıyor
hour-PL-ADV/five hour -DAT reach-PAST/reach-IMPERF
(achievement)

(13) Nazan *saat-ler-ce/beş saat* öksür-dü/?öksür-üyor
hour-PL-ADV/five hour cough-PAST/cough-IMPERF
'Nazan coughed/?is coughing for hours.' (semelfactive > activity)

(14) a. *Nazan *saat-ler-ce/beş saat* hasta/hasta-ydı (stative)
hour-PL-ADV/five hour sick/sick-PAST
b. Nazan *saat-ler-ce* burada-ydı/*burada
hour-PL-ADV here-PAST/*here
'Nazan was here for hours.'
c. Nazan *beş saat* burada-ydı/burada
five hour here-PAST/here
'Nazan was/is here for five hours.'

The distribution pattern of this set of adverbials with statives again provides evidence that statives are subcategorized according to their feature [±control]. Though both *saatlerce* 'for hours' and *beş saat* 'five hours' are incompatible with the [−control] stative predicate *hasta* 'sick' (example 14a), they are compatible with a [+control] stative predicate like *burada* 'here' (14b and c). It is not, under normal circumstances, in the individual's control to be sick, but it is, normally, in the individual's control to be present or not present at a place. The choice of adverbials in example (14), then, reflects this underlying distinction among statives. A further point that needs to be drawn attention to is that while *saatlerce* 'for hours' requires the [+control] stative situation to be presented as a closed whole and thus be in the past tense and have the perfective viewpoint, the adverbial *beş saat* 'five hours' is not subject to this restriction.

4.1.3 *Adverbials compatible with all situation types except achievements*

This set of adverbials is formed by a variety of means:

a. those formed by the postposition *boyunca* 'during' following a time expression, such as *iki gün boyunca* 'during two days', *bütün hafta boyunca* 'during the whole week'
b. those derived by the suffix -DIr combining with a durative time expression like *iki gündür* 'for two days'; *epeydir* 'for quite a while', and those formed by -DEn *beri* again combining with a time expression, such as *iki günden beri* 'since two days'.[16]
c. the adverb *hala* 'still'

This set of adverbials can co-occur with activities (15), accomplishments (16) and statives (19–20), all of which are [+durative], and also with semelfactives (18) which get shifted to an activity in the presence of such durative adverbials.

As expected they are not compatible with achievements (17), which are both [−durative] and [+telic]. However, surprisingly they are compatible with accomplishments which are [+telic]. Examples below illustrate the above mentioned distributions and constraints.

(15) a. Nazan *bütün hafta boyunca* burada çalış-tı/çalışıyor (activity)
all week during here work-PAST/work-IMPERF
'Nazan worked/works here during the whole week/all week long.'
b. Nazan *iki gün-dür* burada çalış-ıyor/*çalış-tı
two day-ADV here work-IMPERF/*work-PAST
'Nazan has been working here for/since two days.'
c. Nazan *hala* burada çalış-ıyor/*çalış-tı
still here work-IMPERF/*work-PAST
'Nazan is still working here.'

(16) a. Nazan *bütün hafta boyunca* okul-a yürü-dü/?yürü-yor
all week during school-DAT walk-PAST/walk-IMPERF
'All week long Nazan walked to school.' (accomplishment)
b. Nazan *iki gün-dür* okul-a yürü-yor/*yürü-dü
two day-ADV school-DAT walk-IMPERF/*walk-PAST
'Nazan has been walking to school for/since two days.'
c. Nazan *hala* okul-a yürü-yor/*yürü-dü
still school-ACC walk-IMPERF/*walk-PAST
'Nazan still walks (/is walking) to school.'

(17) a. *Nazan *bütün hafta boyunca* Ankara-ya var-dı/var-ıyor
all week long -DAT reach-PAST/reach-IMPERF
(achievement)
b. *Nazan *iki gün-dür* Ankara-ya var-dı/var-ıyor
two day-ADV -DAT reach-PAST/reach-IMPERF
c. *Nazan *hala* Ankara-ya var-dı/var-ıyor
still -DAT reach-PAST/reach-IMPERF

(18) a. Nazan *bütün hafta boyunca* öksür-dü/*öksür-üyor
all week during cough-PAST/*cough-IMPERF
'Nazan coughed all week long.' (semelfactive>activity)
b. Nazan *iki gün-dür* öksür-üyor/*öksür-dü
two day-ADV cough-IMPERF/*cough-PAST
'Nazan has been coughing since two days.'
c. Nazan *hala* öksür-üyor/*öksür-dü
still cough-IMPERF/*cough-PAST
'Nazan is still coughing.'

(19) a. Nazan *bütün hafta boyunca* hasta-ydı/*hasta (stative)
all week during sick-PAST/*sick
'Nazan was sick all week long.'
b. Nazan *iki gün-dür* hasta/hasta-ydı
two day-ADV sick/sick-PAST
'Nazan has been/was sick for two days.'
c. Nazan *hala* hasta/hasta-ydı
still sick/sick-PAST
'Nazan is/was still sick.'

(20) a. Nazan *bütün hafta boyunca* burada/burada-ydı (stative)
all week during here/here-PAST
'Nazan is/was here all week long.'
b. Nazan *iki gün-dür* burada/burada-ydı
two day-ADV here/here-PAST
'Nazan has been/was here for two days.'
c. Nazan *hala* burada/burada-ydı
still here/here-PAST
'Nazan is/was still here.'

Adverbials in group (a) like *beş yıl boyunca* 'during five years' can cooccur with the perfective as well as the imperfective in activity situations but select the perfective in accomplishment and shifted semelfactives. This may appear as curious since accomplishments are [+telic] situations. As Rapoport (1999: 661) has also noted, durative adverbials that are compatible with accomplishments focus on the activity part, which inherently have some duration, and not the end point of the situation. Accomplishment situations including such durative adverbials and presented in the perfective as a complete whole are, interpreted as repeated instances of the same complete event during the specified time span with the activity focused on.[17]

These adverbials which can felicitously take part in stative situations, however, are restricted to the past tense and the perfective viewpoint in [−control] stative situations, as seen in (19a). The adverbial specifies the time span of a past situation over which the subject has had no control. Naturally, the time span of a situation that obtains at the moment of speech, where the subject has no control over it cannot be specified.

The above data illustrate that adverbials of group (b) and (c), namely *iki gündür* 'for/since two days' and *hala* 'still' are constrained by viewpoint aspect; they select only the imperfective viewpoint for the situation types they are compatible with.[18] This constraint can be viewed as following from the [−telic]

feature of the adverbials which would render them more compatible with the imperfective viewpoint, this viewpoint having an open reading, not including any endpoints in the interval focused on. What needs to be further noted here is that though the verb is marked with the general imperfective morpheme -Iyor, the presence of these durative adverbials, which are anchored to the moment of speech, shifts the temporal and aspectual reading to "present perfect continuous".

A crucial property of group (b) and (c) adverbials is that they have a different distribution pattern under negative polarity. These adverbials, observed to be restricted to the imperfective viewpoint in the affirmative mode (as was illustrated by examples (15b,c), (16b,c) and (18b,c)) are not subject to such a restriction in the negative mode.

(21) a. Nazan *iki gün-dür/hala* burada çalış-ma-dı (activity)
two day-ADV/still here work-NEG-PAST
'Nazan (still) has not worked here (for/since two days).'
b. Nazan *iki gün-dür/hala* okul-a yürü-me-di (accomplishment)
two day-ADV/still school-DAT walk-NEG-PAST
'Nazan has (still) not walked to school (for/since two days).'
c. Nazan *iki gün-dür/hala* öksür-me-di (semelfactive)
two day-ADV/still cough-NEG-PAST
'Nazan has (still) not coughed (for/since two days).'

It is clear from the above examples that adverbials *hala* 'still', *iki gündür* 'for/since two days' under negative polarity can cooccur with a verb inflected with -DI, which expresses the past tense as well as the perfect or perfective aspect. The morpheme -DI together with these adverbials, which are anchored to the moment of speech and yet express a duration that stretches into the past for some time, conveys the perfect aspect rather than the perfective, since the unrealized property of the event expressed maintains its relevance at the moment of speech.

4.2 [+durative] [+telic] adverbials

Adverbials with [+durative,+telic] features, such as *iki saatte* 'in two hours'; *iki hafta içinde* 'within two weeks', etc. are not compatible with activities and statives which are [−telic], as shown in (22) and (26). In other words, their distribution follows the predictions born out by their characterizing features.

(22) *Nazan *iki saat-te/iki saat içinde* çalış-tı/çalış-ıyor (activity)
two hour-LOC/two hour within work-PAST/work-IMPERF

(23) Nazan *iki saat-te/iki saat içinde* okul-a
two hour-LOC/two hour within school-DAT
yürü-dü/yürü-yor (accomplish)
walk-PAST/walk-IMPERF
'Nazan walked/walks to school (with)in two hours.'

(24) Nazan *iki saat-te/iki saat içinde* Ankara-ya
two hour-LOC/two hour within -DAT
var-dı/var-ıyor (achievement)
reach-PAST/reach-IMPERF
'Nazan reached/is reaching Ankara (with)in two hours.'

(25) ?Nazan *iki saat-te/iki saat içinde* öksür-dü (semelfactive)
two hour-LOC/two hour within cough-PAST
'Nazan coughed (with)in two hours.'
b. *Nazan *iki saat*-te/*iki saat içinde* öksür-üyor
two hour-LOC/two hour within cough-IMPERF

(26) a. *Nazan *iki saat-te* hasta-ydı (stative)
two hour-LOC sick-PAST
b. Nazan *iki saat içinde* hastay-dı/*hasta
two hour within sick-PAST/*sick
'Nazan was (got) sick within two hours.'
c. Nazan *iki saat-te/iki saat içinde* buraday-dı/burada
two hour-LOC/two hour within here-PAST/here
'Nazan was/is here within two hours.'

The fact that these adverbials can occur with achievements as seen in (24), which are [−durative] may be surprising; here the adverbial focuses on the preliminary stage and expresses the time span necessary for the achievement situation to arise. The compatibility of these telic adverbials with the imperfective viewpoint in the allowable situations may seem odd, too. However, examples (23) and (24) where the verb is marked with -Iyor have a habitual reading. Habitual aspect here reflects that the situation expressed derives from a knowledge obtained by sufficiently experiencing repeated instances of the event. Again the cooccurrence of the adverbial *iki saat içinde* 'within two hours' (but not *iki saatte* 'in two hours') in the stative example (26b) may seem odd, but the situation is, in fact, no longer stative due to the change of state reading brought about by the adverbial. With [+control] statives (26c), these restrictions are not observed and the adverbials specify the duration which has taken place or is likely to take place for the state expressed to come about.

4.3 Adverbs expressing an orientation point

Adverbs having the feature [+orientation pt.] express an end point which is different from telicity. Telic situations are those that are bounded and thus have a natural endpoint. Adverbs of this set do not bind a situation but simply establish a reference point with respect to which the situation stated holds. Further properties of these adverbs are that they have a different distributional pattern under negative polarity and are constrained by viewpoint aspect. Their semantic interpretation, then, will depend on the polarity and viewpoint aspect of the sentence.

The set of orientation point adverbs examined in this study includes *henüz/ daha, artık* and *bile,* all semantically expressing a notion like 'already' in the morphosyntactic conditions to be illustrated below. Naturally, this is not an exhaustive list; *zaten* 'anyhow' and *çoktan* 'for long' are other semantically comparable adverbs which immediately come to mind. However, looking at the behavior of the ones selected for this study should be revealing enough in identifying the determining factors that contribute to the aspectual interpretation of the sentence.

4.3.1 *henüz and daha*

The adverb *henüz* establishes an orientation point which overlaps with the moment of speech (or is just before it), with respect to which the situation expressed holds. Situations having a future time reference cannot select this adverb.[19] *Henüz* occurs freely in all situations under negative polarity, as examples (27)–(31) demonstrate below, but is subject to a number of restrictions in affirmative contexts.

(27) a. Ali *henüz* top oyna-ma-dı/oyna-ma-mış (activity)
yet ball play-NEG-PAST/play-NEG-EVID
'Ali has not played ball yet.'

b. Ali *henüz* top oyna-mı-yor
yet ball play-NEG-IMPERF
'Ali is not playing ball yet.'

(28) a. Ayşe *henüz* o kitabı oku-ma-dı/oku-ma-mış (accomplishment)
yet that book-ACC read-NEG-PAST/read-NEG-EVID
'Ayşe hasn't read that book yet.'

b. Ayşe *henüz* o kitabı oku-mu-yor
yet that book-ACC read-NEG-IMPERF
'Ayşe is not reading that book yet.'

(29) a. Tren *henüz* Ankara-ya var-ma-dı/var-ma-mış (achievement)
train yet -DAT reach-NEG-PAST/reach-NEG-EVID
'The train has not reached Ankara yet.'
b. *Tren *henüz* Ankara-ya var-mı-yor
train yet -DAT reach-NEG-IMPERF

(30) a. Ayşe *henüz* hapşır-ma-dı/hapşır-ma-mış (semelfactive)
yet sneeze-NEG-PAST/sneeze-NEG-EVID
'Ayşe has not sneezed yet.'
b. ?Ayşe *henüz* hapşır-mı-yor
yet sneeze-NEG-IMPERF
'Ayşe is not sneezing yet.'

(31) Ayşe *henüz* onbeş yaş-ın-da değil/değil-di (stative)
yet fifteen age-3SG-LOC not/not-PAST
'Ayşe is/was not yet fifteen years old.'

The data above illustrate that verbs inflected with the -DI morpheme or the perfect/evidential -mIş (ex. (27a), (28a), (29a), (30a)) in combination with *henüz* 'yet' render the situation in perfect aspect.[20] The adverb establishes an orientation point which coincides with the moment of speech, upto which the ongoing situation has obtained; this is nothing other than (simple) perfect aspect which expresses the continuing relevance of a past situation (Comrie 1976: 52).

The interaction of *henüz* 'yet' with viewpoint aspect appears to be constrained by the durativity feature of the situation type. Accomplishments and activities which are [+durative] can be expressed in the perfect and imperfective viewpoints when this adverb is present, while achievements and semelfactives which are [−durative] allow *henüz* only in the perfect aspect.

Similarly, the adverb *daha* 'yet' under negative polarity sets a reference point until which the situation expressed has held. It has the same distributional pattern as *henüz* and thus can be used interchangeably with it in this mode. Hence, in examples (27)–(31) above *henüz* can be replaced by the adverb *daha* without any change in meaning. For instance, substituting *daha* for *henüz* in sentence (27a) yields the synonymous expression *Ali daha top oynamadı/oynamamış* 'Ali has not yet played ball'. The same is true for the rest of the examples. However, the two adverbs show striking differences in the affirmative mode, both from the point of view of their distribution and their semantics.

In the affirmative mode, *henüz* is most felicitous with achievements and statives, as the grammaticality of (34) and (36) and the ungrammaticality of other examples demonstrate. It will be seen that the meaning of this adverb is a function of the features that characterize the situation type and the aspectual viewpoint.

(32) *Ali *henüz* top oyna-dı/oynu-yor[21] (activity)
just ball play-PAST/play-IMPERF

(33) Ayşe *henüz* o kitabı *oku-du/??oku-yor (accomplishment)
just that book-ACC read-PAST/read-EVID

(34) Tren *henüz* Ankara-ya var-dı/var-ıyor (achievement)
train just -DAT reach-PAST/reach-IMPERF
'The train has just reached/is just reaching Ankara.'

(35) ?Ayşe *henüz* hapşır-dı/*hapşır-ıyor (semelfactive)
just sneeze-PAST/*sneeze-IMPERF
'Ayşe has just sneezed.'

(36) Ayşe *henüz* onbeş yaş-ın-da (stative)
just fifteen age-3SG-LOC
'Ayşe is just/only fifteen years old.'

In the affirmative mode, *henüz* establishes an orientation point which overlaps with the natural endpoint of the telic and non-durative achievement situation as seen in (34). The meaning of *henüz* 'just' here, derives from its orientation point property together with the [+telic] and [−durative] features of the achievement situation type. This meaning shift due to the interdependency of the adverb and situation type, is also reflected in the English equivalent of (34) where the adverb *henüz* now stands for 'just'. With stative situations as in (36), the adverb again sets a reference point (which overlaps with the moment of speech) with respect to which the state expressed obtains. The lexical semantics of the stative predicate (be it verbal or non-verbal) interacts with the reference point setting property of *henüz*, both of which then contribute to the overall aspectual interpretation of the sentence. In short, shifts in the aspectual reading of a sentence derive from the interaction of the semantic features of *henüz*, polarity and situation type.[22] The distribution of *daha* in the affirmative mode is just the opposite of *henüz*; that is, it is not compatible with achievements, as seen by the ungrammaticality of (39) but is compatible with other situation types.

(37) a. Ali *daha* top oyna-dı (activity)
more ball play-PAST
'He played (ball) more (Ali went on playing ball).'

b. Ali *daha* top oynu-yor
still ball play-IMPERF
'Ali is still playing ball.'

(38) a. Ayşe *daha* o kitabı oku-yor (accomplishment)
Ayşe still that book-ACC read-IMPERF
'Ayşe is still reading that book.'
b. *Ayşe *daha* o kitabı oku-du
Ayşe still that book read-PAST

(39) *Tren *daha* Ankara-ya var-dı/var-ıyor (achievement)
train still -DAT reach-PAST/reach-IMPERF

(40) a. Ayşe *daha* hapşır-dı (semelfactive)
Ayşe more sneeze-PAST
'Ayşe sneezed more (Ayşe went on sneezing).'
b. Ayşe *daha* hapşır-ıyor
Ayşe still sneeze-IMPERF
'Ayşe is still sneezing.'

(41) Ayşe *daha* onbeş yaş-ın-da (stative)
Ayşe just fifteen age-3SG-LOC
'Ayşe is only fifteen years old.'

Interestingly, in the affirmative mode *daha* does not have the [+orient.pt.] feature, but expresses the continuation of a prior situation. In this mode, then, *daha* requires durative situations and that is why it is incompatible with achievements (39). Accomplishment situations which are durative, require the imperfective viewpoint with *daha*, focusing on the ongoing nature of the activity part of the situation (38a). This adverb is, naturally incompatible with accomplishments in the perfective aspect, where the situation is presented as a completed whole (38b). Semelfactives cooccur with *daha*, since they get shifted into an activity situation in the presence of this adverb (40).

The type of polarity, then, controls the aspectual interpretation of the adverb *daha*, which receives an [+orient. pt.] feature under negative polarity but [+continuation] feature in the affirmative.[23] For a situation to be labeled with the feature [+continuation], it is presupposed that the situation must have obtained before. This presuppositional nature of *daha* is evident in stative situations; in (41) the speaker can be said to be operating with the presupposition that the hearer may be under the impression that Ayşe is older than her real age.

4.3.2 *Artık*

This adverb sets a reference point from which onwards the situation has been obtaining or will obtain in the future.[24] *Artık* is compatible with all situation types, both in the affirmative (examples (a) below) and negative modes (examples (b) below), except for negative achievements (44b).

(42) a. Ali *artık* top oynu-yor/oynadı (Activity)
now ball play-IMPERF/play-PAST
'Ali now plays ball/Ali has already played ball.'
b. Ali *artık* top oyna-mı-yor/oyna-ma-dı
any more ball play-NEG-IMPERF/play-NEG-PAST
'Ali isn't playing/didn't play ball anymore.'

(43) a. Ayşe *artık* o kitabı oku-du/oku-yor (accomplishment)
already that book-ACC read-PAST/read-IMPERF
'Ayşe has already read/is now reading that book.'
b. Ayşe *artık* o kitabı oku-ma-dı/oku-mu-yor
(accomplishment)
any more that book-ACC read-NEG-PAST/read-NEG-IMPERF
'Ayşe did not read/is not reading that book any more.'

(44) a. Tren *artık* Ankara-ya var-dı/var-ıyor (achievement)
train now -DAT reach-PAST/reach-IMPERF
'The train has already reached/is now reaching Ankara.'
b. *Tren *artık* Ankara-ya var-ma-dı/var-mı-yor'
train now -DAT reach-NEG-PAST/reach-NEG-IMPERF

(45) a. Ayşe *artık* hapşır-dı/hapşır-ıyor (semelfactive)
now sneeze-PAST/sneeze-IMPERF
'Ayşe has now sneezed/is now sneezing.'
b. Ayşe *artık* hapşır-ma-dı/hapşır-mı-yor
any more sneeze-NEG-PAST/sneeze-NEG-IMPERF
'Ayşe did not sneeze/is not sneezing any more.'

(46) a. Ayşe *artık* onbeş yaş-ın-da (stative)
now fifteen age-3SG-LOC
'Ayşe is (by) now fifteen years old.'
b. Ayşe *artık* onbeş yaş-ın-da değil
any more fifteen age-3SG-LOC not
'Ayşe is no longer fifteen years old.'

The examples above illustrate that the orientation point established by *artık* is one that can shift along the time axis depending on the tense and/or viewpoint aspect. The meaning of *artık* is, then, a function of the reference point established in relation to the viewpoint aspect and polarity and, thus, it is not surprising to see that these different meanings are expressed by different lexical items in another language like English (i.e. *now, any more, already*, etc. as seen in the English translations of the sentences above). It should also be clear from the above

examples that *artık*, which expresses an orientation point, cannot be semantically identical to the time adverb *şimdi* 'now', which expresses simultaneity with the moment of speech. The fact that *artık* and *şimdi* can cooccur is further evidence for the difference in their temporal/aspectual meaning.

(47) *Şimdi artık* ısrar et-mi-yor-lar
now any more insist do-NEG-IMPERF-3PL
'Now they don't insist any more.'

4.3.3 *Bile*

With respect to the set of aspectual adverbs investigated here, *bile* differs from the others in terms of its syntactic position which is post VP or post-constituent. The neutral/unmarked position of the set of adverbs discussed in this study is pre-V(P) as seen in the previous examples. However, *bile* 'already', as an aspectual adverb, occurs in the post verbal position and is compatible with all situation types in the affirmative mode as examples (a) of (48)–(52) illustrate. It sets an orientation point which overlaps with the speech time upto which the situation has held. However, in the negative mode this aspectual reading of *bile* shifts to the modal/presuppositional meaning of 'even' as the (b) sentences of (48)–(52) exemplify.

(48) a. Ali top oynu-yor/oyna-dı *bile* (activity)
ball play-IMPERF/play-PAST already
'Ali is already playing ball/Ali has already played ball.'
b. Ali top oyna-mı-yor/oyna-ma-dı *bile*
ball play-NEG-IMPERF/play-NEG-PAST even
'Ali isn't even playing/didn't even play ball.'

(49) a. Ayşe o kitabı oku-du/oku-yor *bile* (accomplishment)
that book-ACC read-PAST/read-IMPERF already
'Ayşe has already read/is already reading that book.'
b. Ayşe o kitabı oku-ma-dı/oku-mu-yor *bile*
that book-ACC read-NEG-PAST/read-NEG-IMPERF even
'Ayşe hasn't even read/isn't even reading that book.'

(50) a. Tren Ankara-ya var-dı/var-ıyor *bile* (achievement)
train -DAT reach-PAST/reach-IMPERF already
'The train has already reached/is already reaching Ankara.'
b. *Tren Ankara-ya var-ma-dı/var-mı-yor *bile*
train -DAT reach-NEG-PAST/reach-NEG-IMPERF even

(51) a. Ayşe hapşır-dı/hapşır-ıyor *bile* (semelfactive)
sneeze-PAST/sneeze-IMPERF already
'Ayşe has already sneezed/is already sneezing.'
b. Ayşe hapşır-ma-dı/hapşır-mı-yor *bile*
sneeze-NEG-PAST/sneeze-NEG-IMPERF even
'Ayşe didn't even sneeze/isn't even sneezing.'

(52) a. Ayşe onbeş yaş-ın-da *bile* (stative)
fifteen age-3SG-LOC already
'Ayşe is already fifteen years old.'
b. Ayşe onbeş yaş-ın-da değil *bile*
fifteen age-3SG-LOC not even
'Ayşe is not even fifteen years old.'

A difference in polarity correlates with a shift in the semantics of *bile*; the aspectual reading gives way to a modal/presupposional reading under negative polarity. In addition, when *bile* follows a constituent in the preverbal zone, it is again only this presuppositional meaning that is available.

(53) a. Ayşe o kitabı *bile* oku-du
that book-ACC even read-PAST
'Ayşe has read even that book.'
b. Ayşe *bile* o kitabı oku-du
even that book-ACC read-PAST
'Even Ayşe has read that book.'

In (53a) where *bile* 'even' follows the direct object, the presupposition expressed is for Ayşe to be a bookworm and for the book to be extremely difficult reading, while in (53b) the presupposition is just the opposite; that is, Ayşe is implied not to be a dedicated book reader and that the book is either easy to read or a very popular one.

In a verb final language like Turkish the modifiers precede their heads, while focal particles follow the constituents they highlight. In this respect, the post constituent *bile* does not pattern as an adverbial modifier but rather seems to behave as a focal particle. In fact, *bile* patterns like the other focal particles, such as the additive DE or the yes/no question marker mI[25], by being able to come between the indefinite direct object and the verb, which otherwise constitute an indivisible unit.

(54) a. *Kerem süt *şimdi* iç-ti
milk now drink-PAST

b. Kerem süt *bile* iç-ti.
milk even drink-PAST
'Kerem even drank milk.'
c. Kerem süt *mü* iç-ti?
milk Q.PART drink-PAST
'Did Kerem drink milk?'
d. Kerem süt *de* iç-ti.
milk too drink-PAST
'Kerem drank milk too.'

The time adverb *şimdi* 'now' cannot occur between the non-case marked direct object and the verb, as seen by the ungrammaticality of (54a). This follows from a general constraint on Turkish word order that no lexical item may intervene between the non-case marked direct object and the verb (Erguvanlı 1984: 29). However, focal particles do not abide by this constraint, as illustrated in (54b–d). The fact that *bile* is associated with two different semantic interpretations, as shown above, which correlate with its two different positions (namely, the post verbal position and post constituent position in the preverbal domain) may suggest that there exist two different but homophonous morphemes: one expressing the aspectual notion of an orientation point, the other being a focal particle which is essentially modal. Yet another analysis where *bile* is taken to be a single morpheme is called for, given that its distribution can be reduced to post-constituent position, regardless of whether that constituent is a verb, noun or adverb. In this case, the same morpheme assumes different semantic functions depending on factors like polarity and position in the sentence (i.e. post-verbal or pre-verbal). This analysis may be quite plausible for Turkish, given the fact it is not unusual to have morphemes stand for more than one semantic category in the language (such as most of the verbal affixes). What is also noteworthy in the single morpheme, multiple function analysis of *bile* is its syntactic patterning like a focal particle, indicating that notional categories like focus, aspect and modality are subsumed under the same morpheme and hence these categories must be interrelated or share properties.

5. Concluding remarks

Durativity and telicity are two significant features in distinguishing between aspectual notions in languages. We come across these features in the specification of the semantics of verbs and adverbs, as well as in the semantic properties

of grammaticalized morphemes. Orientation point, on the other hand, which is another feature used in defining temporal/aspectual notions, is a property only of adverb(ial)s. This study has concentrated on the discovery of the behavior of aspectual adverb(ial)s characterizable by these three features, when they occur in different situation types under different viewpoints. The findings of this study have yielded the following results:

a. Among the particular verbal morphemes involved in expressing viewpoint aspect, -DI and -mIş were noted to express the perfective or perfect viewpoint, while -Iyor the imperfective viewpoint. This suggests that the grammatical morphemes -DI and -mIş semantically reflect a general non-imperfective viewpoint, implying at the same time, that the morphological make-up of the language signals an opposition between the imperfective and non-imperfective aspects. When constraints on viewpoint aspect in different situation types are considered, it is the imperfective -Iyor that stands out as the unmarked viewpoint aspect in Turkish, since it can occur freely in all situation types, including statives. The non-imperfective -DI and -mIş, on the other hand, cannot be used with stative verbs, such as *bil-* '(to) know', when these verbs do not allow for a change of state interpretation.

(55) a. *Ali Fransızca bil-di/bil-miş
French know-PAST/know-PERF
b. Ali Fransızca bil-iyor
French know-IMPERF
'Ali knows French.'
c. Ali Fransızca bil-iyor-du/bil-iyor-muş
French know-IMPERF-PAST/know-IMPERF-EVID
'Ali knew French/apparently Ali knows French.'

With a stative situation like 'knowing a language', Turkish requires the imperfective viewpoint, as illustrated by the ungrammaticality of (55a) and grammaticality of (55b). When the imperfective morpheme is present, it can then be followed by the past or the evidential morphemes from paradigm II, as seen in (55c).[26]

If, then, the grammatical morphemes -DI and -mIş do not differentiate between the perfective and the perfect aspect, what means does the language utilize to express this distinction? Since utterances are usually part of some discourse, often it is pragmatic factors and context that will contain the information necessary to specify the intended viewpoint. This study has revealed that particular types of adverb(ial)s and polarity also function to distinguish between the non-imperfective viewpoint, that is, between the perfective and the perfect.

b. In trying to account for the distribution of the defined set of adverb(ial)s, compatibility of features appeared to take care of the cooccurrence restrictions among adverb(ial)s, situation type and viewpoint aspect to a great extent. However, there remained cases that could not be handled simply in terms of feature compatibility. In trying to analyze these particular cases, the feature [±control] indicating whether the subject has control over the situation or not emerged as significant in accounting for the differences in the distribution of certain durative adverb(ial)s in stative situations. From the set of durative adverb(ial)s, only the adverb(ial)s like *iki gündür* 'for/since two days' and *hala* 'still' turned out to be compatibile with [+control] statives as well as [−control] statives, while all other durative adverb(ial)s were observed to occur only in [+control] stative situations.

c. Durative adverb(ial)s belonged to different subcategories depending on whether they caused a semelfactive situation to be shifted to an activity or not; while adverbials like *iki hafta için/iki haftalığına* 'for two weeks' do not cause a shift, all other durative adverbials do. The latter group was further observed to subcategorize into adverbials that select the imperfective vs. those that select the non-imperfective viewpoint. It is adverbials like *aylarca* 'for months', *beş saat* 'five hours', *bütün hafta boyunca* 'all week long' that select the non-imperfective viewpoint, while the adverbials *iki gündür* 'for/since two days' and *hala* 'still', select the imperfective. Thus, investigating the distributional patterns of durative adverbials has illustrated not only the aspectual features according to which they are subcategorized but has also revealed dependency relations between the adverb(ial), situation type and viewpoint aspect.

The two adverbials, namely *iki gündür* 'for/since two days' and *hala* 'still', observed to be compatible with all situation types except achievements, were noted to have further properties which render them a special status. They not only play a crucial role in the specification of viewpoint aspect together with the grammatical marking on the verb but, also, have a different distribution under negative polarity (Section 4.1.3); in fact, one similar to the distribution of [+orientation pt.] adverbs. In the affirmative mode, these adverbs require the verb to be inflected with the general imperfective morpheme -Iyor, as has been seen in the earlier example (15b) *Nazan iki gündür burada çalışıyor/*çalıştı* 'Nazan has been working here for/since two days'. The adverbial *iki gündür* 'for/since two days' sets the initial point of the activity situation to two days prior the speech time and the present/imperfective morpheme -Iyor on the verb expresses that the activity has been ongoing during this time span which

extends until now; the viewpoint expressed can be termed as the present perfect continuous.

Under negative polarity, however, the above constraint on viewpoint does not hold and these adverbs can cooccur with verbs inflected with -DI or -mIş, specifying the viewpoint aspect as simple perfect. For example, in (21b) given earlier, *Nazan iki gündür okula yürümedi* 'Nazan hasn't walked to school for/since two days' we see that the adverbial *iki gündür* is felicitous with -DI under negative polarity and expresses the time span which extends into the past from the moment of speech, upto which the negated event holds. The Turkish data presented in the present study, then, provide evidence for the relation between polarity and aspect; negation can be claimed to change aktionsart of the verb and thus allow certain adverbs to have different distributional patterns.[27]

d. Given that Turkish does not have differentiated verbal morphemes to express tense and aspect but rather utilizes a single morpheme to simultaneously express some combination of these semantic categories, the language then resorts to adverb(ial)s to specify exactly the type of viewpoint aspect expressed.[28] The presence of an orientation point adverb(ial) like *henüz/daha, artık, bile* were noted to specify the viewpoint as perfect aspect when the verb was inflected with either -DI or -mIş. Another property of these adverb(ial)s was their unconstrained distribution under negative polarity, indicating that the interaction of negation with aspect has morpho-syntactic and semantic consequences. As discussed in Section 3, these verbal morphemes (-DI or -mIş) in the absence of such adverb(ial)s are ambiguous with respect to perfect or the perfective viewpoint. Thus, viewpoint aspect, claimed to be typically expressed through grammaticalized morphemes (Smith 1997), in Turkish is reflected by a combination of certain types of adverb(ial)s, polarity and verbal affixes. Furthermore, the semantic interpretation of the adverbs *henüz, daha, artık* and *bile* was observed to be dependent on the polarity and verbal affixes. For instance, *daha* has the [+orient. pt.] feature under negative polarity as in *Ali daha çalışmıyor* 'Ali is not working yet', whereas it has the [+continuation] feature in the affirmative mode, as in *Ali daha çalışıyor* 'Ali is continuing to work (lit. Ali works more)'. The fact that the meaning of such adverbs shifts depending on certain grammatical factors, seems to suggest that they do not behave like full lexical items but rather like particles.[29] Indeed, *bile* with its syntactic positioning unfit for an adverb can be taken to be a focal particle. In fact, its cooccurrence with other aspectual adverbs from the same set lends support to its different nature.[30]

(56) Biz Ayşe'yle *artık* o konu-yu konuş-mu-yoruz *bile*.
we -with that subject-ACC talk-NEG-IMPERF EVEN
'We don't even talk about that subject with Ayşe any more.'

(57) Ayşe *henüz* giy-in-me-di *bile*.
yet dress-REF-NEG-PAST even
'Ayşe hasn't even gotten dressed yet.'

Though *bile* is in the post VP position, where it typically has an aspectual reading (as opposed to a post-constituent position in the preverbal area where it has a modal reading), the presence of another aspectual adverb (*artık* in (56) and *henüz* in (57)) shifts the meaning of *bile* to a modal one. Hence the semantic interpretation of *bile* does not only depend on its syntactic positioning but also on the type of adverb present.

This limited study has revealed that in a language like Turkish, aspectual adverbs play a determining role in the overall aspectual interpretation of a sentence; not only do they cause shifts in situation type, but they also specify viewpoint aspect in combination with verb inflection. While the perfective and imperfective viewpoints are typically signaled by morphological means (-DI or -mIş to signal the former and -Iyor to signal the latter viewpoint aspect), the expression of perfect aspect was noted to be determined by adverb(ial)s and polarity in combination with grammatical morphemes. Adverbs with an orientation point feature or durative adverbs like *iki saattir* 'since two hours' which can be said to have an orientation point property, too, convey the specific time span of the situation. When the grammatical marking on the verb is -Iyor which expresses imperfective, then we get a present perfect continuous reading. In non-verbal sentences where present tense is signaled by zero morphological marking on the verb, it is simply the presence of these adverbs which gives the perfect aspect interpretation to the situation (e.g. *Ben iki gündür buradayım* 'I've been here two days'). Clearly, then, the expression of the perfect in Turkish requires special attention and further research, especially in figuring out how the different types of perfect aspect (perfect of recent past, experiential perfect, etc.) are coded in the language and also when the perfect combines with different temporal references like the past or the future.

We hope that the very intricate dependency relations uncovered in this study will be of interest not only to those working on Turkish linguistics but also to those working on the expression of aspect in other languages. It is further hoped that the importance of the role of adverb(ial)s in the aspectual interpretation of the sentence has been satisfactorily demonstrated and that this

study will lead to other investigations on the contribution of adverb(ial)s in sentence semantics. The findings of this study seem to raise a number of questions for formal accounts of aspect, too. For instance, how would the dependency relations discovered to hold between aspectual adverbs, polarity and viewpoint aspect, and thus determine the aspectual interpretation of the sentence, be handled in a formal account? In Cinque's (1999) analysis, adverbs are treated as specifiers of functional heads, which follow a rigid universal order. Having sorted out the semantic distinctions between certain aspectual adverbs in Turkish, it would be worthwhile to work out the ordering relations between these aspectual adverb(ial)s and determine what functional head they would be the specifier of, and finally see if they follow the order claimed in Cinque (1999). From the set of orientation point adverbs investigated here, it is quite clear that *bile* 'already/even' with its syntactic position very different from other adverbs will be open to a number of analyses and hence stands out as a candidate for further research.

Notes

1. According to Comrie (1976: 64–65) the category of perfect aspect consists of the following subcategories: perfect of result, the experiential perfect, perfect of persistent situation and perfect of recent past.

2. The classification of verbs/verb complexes is discussed in detail from a historical perspective in Binnick (1991: ch.6).

3. In fact, Smith recognizes three different viewpoints: perfective, imperfective and neutral. The neutral viewpoint, which is seen as a default by Smith, includes one endpoint and at least one internal stage of the situation and may have both open or closed readings (1997: 77–81). The present study is only concerned with the expression of the two more familiar viewpoint aspects, namely the perfective and imperfective, in Turkish.

4. Smith calls such situation types which result from shifts 'derived situation types'. She claims that all languages have means for shifting the aspectual value of a verb constellation.

5. In Dik's FG there are four levels of structure. Level 1: predicates and terms; level 2: predication; level 3: proposition; level 4: speech act.

6. The following morphemes occur in the first slot and hence constitute paradigm I:
-DI (PAST/PERFECTIVE); -Iyor (IMPERFECTIVE/PRESENT); -mIş (PERFECT/EVIDENTIAL); -Ir/-Er (HABITUAL/PREDICTIVE); -(y)EcEK (FUTURE); -mElI (NECESSITATIVE); -(y)E (OPTATIVE); -sE (CONDITITIONAL).

Those morphemes which constitute paradigm II are the clitics -yDI (PAST), -ymIş (EVIDENTIAL), -ysE (CONDITIONAL).

Capitals are used in morpheme forms to indicate the segments which undergo alternations governed by vowel or consonant harmony rules. Abbreviations used are the following:

ABIL: Abilitative	ACC: Accusative	ADV: Adverb (affix)	AOR: Aorist
DAT: Dative	EVID: Evidential	FUT: Future	IMPERF: Imperfective
LOC: Locative	MOD: Modality	NEG: Negative	NOM: Nominalizer
PASS: Passive	PERF: perfective	PL: Plural	REF: Reflexive
TOP: Topic (marker)			

7. Kornfilt (1997) makes the same remark that -DI may function as the marker of perfective aspect as well as perfect aspect. She claims that -mIş, similarly, has the same dual function.

8. This study does not go into how the different types of perfect aspect are coded in Turkish, which deserves special research on its own. Data to illustrate perfect aspect have been restricted to the 'present perfect' aspect.

9. The verb form derived by affixing the nominalizing infinitive morpheme -mEK and the locative case -DE appears to be closer to expressing progressive aspect since statives are incompatible with such verb forms.

i. *Ayşe o soru-yu bil-mek-te
that question-ACC know-NOM-LOC

ii. Ayşe o soru-yu bil-iyor
that question-ACC know-IMPERF
'Ayşe knows that question.'

iii. Ayşe piyano çal-mak-ta/çal-ıyor
piano play-NOM-LOC/play-IMPERF
'Ayşe is playing the piano.'

Impressionistically speaking, V+MEKTE forms appear to be utilized in the literary mode rather than spoken discourse. Whether this is indeed the case or not has yet to be researched. Assuming that the usage of V+MEKTE forms is a property of the literary language, what factors are involved in the choice of this form over the V+IYOR form still remains to be investigated.

10. Yavaş (1982) analyzes the variety of functions that the aorist morpheme performs and claims that it is basically a marker of habitual aspect and not a present tense morpheme, as has usually been described. The second function associated with this morpheme is a modal one, namely, that of prediction.

11. A detailed description of how other aspectual categories are expressed in Turkish can be found in Kornfilt (1997).

12. Smith (1997) discusses at length how adverbials with such features interact with situation types and viewpoint aspect in English.

13. Since these two adverbials are synonymous and have the same distribution pattern, examples are provided only with one of them, namely *iki hafta için* 'for two weeks'.

14. Such adverbials are formed by adding the plural suffix -lEr, followed by the adverb deriving -CE morpheme to nouns denoting a time span, such as *gün* 'day', *yıl* 'year', etc. yielding *günlerce* 'for days' and *yıllarca* 'for years'.

15. Smith (1997) treats habituals as one type of derived statives (i.e. a situation type rather than viewpoint); whereas, for Comrie (1976) habituals fall into a subcategory of imperfectives. Since the expression of habituals in Turkish needs a thorough analysis, we do not take sides here and leave the issue for further research.

16. This type of adverbials are formed by the adverb deriving suffix -DIr which combines only with durative time expressions, such as *uzun zaman-dır* 'for a long time'; *günler-dir* 'for days', etc. This morpheme should not be confused with the predicate modality marker -DIr, as in *O mektubu yazan mutlaka Ali'dir* 'Definitely it must be Ali who wrote that letter'.

Since adverbials formed by the postposition *beri* 'since' (i.e. *iki günden beri* 'since two days') have the same distribution pattern as durative time adverbials formed by -DIr, examples are given with only one of them.

17. The adverbs in this group seem to shift an accomplishment to an activity in the PERF viewpoint but not the IMPERF.

i. Biz *beş saat* şehr-i gez-di-k/*gez-iyor-uz
we five hours city-ACC tour-PAST-1PL/tour-IMPERF-1PL
'We toured that city for five hours.'

18. In fact, similar restrictions have been observed to hold in other languages, too. Cinque (1998: 95–98) gives evidence from Italian.

19. The following ungrammatical example illustrates this incompatibility:

*Ali *henüz* top oyna-yacak
ball play-FUT

20. In this instance the opposition between -DI and -mIş is clearly one of modality rather than aspect or tense; -DI expresses that the source of knowledge is the speaker while -mIş expresses that it is somebody other than the speaker.

21. There may be differences among native speakers about the acceptability of sentences which present an activity situation in the imperfective and have an orientation point set by *henüz*.

22. When *henüz* occurs with a stative verb, such as *yaşa-* 'to live', as in:

i. İkisi de *henüz* yaşı-yor
both TOP still live-IMPERF
'Both are still/yet alive (lit. living).'

it again sets a reference point, up to which the state expressed has obtained and this reference point overlaps with the speech time. However, when the situation is expressed with the adverb *hala* 'still', no external endpoint is set but simply the ongoing nature of the state is conveyed:

ii. İkisi de *hala* yaşı-yor
both TOP still live-IMPERF
'Both are still alive (lit. living).'

There is a further presuppositional difference between (i) and (ii). While *henüz* in (i) implies a presupposition that the opposite of the state expressed was expected (i.e. that the persons were not alive), while *hala* 'still' in (ii) is neutral and does not necessarily have this presupposition.

23. Another usage of the adverb *daha* is encountered in comparative constructions where it expresses the meaning 'more'.

i. Ali *daha* akıllı 'Ali is more intelligent'
ii. Ali *daha* hızlı konuşuyor 'Ali talks faster'

24. Unlike *henüz*, *artık* is compatible with situations having with future time reference:

Ali *artık* top oyna-yabil-ecek
now ball play-ABIL-FUT
'Ali will, from now on, be able to play ball.'

25. See Besler (2000) for an analysis of the question particle -mI in Turkish and its focal features.

26. The sentence *Ali soruyu bildi/bilmiş* 'Ali gave the correct answer (lit. Ali knew the answer)' is not a counter-example because the situation type, in this case, is an achievement (not stative like (55a)) and hence involves a change of state.

27. Verbal negation is morphologically marked by the negative morpheme -mE which is one of the inner morphemes. It follows the verb stem, right after the voice morphemes and comes before any tense, aspect and/or modality marker.

28. An alternative view to these verbal morphemes with multiple functions would be to have a number of homophonous morphemes, each standing for a single semantic category. This would mean, for example, that there would be three different but homophonous -mIş morphemes: -mIş-1 being the evidential, -mIş-2 the perfect or perfective, -mIş-3 the past tense morpheme. In cases where a single instance of -mIş on the verb expresses all these three categories, there must be a rule, then, to coalesce the three different -mIş morphemes present at the underlying level into a single form at the surface level. This would then mean that most of the verbal affixes, such as -DI, -Iyor, -EcEK, -EbIl, etc., would have a number of homophonous forms.

29. The orientation point adverbs investigated in this study as well as others like *çoktan* 'for a long time' and *zaten* 'anyhow' are all phonologically di-syllabic, while the others are either multi-syllabic derived adverbials (e.g. *ay-lar-ca* 'for months', *gün-ler-dir* 'for days' etc.) or phrasal adverbials (e.g. *iki hafta için* 'for two weeks', *bütün hafta boyunca* 'all week long', etc.). This phonological property seems to constitute another evidence in favor of treating them as particles. However, how particles are to be distinguished from full lexical items or clitics are issues that do not directly concern this study.

30. While *bile* can cooccur with adverbs like *çoktan, artık* and *henüz* as illustrated by (56) and (57) other adverbs of this set do not co-occur with one another:

*O *artık henüz* konuş-ma-dı
s/he talk-NEG-PAST

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The referential properties of the implicit arguments of impersonal passive constructions

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1. Introduction

Since Perlmutter's (1978) formulation of the Unaccusative Hypothesis, to determine the crosslinguistic nature of the split between unaccusatives and unergatives, putative diagnostics have been proposed. The Impersonal Passive construction, being one of them, has initially served as the basis for a syntactic analysis of the distinction between unaccusatives and unergatives. Analyses of Impersonal Passive (henceforth IP) constructions in various languages illustrated that the class of intransitives that can undergo IP is almost identical across languages, hence raising the question of whether there can be a universal semantic basis for the dichotomy between unaccusatives and unergatives.

This paper by offering a thorough examination of the distribution of the Turkish intransitives in the IP construction attempts to uncover the semantic motivation for the variant behavior of the Turkish verbs and further illustrates that the instigation properties of the implicit arguments of intransitives in the IP determine their classification as an unaccusative or an unergative verb. In particular, I argue that the implicit arguments of Impersonal Passive constructions have different referential properties in different temporal domains. Precisely, I show that in past tense the sole argument of an intransitive takes a referential interpretation, namely, a first person plural reading, hence rendering only a group of intransitives to undergo IP. In the aorist, however, the sole argument of an intransitive takes an arbitrary interpretation, i.e., either a generic or an existential reading thereby making it possible for a larger group of intransitives to undergo IP. It turns out that the IP construction serves as a

potential diagnostic environment manifesting the split behavior of intransitives only in the past tense, but not in the aorist. Hence I argue that the class of intransitives which is compatible with the IP in past tense consists only of unergative verbs, the sole arguments of which have the potential of instigating and/or experiencing the situation the verbs describe. The class of intransitives with sole arguments lacking the potential of instigating and/or experiencing the situation described by the verbs, on the other hand, is incompatible with IP in past tense and corresponds to unaccusative verbs. The analysis provided here hence illuminates the role the instigation properties of the implicit arguments of verbs play in determining their class membership by showing that only when the situation an intransitive describes is interpreted to be internally instigated or experienced, can a verb be classified as unergative.

This paper further adopts a new approach for determining the class membership of intransitives by proposing a scalar distribution of intransitives on the basis of the instigation properties of their arguments. In order to make headway into the investigation of the assumptions of this paper, I turn in the next section to an analysis of the instigation properties of the implicit arguments of intransitives in the IP construction.

1.1 Verbs describing internally-instigated situations

Consistent with the general observation, not all intransitive verbs can appear in Impersonal Passive constructions in Turkish.[1] To characterize the difference between the Turkish verbs that appear in IP constructions and those that do not, I propose a semantic distinction where verbs are classified as describing internally and/or externally instigated situations. In particular, I will argue that while verbs describing externally instigated situations never passivize in Turkish, verbs describing internally instigated and/or experienced situations can always be found in such constructions.[2]

Verbs that describe internally instigated situations are verbs that are predicable of an animate being, i.e., the situations the verbs describe come about as a result of some property inherent in the arguments of the verbs. The relevant property inherent in the sole argument of some internally instigated verbs is *volition*. Thus the agent wills and performs the action denoted by the verb. In Turkish, verbs that entail volition can always form passives. The sentences below are construed as drawing the attention away from the individual by whom the activities in question are carried out and as focusing on the activities themselves.

(1) a. Haftasonu ada-ya yüz-ül-dü.[3]
weekend island-DAT swim-PASS-PAST.3per
'It was swum to the island over the weekend.'
b. Gösteri boyunca bağır-ıl-dı.
demonstration throughout shout-PASS-PAST.3per
'It was shouted throughout the demonstration.'
c. Burada Pazar gün-ler-i bile çalış-ıl-ır.[4]
here Sunday day-PL-POSS even work-PASS-AOR.3per
'It is worked here even on Sundays.'
d. Dün sorun üzerinde düşün-ül-dü.
yesterday problem about think-PASS-PAST.3per
'Yesterday it was thought about the problem.'
e. Bütün gece şarkı söyle-n-di/dans ed-il-di.
all night song sing-PASS-PAST.3per/dance do-PASS-PAST.3per
'It was sung/danced all night.'

The second class of verbs that can be described as internally instigated is referred to as such not because the sole argument of the verb can necessarily instigate the situation voluntarily but that the argument has internal properties which can make it experience internally driven changes. Consider the verbs in (2):

(2) a.

ağla	'cry'	öksür	'cough'
esne	'yawn'	terle	'sweat'
gül	'laugh'	titre	'tremble'
geğir	'belch'	uyu	'sleep'
hapşır	'sneeze'	uyan	'wake up'
hıçkır	'hiccup'	üşü	'shiver'
horla	'snore'	kus	'vomit'

b.

sıkıl	'get bored'	üzül	'get worried'
şaş	'get surprised'	sevin	'get pleased'
alın	'get offended'	bağlan	'get attached'

As the following sentences illustrate, the verbs in (2) can also appear in the IP construction.

(3) a. Konser boyunca esne-n-di/uyu-n-du.
concert throughout yawn/sleep-PASS-PAST.3per
'It was yawned/slept throughout the concert.'
b. Bu bölge-de çok üşü-n-ür.
this region-LOC a lot shiver-PASS-AOR.3per
'It is shivered a lot in this region.'

c. Seçim sonuç-lar-ı-na şaş-ıl-dı/sevin-il-di/üzül-ün-dü.
election result-PL-POSS-DAT surprise/please/worry-PASS-PAST.3per
'It was surprised at/pleased with/worried about the election results.'
d. Bu film-de ağla-n-ır/gül-ün-ür/sıkıl-ın-ır.
this movie-LOC cry/laugh/get bored-PASS-AOR.3per
'It is cried/laughed/gotten bored in this movie.'

The verbs in (2) denote processes internal to animate beings, i.e., some internally driven physiological changes in an animate body make it sneeze, shiver, hiccup, sweat, etc., similarly some internally driven psychological (neurological) changes in an animate body make it get bored, get worried, etc. The different stages of these processes are not perceivable, for instance when we shiver we are aware of the goose bumps, but the processes whereby the cold sensitive neurons send impulses to the brain center and the brain sends signals to the muscles so that they contract are not experienced consciously by us. What we experience when our bodies go through such processes is just the outcome of these processes, i.e., the goose bumps, the sneezes, the snores, the sweat, the hiccups etc. Thus one reason that these verbs can be referred to as internally instigated is that they basically describe reflexes of the human body; for them to come about there has to be an animate body, having the inherent properties that make it possible for the body to experience the outcome of such processes.

The notion of internal instigation appears to describe the behavior of passivizable verbs more straightforwardly and efficiently than any single notion of animacy, agency, control or volition can do. Thus the class of internally instigated verbs consists of verbs describing situations instigated by the volition of the arguments (i.e., the arguments have control over the coming about of the situation) and verbs describing situations that come about through some internally driven changes only the outcome of which can be experienced by the body.

1.2 Verbs describing externally instigated situations

Verbs describing externally instigated situations imply an external instigator that brings about the situation in question, i.e., the particular situation that the verb describes does not follow from the internal properties of the entity denoted by the verb's argument. Thus, as we will see below, when the sole argument of an intransitive verb does not have properties that can instigate the situation or the situation itself cannot be internally instigated and experienced by the argument then the verbs cannot be passivized. Consider the sentences below:

(4) a. Gemi bat-tı.
ship sink-PAST.3per.sg
'The ship sank.'
b. *Gemi bat-ıl-dı.
ship sink-PASS-PAST.3per
'The ship was sunk (by itself).'

(5) a. Dondurma eri-di.
icecream melt-PAST.3per.sg
'The icecream melted.'
b. *Dondurma eri-n-di.
icecream melt-PASS-PAST.3per
'The icecream was melted (by itself).'

(6) a. Tavan-dan su damla-dı.
ceiling-ABL water drip-PAST.3per.sg
'The water dripped from the ceiling.'
b. *Tavan-dan su damla-n-dı.
ceiling-ABL water drip-PASS-PAST.3per
'The water was dripped from the ceiling (by itself).'

(7) a. Film üç saat sür-dü.
movie three hour last-PAST.3per.sg
'The movie lasted three hours.'
b. *Film üç saat sür-ül-dü.
movie three hour last-PASS-PAST.3per
'The movie was lasted (by itself) for three hours.'

(8) a. Bomba patla-dı.
bomb explode-PAST.3per.sg
'The bomb exploded.'
b. *Bomba patla-n-dı.
bomb explode-PASS-PAST.3per
'The bomb was exploded (by itself).'

(9) a. Bu yıl çok kaza ol-du.
this year many accident happen-PAST.3per.pl
'Many accidents happened this year.'
b. *Bu yıl çok kaza ol-un-du.
this year many accident happen-PASS-PAST.3per
'Many accidents were happened (by themselves) this year.'

(10) a. Çiçek sol-ar.
flower wither-AOR.3per.sg
'The flower withers.'
b. *Çiçek sol-un-ur.
flower wither-PASS-AOR.3per
'The flower is withered (by itself).'

(11) a. Mücevher parla-r.
jewel shine-AOR.3per.sg
'The jewel shines.'
b. *Mücevher parla-n-dı.
jewel shine-PASS-AOR.3per
'The jewel is shone (by itself).

The sole arguments of verbs such as *bat* 'sink', *eri* 'melt', *patla* 'explode', etc. cannot instigate the situations in question. For example, a ship is an entity that can sink but it does not instigate its own sinking. Ships might sink as a result of severe weather conditions, such as storms or they might sink because of a mechanical failure, etc. Thus even when we describe a situation by a sentence like *The ship sank by itself*, we take it to describe a situation that is externally instigated, not instigated by the ship itself. Similarly, ice or ice cream are meltable entities but they cannot by themselves instigate their own melting. Only an external instigator, such as a person's leaving the ice or ice cream at room temperature can melt the entities in question. When the arguments of verbs are living things such as flowers as in (10), I argue that the situation described by the verb 'wither' cannot be instigated by the flower itself, i.e., the entity in question is biologically set to undergo a withering process but it cannot by itself instigate or experience, interrupt or stop its withering, similarly its growth or death.

The data presented above have suggested that intransitive verbs show a split with respect to their ability to form passives. More specifically, I have shown that verbs which I referred to as internally instigated can be passivized, whereas verbs that denote externally instigated situations cannot undergo passivization. Moreover, it has been observed that arguments of internally instigated verbs are animate and most of them show agentive properties, i.e., properties responsible for instigating the situations in question, whereas arguments of externally instigated verbs demonstrate patient-like properties, i.e., properties which make the argument of a verb undergo a change of state as a result of some external force acting on the argument.

In Turkish the distribution of intransitives in the IP construction appears to be determined by the semantic notion of internal/external instigation. Furthermore the distinction obtained by this diagnostic provides two groups of verbs which correspond to the groups of verbs referred to as unaccusatives and unergatives by Perlmutter (1978). Specifically the verbs allowed in the IP are unergatives, those that are not allowed are unaccusatives.

2. Problems with the internal/external instigation distinction

As clearcut and plausible as the internally/externally instigated distinction is, it is not quite the whole story. There is a group of verbs which prevents us from concluding that the distinction between unaccusatives and unergatives can be semantically determined and might be based on their behavior in the IP construction. The verbs in question are given in (12):

(12)	a.	boğul	'drown'	b.	büyü	'grow up'
		öl	'die'		yaşlan	'age'
		bayıl	'faint'		doğ	'be born'
					buna	'become senile'

According to Perlmutter & Postal (1984) these verbs are unaccusative. The unaccusativity literature, however, shows that these verbs do not show a uniform behavior. The verb *die*, for example while showing unaccusative behavior in Italian and Japanese, is considered to be unergative in Choctaw (Rosen 1984).

In Turkish, as the following discussion will illustrate, the IP test gives us mixed results as far as the verbs in (12) are concerned. Of particular concern here is the tense of the predicate appearing in an IP construction. As observered in the examples illustrated in the earlier sections, while the verbs describing internally instigated situations, i.e., unergatives can appear in the IP both in the past tense and the aorist as in (1a), (1c) and (3d), the verbs describing externally instigated situations, i.e., unaccusatives are allowed in the IP construction neither in the past tense nor when suffixed with the aorist as illustrated in (9b), (10b) and (11b). The verbs in (12), however, appear to form IP in the aorist but not when suffixed with the past tense marker *-DI*. A careful investigation of the referential properties of the implicit arguments of impersonal passive constructions proves to be important in this context since it would explain why and how the verbs in question are compatible with the IP in a certain temporal domain but incompatible with it in another.

2.1 The referential properties of the implicit arguments of Impersonal Passives

In Turkish, by using an Impersonal Passive construction the speaker draws the attention away from the subject entity that carries out or is involved in the activity the sentence describes. Hence the passivizing arguments in impersonal passives are always left implicit, that is, a *by-phrase* is always absent and addition of it makes the sentences less preferable. In Turkish the implicit arguments of impersonal passive sentences appear to display different referential properties with respect to the tense of the sentences. Specifically, while the implicit argument of a passive sentence has an arbitrary reading in the aorist, it has a referential reading in the past tense.

In the aorist the implicit argument of an IP always receives an arbitrary interpretation. With arbitrary interpretation what is meant here is that the implicit argument of a passive sentence takes either an *existential* reading and thus is interpreted as *some people or other* or a *generic* reading and hence is interpreted as *one/person or everybody/people*. Consider the example sentences below. In each case, that is, in (13), (14) and (15), the implicit argument of the IP in the aorist matches the overt argument of the corresponding active aorist. For instance (13b) is the active counterpart of (13a) which is interpreted as conveying an existential reading (that is, there is an x, x some people such that x jog on weekends around the lake).

(13) a. Haftason-lar-ı göl çevre-sin-de koş-ul-ur.
weekend-PL-POSS lake around-POSS-LOC jog-PASS-AOR.3per
'On weekends it is jogged around the lake.'

b. Bazı insan-lar haftason-lar-ı göl çevre-sin-de
some person-PL weekend-PL-POSS lake around-POSS-LOC
koş-ar.
jog-AOR.3per
'On weekends some people (or other) jog around the lake.'

Unlike (13a), the implicit arguments of (14a) and (15a) below have a generic interpretation. Hence in (14a) the null subject is interpreted as *one* as in (14b) and in (15a) as *everyone* as in (15b).

(14) a. Burada iyi koş-ul-ur.
here well jog-PASS-AOR.3per
'It is jogged well here.'

b. İnsan burada iyi koş-ar.
person here well jog-AOR.3per
'One jogs well here.'

(15) a. Genç-ken çok daha hızlı koş-ul-ur.
young-when much more fast jog-PASS-AOR.3per
'When young it is jogged much faster.'

b. Genç-ken herkes çok daha hızlı koş-ar.
young-when everyone much more fast jog-AOR.3per
'When young everyone jogs much faster.'

I argue, however, that the implicit subject of an IP in the past tense, while being fully referential, is always construed as a plural set that includes the speaker, and thus takes a *1st person plural* interpretation. (16a) below exemplifies an IP in past tense; its active counterpart is given in (16b).

(16) a. Dün iki saat koş-ul-du.
yesterday two hour run-PASS-PAST.3per
'Yesterday it was jogged for two hours.'

b. Dün iki saat koş-tu-k.
yesterday two hour jog-PAST-1per.pl
'Yesterday we jogged for two hours.'

Let us now turn to the question of how the generic and the existential readings arise in the aorist. The Turkish aorist *-Ir*, as far as its function is concerned, lies on the boundary of tense, aspect and modality. That is, in addition to functioning as a present tense marker, *-Ir* takes a habitual aspect and an epistemic modal meaning. I propose that the generic and the existential readings arising from the IP sentences in the aorist follow from the different functions of the aorist. In particular, I argue that when the aorist *-Ir* functions as an epistemic modal, that is, when it is *tenseless*, the implicit argument of an IP sentence receives a *generic* interpretation. When the aorist sentence is *tensed*, however, the implicit argument receives an *existential* interpretation.

As Comrie (1976, 1985) points out, in many languages the present tense is also used with habitual aspect meaning. For instance, in English a sentence such as *Bryan brushes his teeth every morning* refers not to a situation at the present moment, but rather to a habit, a characteristic situation that holds every morning. That is, a certain property (namely one's brushing his/her teeth every morning) is assigned to Bryan, and this property is true of Bryan, even if at the present moment he is not brushing his teeth. The habit of Bryan's brushing his teeth every morning, however, holds at the present moment and this brings

habituality within the scope of present tense. Thus in a sentence such as (17) *-Ir* does not locate the activity at the moment of the utterance but conveys that a certain habit holds at the present moment.

(17) Emre her sabah koş-ar.
every morning jog-AOR.3per
'Emre jogs every morning.'

The epistemic modal function of *-Ir* appears to follow from its habitual aspect meaning. Comrie (1985: 40) claims that habituality can give way to modality since it involves induction from limited observations about the actual world to a generalization about possible worlds. Epistemic mood refers to the actuality of an event that is characterized with respect to the actual world and its possible alternatives. Hence, if the event belongs to the actual world, it is actual; if it belongs to some possible alternative worlds, it is possible. Following on these lines, we can distinguish between two types of epistemic mood, namely *necessity*, in case the event belongs to all alternative worlds and *possibility* where the event belongs to at least one alternative world.[5] In Turkish the aorist *-Ir*, embodies both the necessity and the possibility meanings associated with an epistemic modal. The sentences (14a) and (15a) repeated below as (18) and (19) have possibility and necessity readings respectively.

(18) Burada iyi koş-ul-ur.
here well jog-PASS-AOR.3per
'It is jogged well here.'
(can be paraphrased as 'One (possibly) jogs well here.')

(19) Genç-ken çok daha hızlı koş-ul-ur.
young-when much more fast jog-PASS-AOR.3per
'When young it is jogged much faster.'
(can be paraphrased as 'When young one (necessarily) jogs faster.')

Thus the speaker of (18) is not interpreted as having jogged on a certain track but is interpreted as predicting that running on the track in question would not be too strenuous. In (19), on the other hand, *-Ir* contributes a necessity reading such that everyone who has passed a certain age is considered to have jogged faster when younger.

To illustrate the different functions of *-Ir* let us look at the sentences in (20) which exemplify the generic/existential readings of the implicit arguments of IP sentences in tenseless and tensed domains.[6] ((20a) can be paraphrased as (20a′), (20b) as (20b′) and (20c) as (20c′).)

(20) a. Bu göl-de boğul-un-ur. (generic)
this lake-LOC drown-PASS-AOR.3per
'It is drowned in this lake.'
a′. 'One (possibly) drowns in this lake.'
b. Kaçınılmaz olarak yaşlan-ıl-ır. (generic)
unavoidable adv age-PASS-AOR.3per
'It is aged unavoidably.'
b′. 'Everyone (necessarily) ages.'
c. Bu göl-de yaz-ın sık sık boğul-un-ur. (existential)
this lake-LOC summer-GEN frequently drown-PASS-AOR.3per
'In summer it is frequently drowned in this lake.'
c′. 'In summer some people or other frequently drown in this lake.'

The implicit arguments of the IP's in (20a) and (20b) have a generic interpretation. Furthermore the speaker of (20a) is understood to express that there is a possibility that one might get drowned in the lake in question. The implicit argument of (20b), on the other hand, refers to everyone, hence the speaker makes a statement about a generally known fact that human beings necessarily age. In (20c), however, the adjuncts *yazın* 'in summer' and *sık sık* 'frequently' appear to activate an existential reading by locating the event in question to a specific time and thus the implicit argument of the sentence is interpreted as somebody/some people.

Having considered the different functions of the Turkish aorist *-Ir* and how IP's in the aorist receive an arbitrary interpretation, let us now turn to the verbs listed in (12) above. Recall that the verbs in question can form IP in the aorist but not when suffixed with the past tense marker *-DI*. The sentences in (21) exemplify the passivizability of the verbs in (12a). In the (a) sentences the aorist functions as an epistemic modal, in the (b) sentences it functions as a present tense marker. Finally the (c) sentences illustrate the nonpasivizability of the verbs in the past tense. The (a) sentences can be paraphrased as in (a′) where the implicit argument is interpreted as referring to *one* and the (b) sentences as in (b′) where the implicit argument is interpreted as referring to *some people* or *other*.

(21) a. Bu göl-de boğul-un-ur.
this lake-LOC drown-PASS-AOR.3per
'It is drowned in this lake.'
a′. 'One drowns in this lake.'
b. Bu göl-de yazın sık sık boğul-un-ur.
this lake-LOC summer-GEN frequently drown-PASS-AOR.3per
'In summer it is frequently drowned in this lake.'

b′. ‘In summer some people or other drown in this lake.’
c. *Bu göl-de geçen yaz boğul-un-du.
this lake-LOC last summer drown-PASS-PAST.3per
‘It was drowned in this lake last summer.’

(22) a. Bu soğuk-ta ölü-n-ür.
this cold-LOC die-PASS-AOR.3per
‘It is died of this cold.’
a′. ‘One dies of this cold.’
b. Türkiye-de her gün trafik kaza-lar-ın-da
Turkey-LOC every day traffic accident-PL-GEN-LOC
öl-ün-ür.
die-PASS-AOR.3per
‘In Turkey it is died in traffic accidents every day.’
b′. ‘In Turkey some people or other die in traffic accidents every day.’
c. *Geçen sene Türkiye-de en çok trafik kaza-lar-ın-da
last year Turkey-LOC most traffic accident-PL-GEN-LOC
ölü-n-dü.
die-PASS-PAST.3per
‘Last year it was died most in traffic accidents in Turkey.’

(23) a. Bu sıcak-ta bayıl-ın-ır.
this heat-LOC faint-PASS-AOR.3per
‘It is fainted of this heat.’
a′. ‘One faints in this heat.’
b. Yaz-ın bu bölge-de sıcak-lar-dan sık sık
summer-GEN this region-LOC heat-pl-ABL frequently
bayıl-ın-ır.
faint-PASS-AOR.3per
‘In summer it is frequently fainted of heat in this region.’
b′. In summer some people or other frequently faint of heat.’
c. *Geçen sene sıcak-lar-dan sık sık bayıl-ın-dı.
last year heat-PL-ABL frequently faint-PASS-PAST.3per
‘Last year it was frequently fainted of heat.’

As the preceding sentences demonstrate, the verbs listed in (12a), i.e., *boğul* ‘drown’, *öl* ‘die’, *bayıl* ‘faint’ can only passivize in the aorist and the aorist can function either as an epistemic modal in the case in which the implicit argument of the IP takes a generic interpretation or as a present tense marker in the case in which the implicit argument takes an existential interpretation. Furthermore, the *-Ir* in the (a) sentences above can only be interpreted as embodying

the possibility sense of the epistemic modal. That is, the speaker of (22a) is out in the cold and speculates that getting exposed to that cold might have deadly consequences. Similarly the speaker of (23a) speculates that getting exposed to the heat in question might cause a person to faint. Thus the sentences do not mean that one necessarily drowns in a particular lake, dies of cold, faints in heat; they convey that there is a possibility that the incidents of drowning, dying of cold, fainting of heat can happen. The (b) sentences, on the other hand, convey that the incidents of drowning, dying in a traffic accident, fainting of heat frequently happen in a particular lake, in Turkey, in a certain region, respectively. Unlike the implicit arguments of the verbs in (12a) which can take both a generic and an existential interpretation, as demonstrated below, those of the verbs in (12b) i.e., *büyü* 'grow up', *yaşlan* 'age', *doğ* 'be born' and *buna* 'become senile' when passivized in the aorist receive only a generic interpretation.

(24) a. 13–17 yaş-lar-ı arasında çok büyü-n-ür.
age-PL-ACC inbetween a lot grow-PASS-AOR.3per
'In between the ages of 13 and 17 it is grown up a lot.'
a′. 'One (necessarily) grows up a lot in between the ages of 13 and 17.'
b. *Bu ev-de büyü-n-dü.
this house-LOC grow-PASS-PAST.3per
'It was grown up in this house.'

(25) a. Yetmiş-in-den sonra çabuk yaşlan-ıl-ır.
seventy-GEN-ABL after fast age-PASS-AOR.3per
'It is aged faster after the age of seventy.'
a′. 'One (necessarily) ages faster after the age of seventy.'
b. *Bu ev-de yaşlan-ıl-dı.
this house-LOC age-PASS-PAST.3per
'In this house it was aged.'

These sentences convey generally held truths about the way human beings grow up and age, that is, any normal human being grows up a lot between the ages of 13 and 17, and ages faster after seventy. Hence *-Ir* contributes a necessity interpretation rather than a possibility one in such sentences. Similarly the verbs *doğ* 'be born' and *buna* 'get senile' are only passivizable in the aorist and the implicit arguments of the IP's appear to receive a generic interpretation just like the sentences above.

(26) a. Yüksek rakımlı yer-ler-de erken doğ-ul-ur.
high altitude place-PL-LOC premature be born-PASS-AOR.3per
'In high altitude places it is born premature.'

a′. 'One is born premature in high altitude places.'
b. *Bu hastane-de doğ-ul-du.[7]
this hospital-LOC be born-PASS-PAST.3per
'It was born in this hospital.'

(27) a. Yetmiş-in-den sonra buna-n-ır.
seventy-GEN-ABL after fast get senile-PASS-AOR.3per
'It is gotten senile after the age of seventy.'
a′. 'One gets senile after the age of seventy.'
b. *Bu ev-de buna-n-dı.
this house-LOC get senile-PASS-PAST.3per
'In this house it was gotten senile.'

As the sentences discussed in this section demonstrate, the verbs, *öl* 'die', *boğul* 'drown', *bayıl* 'faint' and *büyü* 'grow', *yaşlan* 'age', *doğ* 'be born', *buna* 'get senile' allow impersonal passivization in the aorist but not in the past tense. I claim that IP with these verbs is not allowed in the past tense primarily because a sentence in past tense requires the referent of the implicit argument, that is, a group of people including the speaker of the sentence, to be involved in the situation the verb describes. Hence the referent of an IP in a past tense sentence is construed to instigate and/or experience the act described by the verb and then report back on it. The arguments of the verbs in (12), however, can neither volitionally instigate the activities of 'being born', 'growing up', 'aging', 'getting senile', 'dying of natural causes', nor can experience their 'birth', 'death', 'drowning', 'fainting', 'getting senile' and report back on them. In the case of the verbs 'grow up' and 'age', however, while it is possible to argue that the processes described by these verbs are experienced by the arguments of the verbs, I assume that the argument undergoing a process of growing up or aging is not necessarily conscious of it, that is, the referent of the argument cannot experience the processes that the body undergoes in the way s/he experiences an activity of swimming, shouting, yawning, etc., in which s/he is involved. Unlike the implicit argument of the IP's in past tense, that of the IP's in the aorist conveys neither any agentive involvement nor any experience on the part of the speaker. Hence as we have seen, the implicit arguments of the verbs in (12b) can only have a generic interpretation while those of the verbs in (12a) can have both generic and existential interpretations.

The point to be noted here is that in different temporal domains a verb's ability to form passives shows variation, namely some verbs which cannot have passives in the past tense can form passives in the aorist and the sentences

acquire either a generic meaning as in the case of the verbs in (12b) or both a generic and an existential reading as in the case of the verbs in (12a).

The differing behavior of verbs in the IP construction in different temporal contexts apparently raises doubt for a relational grammar account of IP's, specifically, Perlmutter and Postal's 1AEX Law which stipulates that there can be at most one advancement to the subject position per clause. For the verbs in (12), for example, while the 1AEX Law is supported in the IP construction in present tense, it is violated in past tense. From a Relational Grammar perspective, the verbs' compatibility with the IP in the present tense suggests that the verbs are initially unergative. Furthermore as Perlmutter & Postal (1984) assume, there is a dummy nominal in some stratum advancing to the subject position in the next stratum for the impersonal passivization process. The ungrammaticality of the IPs in past tense, however, suggests that the verbs in question are initially unaccusative, hence their direct objects first advance in the initial stratum to the subject position as a result of unaccusative advancement. In the next stratum, there has to be one more advancement for passivization but since more than one advancement to the subject position is a violation of the 1AEX Law, the IP constructions become ungrammatical in past tense. Hence the explanation of the grammaticality of the IPs in present tense requires assuming unergative status for the verbs in (12); explanation of the ungrammaticality of the IPs in past tense, however, requires assuming unaccusative status for the verbs in (12). Thus I conclude that a relational grammar account of these verbs is not able to distinguish them as unaccusative or unergative based on their behavior in the IP construction.

3. What to conclude with the internal/external instigation distinction

In this section I propose that intransitive verbs can be thought of as being distributed on a scale of instigation which on the one end refers to activities that are internally instigated and on the other externally instigated. The verbs in between show tendencies towards one end or the other but do not absolutely commit themselves to the class of unaccusatives or unergatives with respect to their behavior in the IP.

The following chart summarizes the results of the distribution of verbs with respect to the internal instigation (II) and the external instigation (EI) distinction.

atla	'jump'	ağla	'cry'	öl	'die'	büyü	'grow'	bat	'sink'
çalış	'work'	gül	'laugh'	boğul	'drown'	yaşlan	'age'	çürü	'decay'
düşün	'think'	hapşır	'sneeze'	bayıl	'faint'	buna	'get senile'	don	'freeze'
koş	'run'	hıçkır	'hiccup'	doğ	'be born'			eri	'melt'
konuş	'talk'	horla	'snore'					karar	'blacken'
oyna	'play'	kızar	'blush'					kırıl	'break'
yürü	'walk'	öksür	'cough'					patla	'explode'
yüz	'swim'	uyu	'sleep'					sol	'wilt'
Unergative								Unaccusative	

The verbs which can be easily described as being instigated by a volitional entity and hence can be passivized regardless of the temporal context in which they occur are referred to as internally instigated and therefore they are definitely unergative as in column /1/. The verbs which do not have arguments that can instigate the situations described and hence can never passivize are treated as externally instigated and furthermore referred to as definitely unaccusative as in column /5/. The remaining intransitives are distributed on the scale with respect to their behavior in the IP which correlates with the verbs' being described as internally/externally instigated. The verbs in column /2/ describing situations that can be experienced by the arguments and that can form IP's are closer to the II end of the scale and thus get to be classified as unergatives. The verbs in column /4/, which cannot be instigated by the arguments of the verbs and can only passivize in the aorist, are classified as being closer to the EI end of the scale, and are thus unaccusatives.

The last class of verbs, i.e., the verbs in column /3/ are placed in the middle of the scale, showing properties of both internally and externally instigated verbs. They are passivized only in the aorist just like the verbs in column /4/ but differ from them in that they can also receive an existential interpretation. On the basis of this evidence we can argue that they tend to lean towards the EI end of the scale and show unaccusative behavior.

A scalar distribution of intransitives with respect to the semantic parameter of internal instigation/experience and external instigation provides us with the means of accommodating the different behaviors of intransitives, in particular the ones which do not directly commit themselves to the class of unaccusatives or unergatives. Furthermore such an approach gives us better insights in spelling out the basis of the split behavior of intransitives in Turkish and also

the basis of the variation the crosslinguistic evidence demonstrates with regard to the classification of intransitives as unaccusatives or unergatives.

As mentioned earlier, intransitives across languages do not show a uniform behavior with respect to their classification as unaccusatives or unergatives. As will be demonstrated shortly, a scalar distribution of intransitives has the advantage of capturing whether there is a general pattern as to which intransitives show a distinct behavior across languages. Evidence from French (Legendre 1989), Italian (Rosen 1984), Dutch (Zaenan 1993), and Japanese (Kishimoto 1996) shows that the counterparts of the intransitives listed in columns /1/ and /5/ are always unergatives and unaccusatives, respectively. Hence this fact suggests that across languages and cultures the verbs in /1/ are always construed as internally instigated, the verbs in /5/, on the other hand, as externally instigated. All the reported mismatches correspond to the verbs in the other columns. Specifically, column /2/ appears to involve intransitives that show the most variant behavior. For instance, according to Legendre (1989) the following French intransitives which correspond to the verbs in column /2/ show a mixed behavior, that is, they appear both in unaccusative and unergative environments.

(28) pleurer 'cry'
rire 'laugh'
rougir 'blush'
tousser 'cough'

Furthermore the intransitive *blush*, a verb belonging to column /2/, while manifesting an unaccusative behavior in Italian, shows an unergative behavior in Dutch (Zaenan 1993; McClure 1990). According to Kishimoto (1996), in Japanese the intransitives *nemuru* 'sleep' and *naku* 'cry' manifest unaccusativity rather than unergativity. As mentioned in the preceding paragraph, in French *pleurer* 'cry' shows a mixed behavior, while in Italian *dormire* 'sleep' demonstrates an unergative behavior by taking the auxiliary *avere*.

There is also evidence that the intransitive *die* placed in column /3/ shows a variant behavior across languages (Rosen 1984: 61). In Choctaw, as in (29a), it is classified as an unergative rather than an unaccusative due to its taking nominative case marking, in Italian, on the other hand, it gets to be classified as an unaccusative as a result of its taking the auxiliary *essere* as in (29b).

(29) a. Illi-li-tok kiyo
die-1STNOM-PAST not
'I did not die.'

b. Non sono morto.
not I-am died
'I did not die.'

In summary, there is cross linguistic evidence suggesting that the classification of intransitives as unergative or unaccusative is predictable on the basis of the instigation properties of their sole arguments. Hence, if the situation a verb describes can be construed both as internally and externally instigated, as in the case of French examples in (28), then the intransitive can show a mixed behavior. Furthermore a verb such as *blush* can be conceptualized as externally instigated in Italian and hence is classified as an unaccusative, but internally instigated in Dutch and thus is classified as an unergative.

In conclusion, a scalar distribution of intransitives with respect to the semantic parameter of internal/external instigation, in addition to giving us relevant insights as to on what semantic basis we can classify intransitives as unaccusatives and unergatives, provides us with an understanding of the variant behavior of certain intransitives across languages.

4. Conclusion

The idea behind looking at the IP constructions in Turkish was to find out whether IP can prove to be a reliable test for determining the nature of the split behavior of intransitives in Turkish. In this paper I examined the behavior of Turkish intransitives in IP constructions and observed that except for the verbs listed in (12), the ability of a verb to have a passive alternate distinguishes between unaccusatives and unergatives.

To understand the semantic basis of the passivizability of intransitives, I developed a semantic approach whereby intransitives are distinguished into unergatives and unaccusatives on the basis of the internal properties of their sole arguments. More specifically, I argued that if the sole argument of an intransitive has the potential of instigating and/or experiencing the situation the verb describes, it is allowed in the IP construction. If, however, the sole argument of an intransitive does not have internal properties to instigate and/or experience the situation described by the verb, it is not permitted in the IP construction.

The behavior of the verbs in (12) further supported the semantic analysis developed in this study. Specifically I demonstrated that the verbs in (12) do not

allow impersonal passivization in past tense and further argued that this incompatibility falls out from the fact that the situations described by the verbs in (12) cannot be conceptualized as being instigated/experienced and reported by their implicit arguments, which are construed as a plural set that includes the speaker. However, the fact that in the aorist the arguments of the verbs in (12) have an arbitrary rather than a referential reading, makes them compatible with the IP construction.

Finally, in this paper I proposed a scalar distribution of intransitives on the basis of whether and how they can occur in the IP construction. As observed in Section 3, when intransitives are distributed on a scale of instigation we can capture the invariantly split behavior of certain classes of intransitives and furthermore can predict what kinds of verbs would show a variant behavior across languages.

Notes

1. The article in which Perlmutter introduced the Unaccusative Hypothesis (1978) investigates impersonal passive constructions across languages, Turkish being one of them, and proposes an advancement analysis of impersonal passives. The Turkish data examined in Perlmutter (1978) is assumed to lend further support for the universal advancement analysis of Impersonal Passives and in consequence the 1-AEX (1-Advancement Exclusiveness) Law which stipulates that there can be at most one advancement to the subject position per clause. Özkaragöz (1980), also within a Relational Grammar framework, briefly examines impersonal passives and points at counterexamples to the Unaccusative Hypothesis which within the particular framework assumed apparently raise questions for the validity of 1-AEX for Turkish.

2. In Nakipoğlu (1998) three other diagnostics, namely *-tI* nominalization, adjectival passivization and *-Ik* stativization are proposed in order to distinguish between the unaccusatives and unergatives in Turkish. Impersonal passivization and *-tI* nominalization are found to be sensitive to the *instigation* properties of the sole arguments of intransitives and hence positively single out unergatives. Adjectival passivization and *-Ik* stativization, on the other hand, appear to be compatible with intransitives that encode the aspectual property of *delimitedness* and positively single out unaccusatives.

3. The Turkish passive morpheme *-Il* is *-n* after vowels:

i.	izle-	'follow'	izle-n	'to be followed'
	koru-	'protect'	koru-n	'to be protected'

-In after /l/:

ii.	bul	'find'	bul-un	'to be found'

and -*Il* elsewhere:

iii. vur 'shoot' vur-ul 'to be shot'
sev 'love' sev-il 'to be loved'

Attachment of the passive morpheme -*Il* affects the case assigning properties of verbs, specifically a transitive verb loses its ability to assign accusative case. Consider the following examples:

iv. a. Dün bir adam biz-i izle-di.
yesterday a man we-ACC follow-PAST.3per.SG
'Yesterday a man followed us.'
b. Dün biz (bir adam tarafından) izle-n-di-k.
yesterday we a man by follow-PASS-PAST-1per.pl
'Yesterday we were followed (by a man).'

Thus *izle-n* 'to be followed' unlike its active counterpart *izle* 'to follow' which assigns accusative case to the object as in (iva), assigns no case; hence the object of the active sentence becomes the subject of the passive sentence and the verb agrees with it in person and number. Similarly, the object of the active sentence adamı 'the man' in (va), becomes the subject of the passive sentence in (vb) and thus cannot be assigned accusative case by the verb and the verb agrees with it in number and person.

(v) a. Biz dün bir adam-ı izle-di-k.
we yesterday a man-ACC follow-PAST-1per.pl
'Yesterday we followed a man.'
b. Dün bir adam (bizim tarafımızdan) izle-n-di.
yesterday a man us by follow-PASS-PAST.3per.SG
'Yesterday a man was followed (by us).'

Since intransitive verbs do not have objects, their occurrence in impersonal passive constructions can only be explained by assuming that an implicit dummy argument appears in the subject position of passives of intransitives. This implicit dummy, just like the German 'es' appearing in impersonal passives, has a 3rd person singular reference and the verb agreeing with it receives a 3rd person singular reference as well. This is exemplified in (vi).

(vi) a. Biz burada uyu-du-k.
we here sleep-PAST-1per.pl
'We slept here.'
b. Burada uyu-n-du.
here sleep-PASS-PAST.3per.sg
'It is slept here.'

4. The Turkish aorist -*Ir* stands for /ır/, /ir/, /ur/ or /ür/ as exemplified in (i).

i. kal 'stay' kal- ır 's/he stays'
bil 'know' bil- ir 's/he knows'
bul 'find' bul- ur 's/he finds'
gör 'see' gör- ür 's/he sees'

After a large number of monosyllabic verb stems *-Ir* alternates with *-Ar* which stands for /er/ or /ar/ as exemplified in (ii).

ii. sat 'sell' sat-ar 's/he sells'
kes 'cut' kes-er 's/he cuts'

5. These two types of epistemic mood can be illustrated in English with the epistemic sense of modal auxiliaries. Suppose that every Saturday Mary works in the library from 10 am to 12 am. The speaker of the sentences in (1) knows about this fact and utters (1a) at 10:30 on a Saturday morning.

(1) a. Mary must be in the library now. (necessity)

(1a) is interpreted in such a way that in all alternative worlds one could imagine at this time, Mary is in the library. If it is past 12, however, the speaker of (1a) can utter (1b).

b. Mary may be in the library now. (possibility)

In (b), however, there is at least one world one could imagine, in which Mary is in the library.

6. The correlation between tensed i.e., specific vs. tenseless i.e., nonspecific time reference and existential vs. generic interpretation is also pointed out in Jaeggli (1986), Rizzi (1986) and Cinque (1988). According to Cinque (1988), the subject of an untensed sentence is understood as roughly equivalent to a universal quantifier. The subject of a tensed one, however, is roughly equivalent to an existential quantifier. Cinque gives the following examples for illustrating the different interpretations of indeterminate subjects in English.

(1) a. A rhinoceros eats small snakes.
b. A rhinoceros is eating small snakes.

Cinque proposes that (1a) which has nonspecific time reference is roughly equivalent to 'For every x, x a rhinoceros, x (characteristically) eats small snakes'. The tensed sentence (1b), on the other hand, is interpreted as 'There is an x, x a rhinoceros, such that x is eating small snakes'.

7. Cinque (1988) makes similar observations about the impossibility of passivizing the verb 'be born' in Italian and French relating this to the fact that the impersonal subject clitic *si* in Italian and *on* in French necessarily take a 1st person plural interpretation in specific time contexts, that is, in past tense. Consider the following Italian and French examples in (1):

a. *Oggi, a Beirut, si e nati senza assistenza medica.
b. *Aujourd'hui a Beyrout, on est né sans assistance médicale.
'Today, in Beirut, we were born with no medical assistance.'

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The auxiliary verb *ol* at the morphology–syntax interface*

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Introduction

The internal structure of a component that characterises morphological forms remains to be one of the central issues concerning the organisation of grammar. Based on an analysis of compound verbs in Turkish, it will be claimed in this paper that morphologically required items may be invisible to syntax. The focus of the analysis is the auxiliary verb *ol*, which is generally considered as the indicator of perfect aspect. It will be illustrated below that this verb is semantically and syntactically inactive in certain types of clause and that it is required only to satisfy morphological well-formedness conditions. One of these well-formedness conditions concerns a match between suffix types and slots that host them. The other one involves the size of a word and prohibits the concatenation of affixes beyond a possible upper limit. These conditions force the auxiliary verb to appear even when it is not syntactically required.

In Turkish the behaviour of the auxiliary verb *ol* is not uniform. In certain cases it acts a morphological buffer stem, in other cases it contributes to the interpretation of the clause:

Main clauses:

(1) a. Gör-müş-tü-m.
see-PERF-P-1
'I have/had seen.'
b. Gör-müş *ol*-du-m.
see-PERF AUX-P-1
'I ended up seeing.'

Object relative clauses:

(2) a. gör-dü-ğ-üm
see-P-C-1
'that I saw/am seeing'
b. gör-müş *ol*-du-ğ-um
see-PERF AUX-P-C-1
'that I saw'

The pairs in (1) and (2) differ in a significant way. There are no conditions under which (1a) and (1b) are interchangeable, whereas (2b) is a paraphrase of at least one of the interpretations of (2a), indicating that *ol* has no semantic content in the latter. The data on the selection of adverbs, the placement and interpretation of negation and the behaviour of clitics support this observation. Based on these facts, it will be suggested here that *ol* does not have a phrasal projection in embedded clauses and certain main clauses and that its presence is a result of morphological requirements. In such cases it is visible only to the morphological component and is not part of the syntactic representation of the clause.

In order to show the contrast between cases where the auxiliary verb has semantic content and where it does not, only particular types of embedded and main clause compound verbs will be analysed here. The type of embedded verb which is investigated is the compound verb in object relative clauses containing the participial form *-diğ*. Although this is not the only type of relative clause construction in Turkish, here the term ORC will be used only to indicate object relative clauses containing *-diğ*. ORCs will be compared with main clauses where there is a possibility of selecting another auxiliary verb, the copula. Other types of embedded compound verbs and main clause constructions are investigated in Göksel (forthcoming). Hence, the aim of the paper is to show that material which is morphologically present is not always visible to syntax, rather than to provide a comprehensive study of clause types in Turkish.

The first section of the paper is an introduction to the morphological form of main and embedded simplex and compound verbs in Turkish. The second and third sections look at the role of the auxiliary verb in main clauses and ORCs and illustrate the contrast between them. The fourth section provides additional support for the contrast between ORCs and main clauses containing compound verbs. Sections five and six present a syntactic and morphological analysis of these clauses. Section seven looks at some further cases of the auxiliary verb in main clauses, followed by a discussion on word structure in section eight.

1. The form of the inflected verb

1.1 Main clauses

A main clause verb has positions for up to three grammatical function changing suffixes followed by a negative suffix, five tense, aspect and/or modality (TAM) markers, a subject agreement marker and another TAM marker. The markers that occur on the right of the negative suffix are illustrated below.[1]

(3)

V	/-(y)a/-bil (Abil)	/-iyor (Prog)	/-(y)di (P)	/-(y)sa (Cond) / (Agr)	/ -dir (Ass
		/-ir/ar (Aor)	/-(y)miş (Ev)		/Prob)
		/-(y)acak (Fut)	/-(y)sa (Cond)		
		/-malı (Nec)			
		/-miş (Ev/Perf)			
		/-sa (Cond)			
		/-di (P)			
1	2	3	4	5	6	7

These morphemes cannot all occur at the same time. Apart from the semantically motivated co-occurrence restrictions on TAM markers there are morphological constraints. The grouping in (3) itself is a manifestation of a morphological restriction that prohibits the co-occurrence of certain markers, even though they may be semantically compatible. For example, an action denoting progressive aspect can be set in the past, as examples such as *koş-uyor-du-m* 'I was in the process of running' illustrate; however, it cannot be set in the future, as witnessed by the ungrammaticality of **koş-uyor-acağ-Im*, [V-PROG-FUT-1] although the notions of progressive aspect and an event occurring in the future are semantically compatible. This indicates that at least one reason for the incompatibility of the progressive and future suffixes is that they compete for the same slot.

The characterisation in (3) does not include phonological domain boundaries, and at first sight gives the impression that, with the proviso of the co-occurrence restrictions just mentioned, a multitude of suffixes can appear on a single stem. This is not the case. One of the aims of this paper is to show that words that contain more than three of the markers above must contain an additional stem. The predicate markers *-(y)di*, *-(y)miş*, and *-(y)sa* in slot 4 constitute a case in point. These are clitics that bear the trace of the obsolescent bound stem *i*, the copula. These either directly follow the TAM markers in slot 3 as in:

(4) a. Gel-iyor-du-m.
come-PROG-P-1
'I was coming.'

b. gel-miş-se-n
come-PERF-COND-2
'if you have/had come'

or they form a separate word:

(5) a. Gel-iyor i-di-m.
come-PROG COP-P-1
'I was coming.'
b. gel-miş i-se-n
come-PERF COP-COND-2
'if you have come'

It will be argued in section six that the markers in slot 4 are composite forms made up of the copula and suffixes from slot 3.

Similarly, the abilitative marker which in (3) occupies slots 1 and 2 is made up of a suffix and the bound stem *bil* (literally 'know') which also signals the beginning of a phonological domain. In this paper I refer to these two morphemes occupying slots 1 and 2 as the composite form *-(y)abil*.

1.2 Embedded clauses

Suffixation is probably the most productive form of subordination in Turkish. Sentential complements contain one of the (complex or simplex) suffixes *-diğ*, *-(y)acağ*, *-mağ*, *-ma*, *-(y)iş*, subject relative clauses contain *-(y)an*, and object relative clauses contain *-diğ* or *-(y)acağ*.[2]

These suffixes have separate lexical characteristics and the embedded clauses containing them do not have uniform syntactic properties (see Kural 1998 for a recent analysis). Embedded verbs with *-(y)iş*, *-ma* and *-(y)an* cannot be concatenated with TAM markers but are marked for subject agreement. Those containing *-mağ* lack both TAM markers and subject agreement. Of the subordination suffixes, only *-diğ* and *-(y)acağ* have some form of temporal reference.[3] They also have subject agreement. In short, none of the verbs in embedded clauses have the full array of inflectional suffixes as the main verb. The only segment identifiable as a complementiser is 'ğ' (or 'k', subject to phonological constraints), appearing in *-diğ*, *-(y)acağ* and *-mağ*, and which has the phonological effect of lengthening the preceding vowel. The motivation for treating *-ğ* as a complementiser is given in Kural (1993, 1998) and the motivation for analysing it as a separate morphological unit is discussed in Göksel (1997).[4] Briefly, *-diğ*, *-(y)acağ* and possibly *-mağ* are complex morphemes

consisting of the independently existing morphemes *-di* (the past tense marker), *-(y)acak*[5] *(the future marker) and -ma* (the infinitival marker), respectively, plus a complementiser.[6]

(6)		TAM	C	Agr
	-(y)iş	–	–	✓
	-ma	–	–	✓
	-mağ	–	✓	–
	-(y)acağ	✓	✓	✓
	-diğ	✓	✓	✓

As mentioned above, *-diğ* occurs in object relative clauses and factive sentential complements which have past or present temporal reference. Examples with *-(y)acağ*, the future counterpart of *-diğ*, are provided for comparison:

-diğ and -(y)acağ in relative clauses

(7) a. Semra-nın *gör-dü-ğ-ü* film daha yeni piyasaya.çık-mış.
Semra-GEN see-P-C-3 film recently release-EV
'The film that Semra saw/has seen has just been released.'

b. Semra-nın *gör-ece-ğ-i* film daha yeni piyasaya.çık-mış.
Semra-GEN see-FUT-C-3 film recently release-EV
'The film that Semra will see has just been released.'

-diğ and -(y)acağ in sentential complements

(8) a. O film-i Semra-nın *gör-dü-ğ-ün-e* inan-m-ıyor-um.
that film-ACC Semra-GEN see-P-C-3-DAT believe-NEG-PROG-1
'I don't believe that Semra has seen that film.'

b. O film-i Semra-nın *gör-ece-ğ-in-e* inan-m-ıyor-um.
that film-ACC Semra-GEN see-FUT-C-3-DAT believe-NEG-PROG-1
'I don't believe that Semra will see that film.'

To summarise, embedded verbs can have no other TAM markers except *-di* and *-(y)aca(k)* from slot 3 and the abilitative marker from slots 1 and 2. The verb in an embedded clause is also marked with subject agreement like the main verb, except that the person markers on the embedded verb belong to the nominal agreement paradigm and, related to this factor, the subject of the embedded clause is in the genitive case, this being the case associated with nominal agreement.

Due to the defective nature of the embedded verb, main verbs which have certain inflectional suffixes such as *-malı* (necessitative), *-ir/-ar* (aorist) or *-iyor* (progressive) fail to have corresponding embedded counterparts:

(9) a. Gör-meli-sin.
see-NEC-2
'You must see (it).'
b. *gör-meli-ğ-in
see-NEC-C-2
Intended interpretation: 'that you must see'

(10) a. Gör-üyor-du-m.
see-PROG-P-1
'I was seeing /saw (it).'
b. *gör-üyor-du-ğ-um
see-PROG-P-C-1
Intended interpretation: 'that I was seeing'

(11) a. Gör-ür-dü-üm.
see-AOR-P-1
'I used to see (it).'
b. *gör-ür-dü-ğ-üm
see-AOR-P-C-1
Intended interpretation: 'that I was seeing'

The sequence of the suffixes in relative clauses is schematised below:

(12) V -(y)abil(ABIL) -(y)aca (FUT) -ğ (C)-AGR -di (NON.FUT)

1.3 The compound verb

The term compound verb as used in this paper refers to verbal constructions which contain a main verb and at least one auxiliary verb. All of these verbs are inflected. The main verb can contain the abilitative suffix but must have a TAM marker from slot 3. The TAM markers that appear on the main verb in compound verbs are limited to the suffixes *-miş*, *-(y)acak*, *-ir/-ar* and for some speakers, *-iyor*.[7] The TAM marker *-miş*, when attached to the main verb in compound verb forms, can only denote perfect aspect; otherwise it may also have a second function, that of an evidential marker (see Slobin, D. I. and Aksu-Koç 1982). *-(y)acak* is the marker for future tense but it also has aspectual reference (see Ozil 1998; Kerslake 1997 and van Schaaik this volume). The aorist suffix *-ir/-ar* and the progressive suffix *-iyor* are both aspectual markers. The auxiliary verb *ol* follows the main verb and it can have any of the suffixes in (3). Hence the morphology of verb+auxiliary constructions is:

(13) V- (-(y)abil) -miş *ol*-(-(y)abil)-TAM-(TAM)- AGR-(dir)
-ecek
-ir/-ar
-iyor

If *ol* appears in a main clause it can occur with the suffixes in (3) and when it is in an ORC it has the markers in (12).

The compound verb in main clauses:

(14) a. Gör-müş *ol*-abil-ir-miş-iz.
see-PERF AUX-ABIL-AOR-EV-1PL
'It might be the case that we have seen (it).'
b. Gör-ebil-iyor *ol*-malı-ymış-ız.
see-ABIL-PROG AUX-NEC-EV-1PL
'It seems to be the case that we should have been seeing (it).'

The compound verb in ORCs:

(15) a. gör-müş *ol*-abil-di-ğ-imiz
see-PERF AUX-ABIL-P-C-1PL
'that we might have seen'
b. gör-ebil-ecek *ol*-du-ğ-umuz
see-ABIL-FUT AUX-P-C-1PL
'that we will be seeing'

2. The auxiliary verb in main clauses

The auxiliary verb *ol* refers to the concepts 'happen to be the case that, become', in the main clause constructions below:

(16) a. Gelecek yıl sonunda Berlin-e *gid-eceğ-iz*.
next year end Berlin-DAT go-FUT-1PL
'We will go to Berlin next year.'
b. Gelecek yıl sonunda Berlin-e *git-miş* ***ol***-*acağ-ız*.
next year end Berlin-DAT go-PERF AUX-FUT-1PL
'We will have gone to Berlin by the end of next year.'

In (16a), the time adverbial modifies the event of 'going' which can only be construed as taking place at the end of the following year. In (16b) it modifies 'the state of having gone' and the event itself is not specified as having to take place at a certain time, as long as it is before the end of the following year. The

contribution of *ol* to the interpretation of the clause has to be analysed in tandem with the TAM marker which is attached to the main verb; when the main verb occurs with the perfect aspect marker *-miş* it can denote accomplishment as in (17b), or it may denote an attempt as in (18b), or, when used with the aorist as in (19b), the beginning and the continuation of an action. The pairs below show the contrast between the presence and absence of *ol* in main clauses:

(17) a. Cenova-yı da *gör-müş-tü-m* (ama pek bir şey hatırlamıyorum).
Genoa-ACC also see-PERF-P-1 but I don't remember much
'I have seen Genoa as well (but I don't remember much).'

b. Cenova-yı da *gör-müş* ***ol****-du-m* (onların peşine takılınca).
Genoa-ACC also see-PERF AUX-P-1 when I hung around with them
'I ended up/(managed to) seeing Genoa as well (having hung around with them.)'

(18) a. Sinema-ya *gid-ecek-ti-m* (ama bir işim çıktı).
cinema-DAT go-FUT-P-1 but something came up
'I was going to go to the cinema (but something else came up).'

b. Sinema-ya *gid-ecek* ***ol****-du-m* (herkes itiraz etti).
cinema-DAT go-FUT AUX-P-1 everyone objected
'I attempted to go to the cinema (but everyone objected).'

(19) a. O sıralar-da her konu-yu *konuş-ur-du-k*.
those times-LOC every topic-ACC talk-AOR-P-1PL
'In those days we used to talk about all kinds of things.'

b. O sıralar-da her konu-yu *konuş-ur* ***ol****-du-k*.
those times-LOC every topic-ACC talk-AOR AUX-P-1PL
'During that time we started talking about all kinds of things.'

As expected from the contrast in (16), *ol* cannot occur with certain temporal and modal adverbs and there are certain adverbs that it selects (see Erkman-Akerson & Ozil 1998 and Ozil 1998), which further support its status as an aspectual marker. For example the co-occurrence of *ol* and an adverb such as *geçen yıl* 'last year' as in (20b) is questionable, certainly not as acceptable as in (20a), which does not have the auxiliary verb:

(20) a. Geçen yıl Berlin-e *git-miş-ti-k*.
last year Berlin-DAT go-PERF-P-1PL
'We went to Berlin last year.'

b. (?Geçen yıl) Berlin-e *git-miş* ***ol****-du-k*.

In addition, the co-occurrence of *ol* with certain adverbials is ungrammatical:

(21) a. En.sonunda Berlin-e *gid-ebil-miş-ti-k.*
finally Berlin-DAT go-ABIL-PERF-P-1PL
'Finally we (had) managed to go to Berlin.'
b. *En sonunda Berlin-e *gid-ebil-miş* ***ol****-du-k.*[8]

(22) a. Zamanında yeni bir memur her istenilen-i *yap-ar-dı.*
in.the.olden.days new a civil servant every wish-ACC fulfil-AOR-P
'In the olden days a newly appointed civil servant would fulfil every wish.'
b. *Zamanında yeni bir memur her istenileni *yapar* ***ol****du.*

Conversely, some adverbs, such as *böylecene* 'thus', are selected by *ol*:

(23) a. *Böylecene Berlin-e *git-miş-ti-k.*
thus Berlin-DAT go-PERF-P-1PL
Intended interpretation: 'Thus we went to Berlin.'[9]
b. Böylecene Berlin-e *git-miş* ***ol****-du-k.*
thus Berlin-DAT go-PERF AUX-P-1PL
'So it happens to be the case that we have been to Berlin.'

The presence of *ol* may be the sole factor rendering a sentence ungrammatical, indicating its role as an aspectual marker, as the pair below illustrates:

(24) a. (İşimiz-i bitir-ebil-se-ydi-k) sinema-ya *gid-ecek-ti-k.*
work-ACC finish-ABIL-COND-P-1PL movies-DAT go-FUT-P-1PL
'If we had finished our work, we would have gone to the movies.'
b. *(İşimiz-i bitir-ebil-se-ydi-k) sinema-ya *gid-ecek* ***ol****-du-k.*
work-ACC finish-ABIL-COND-P-1PL movies-DAT go-FUT AUX-P-1PL

These facts indicate that *ol* functions as an auxiliary verb which has semantic and syntactic properties in main clauses. That it is also morphologically required will be discussed in Section 7.

3. The auxiliary verb in ORCs

In contrast to its behaviour in the main clause constructions above, the auxiliary verb *ol* is semantically and syntactically inactive in ORCs. Firstly, ORCs with and without *ol* are non-distinct with respect to the selection of adverbs. Temporal adverbials which cannot co-occur with *ol* in main clauses are allowed in ORCs with *ol*:

(25) a. Geçen yıl *git-ti-ğ-imiz* Berlin
last year go-P-C-1PL Berlin
'Berlin, which we went to last year' [cf. (20a)]
b. Geçen yıl *git-miş* ***ol****-du-ğ-umuz* Berlin
last year go-PERF AUX-P-C-1PL Berlin
'Berlin, which we went to last year' [cf. (20b)]

Those adverbs which preclude the presence of *ol* in main clauses can co-occur with *ol* in an ORC:

(26) En.sonunda *gid-ebil-miş* *ol-du-ğ-umuz* Berlin
finally go-ABIL-PERF AUX-P-C-1PL Berlin
'Berlin, which we finally managed to go to last year' [cf. (21b)]

And the occurrence of *ol* in an ORC is marginally unacceptable, if not grammatical in cases where the main clause counterpart is ungrammatical:

(27) İşimiz-i bitir-ebil-se-ydi-k *gid-ecek ol-du-ğ-umuz* sinema
work-ACC finish-ABIL-COND-P-1PL go-FUT AUX-P-C-1PL cinema
'The cinema we would have gone to, had we finished our work'
[cf. (24b)]

It is not possible to go into the details of these constructions. Suffice it to say that these facts indicate that *ol* behaves like an auxiliary verb which has a syntactic function only in the main clause constructions discussed above. The fact that it is linked to certain adverbials and precludes others indicates that it is a syntactic head which projects a phrasal category. Conversely, *ol* in ORCs does not trigger an aspectual change in the interpretation of the compound verb and is neutral to the presence or absence of adverbials; therefore it cannot be a syntactic head. As a result of this it does not have phrasal status. In short, syntactic operations cannot involve *ol* in ORCs, which indicates that it is not part of the syntactic representation of these clauses.

4. Further differences between main clauses and ORCs containing the auxiliary verb

The observation made above with respect to the non-uniform behaviour of *ol* in main clauses and ORCs is supported by other facts, one of which is the placement and interpretation of negation. In Turkish the negative suffix follows the verb stem, be it a main verb or an auxiliary verb. As far as the placement of

the negative suffix is concerned, it can either attach to the main verb as in (28a), to the auxiliary verb as in (28b), or to both as in (28c):

(28) a. Bu sene onlar-ı *gör-**me**-miş* *ol-du-k.*
this year they-ACC see-NEG-PERF AUX-P-1PL
'We ended up not seeing them this year.'
b. Bu sene onları *gör-müş* ***ol-ma**-dı-k.*
this year they-ACC see-PERF AUX-NEG-P-1PL
'You can't say that we have actually seen them this year.'
c. Bu sene onları *gör-**me**-miş* ***ol-ma**-dı-k.*
this year they-ACC see-NEG-PERF AUX-NEG-P-1PL
'You can't say that/It is not the case that we haven't seen them this year.'

The difference between (28a) and (28b) is that the former entails 'we did not see them this year', whereas the latter does not have this entailment. In (28b), the particular position of the negative suffix induces the idiomatic reading 'we have not seen enough of them this year', indicating that negation does not have scope over *gör* 'see'. In the case of double negation, as in (28c), the logical properties of both negative suffixes are fulfilled, and the entailment of this clause is 'we have seen them this year'. These distinctions vanish in ORCs with *ol*:

(29) a. *gör-**me**-miş* ***ol**-du-ğ-umuz* filmler
see-NEG-PERF AUX-P-C-1PL films
'the films we haven't seen'
b. *gör-müş* ***ol-ma**-dı-ğ-ımız* filmler
see-PERF AUX-NEG-P-C-1PL films
'the films we haven't seen'
c.*/?*gör-**me**-miş* ***ol-ma**-dı-ğ-ımız* filmler
see-NEG-PERF AUX-NEG-P-C-1PL films

(29a) and (29b) are identical; both entail 'we have not seen the films', in contrast to the distinction between (28a) and (28b) where *ol* occurs in main clause contexts. Furthermore, there is a contrast in acceptability between (28c) and (29c). Whereas the presence of double negation in the former is perfectly acceptable, the latter is marginally acceptable, and ungrammatical for some speakers.

Next, consider the contrast between main clauses and ORCs with respect to the insertion of clitics, such as the interrogative clitic *mi* and the particle *bile* 'even'.[10] The complex verb formed by *ol* in main clauses allows the insertion of certain clitics but ORCs with *ol* vary in degree with respect to the grammaticality

or acceptability of clitic insertion; *mi* is ungrammatical in ORCs when inserted between the main verb and *ol*, and *bile* is either ungrammatical or unacceptable in the same position:[11]

V + mi + ol

(30) a. Yani.şimdi sen bu film-i *gör-müş mü ol-du-n*?
so you this film-ACC see-PERF INT AUX-P-2
'So do you consider yourself as having seen this film?'

b. **gör-müş mü ol-du-ğ-un* film[12]
see-PERF INT AUX-P-C-2 film

V + bile + ol

(31) a. Hatta bu bölüm-ü *anla-mış bile ol-du-k.*
in.fact this section-ACC understand-PERF even AUX-P-1PL
'In fact, it even turns out that we have understood this section.'

b.?/**Anla-mış bile ol-du-ğ-umuz* bu bölüm
understand-PERF even AUX-P-C-1PL this section

The interrogative clitic *mi* attaches to phrase level categories, and the analysis presented here which rules out the phrasal status of *ol* in ORCs accounts for the unavailability of clitics in such positions.[13]

It might at first seem that the focus particle *da* 'also' constitutes an exception to the difference between main clauses and ORCs with respect to clitic insertion:

V + de + ol

(32) a. (Semra'yı görmekle kalmadık), *tanı-mış da ol-du-k.*
not only did we see Semra know-PERF also AUX-P-1PL
'Not only did we see Semra, we also got to know her.'

b. (Görmekle kalmayıp) *tanı-mış da ol-du-ğ-umuz* Semra
not only see) know-PERF also AUX-P-C-1PL
'Semra, whom we not only saw but also got to know'

The acceptability of the forms where the particle *da* occurs between the main verb and *ol* is not surprising, since this particle, unlike the other clitics, can be inserted within a verbal complex. In such cases it follows the TAM marker on the main verb and precedes the TAM marker *bil* which is itself a bound verb stem. The effect of this is that the verb stem is emphasised and the modal is left outside the scope of the focus particle, as in (33a). It would otherwise follow the modal, as in (33b):

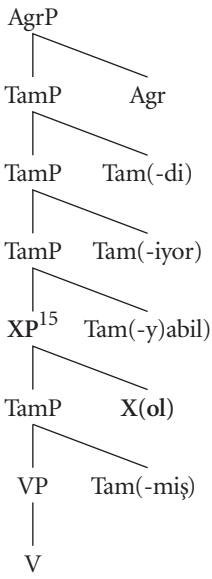
(33) a. gid-e-de-bil-ir-iz
go-ABIL-*de*-ABIL-AOR-1PL
'we can also GO (there)'
b. gid-e-bil-ir-iz de
go-ABIL-ABIL-AOR-1PL *de*
'we can also go (there)'

These facts support the observation that the function of the verb stem *ol* in the structure of main clauses and ORCs is not uniform. In the former it functions as a verb denoting perfect aspect, blocking the occurrence of certain temporal adverbs and allowing others. The structure of the verbal complex containing it allows clitic insertion and double negation and the two possible sites for the negative suffix lead to two separate interpretations. In ORCs, on the other hand, *ol* does not behave like an aspectual verb indicated by the selection of temporal adverbs. Moreover, clitic insertion and double negation result either in ungramaticality or unacceptability and the two positions for the negative suffix do not induce a change in the interpretation. These differences lead to the claim that the verb stem *ol* is not part of the syntactic structure of ORCs and its presence is a consequence of morphological requirements.

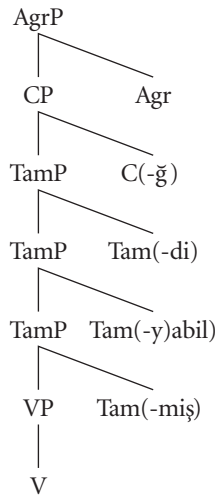
5. The syntactic structure of main clauses and ORCs

The observations above lead to a bifurcation in the role of *ol* in the representation of a clause. In the main clauses discussed here it has the properties of a syntactic head, giving rise to the representation in (34a) below. But the syntactic representation of ORCs does not include *ol* as a syntactic head, as shown in (34b):[14]

(34) a. *Main clauses*



b. *ORCs*



Excluding *ol* from the syntactic representation of ORCs accounts for the observations made above in the following manner:

1. *Why certain temporal adverbs and* ***ol*** *can co-occur in ORCs.* Since the auxiliary verb is not present in the syntax, the aspectual specification which is associated with it, namely perfect aspect, is not there to debar the occurrence of certain adverbs.[15]

2. *Why the location of the negative suffix does not affect the interpretation of the clause.* Assuming that there is one phrasal category projected by the main verb and none by *ol* since this latter is not a functional head, there is no possibility to negate an element which does not exist syntactically.[16] The negative suffix that attaches to *ol* does not have an aspectual marker under its scope unlike the case in main clauses.

3. *Why double negation is disallowed.* Morphologically, the negative suffix can appear on either the main verb, or it may attach to *ol* as examples (29a) and (29b) indicate. What is disallowed is the interpretation of double negation. Since *ol* does not contribute to the interpretation of the clause, only one instantiation of negation is possible.

4. *Why a conditional can occur in an ORC with* ***ol.*** Since *ol* is not part of the syntactic representation of ORCs, a sentence such as (35a) corresponds to the main clause construction given in (35b) which, crucially, does not contain an

auxiliary verb. This shows that ORCs with *ol* actually correspond to main clause constructions without *ol*.

(35) a. İşimiz-i bitir-ebil-se-ydi-k *gid-ecek* ***ol****-du-ğ-umuz* sinema
work-ACC finish-ABIL-COND-P-1PL go-FUT AUX-P-C-1PL cinema
'The cinema we would have gone to, had we finished our work'
[= (27)]

b. (İşimiz-i bitir-ebil-se-ydi-k) sinema-ya *gid-ecek-ti-k.*
work-ACC finish-ABIL-COND-P-1PL movies-DAT go-FUT-P-1PL
'If we had finished our work, we would have gone to the movies.'
[= (24a)]

c. *(İşimiz-i bitir-ebil-se-ydi-k) sinema-ya *gid-ecek ol-du-k.*
work-ACC finish-ABIL-COND-P-1PL movies-DAT go-FUT AUX-P-1PL
[= (24b)]

After having established that the syntactic representation of [V-TAM *ol-du-ğ*-Agr] constructions does not contain *ol*, the question remains as to what forces its presence in the morphology of the clause.

6. Morphological constraints on compound verbs

Claiming that the auxiliary verb is required for morphological reasons in ORCs, as illustrated in (36), amounts to saying that the source of the ungrammaticality of a form such as (37) is the absence of *ol*. However, comparing (37) with (38), one might also claim that the ill-formedness of the former is a consequence of the presence of the complementiser *-ğ* in (37) in the present analysis.[17]

(36) gör-müş ol-du-ğ-um
see-PERF AUX-P-C-1
'that I saw/have seen'

(37) *gör-müş-tü-ğ-üm
see-PERF-P-C-1

(38) Gör-müş-tü-m.
see-PERF-P-1
'I have/had seen (it).'

I shall argue that (37) creates at least one violation of morphological structure: slot-type mismatches, and I shall discuss whether there is a possibility that it

may also be violating another restriction on structure, namely constraints on the upper limit of affixation.[18]

6.1 Slot-type mismatches

One of the conditions on the well-formedness of morphological strings is the position of a particular affix with respect to its adjacent morphemes. The placement of affixes are either stipulated as part of the lexical specification of a morpheme or assumed to be an output of syntactic processes. A recent example of the former mechanism is the notion of combinatoric TYPE as discussed in Sells (1995). This approach is based on the Principle of Lexical Integrity (Bresnan and Mchombo (1995) and references therein), and is a morphologically based analysis of word structure which is in stark contrast to views of word formation as a manifestation of syntactic head movement as, for example, suggested by Baker (1988). According to the Principle of Lexical Integrity "there is some kind of general word-internal scheme" (Sells 1995: 306) for certain languages, whereby the combinatoric TYPE of a certain affix determines its position in a word with respect to its right adjacent affix.

It seems to be the case that Turkish is one of the languages where the position of some suffixes is lexically determined. In view of the fact that there is no perfect match between the position of a suffix and the syntactic operations that it is involved in, it is reasonable to assume that the internal structure of words is an output of independent morphological reasons. Here I will assume that the description of each suffix contains specifications regarding the position of that suffix with respect to the slot that hosts it, rather than the information about its combinatoric TYPE, although these two are not incompatible.[19] The constraints that disallow the occurrence of morphemes in particular positions will be referred to as slot-type mismatches here.

Going back to (37), one of the reasons for the ungrammaticality of this sequence is indeed a slot-type mismatch. One of the possible sources of the ungrammaticality is -ğ; however, this option can immediately be ruled out on the grounds that there is nothing wrong with the position of this suffix, as witnessed by (12), repeated below:

(39) V-… -di (NON.FUT) -ğ (C) AGR

As can be seen, *-ğ* occurs after *-di*, and the ungrammaticality of (37) cannot be the result of a positional restriction on *-ğ*.[20] The next contender for the source of ungrammaticality is *-di*. This is indeed a slot-type mismatch, although the

reasons for this mismatch do not comply with the view on the representation of verbal inflectional morphology, illustrated in (3) and the relevant parts of which are repeated below:

(40)	V- …	-di (P)	-(y)di (P) …	AGR
		-miş (EV/PERF)	-(y)miş (EV/PERF)	
		-sa (COND)	-(y)sA (COND)	
		3	4	

If one adhered to the view that (40) is the correct characterisation of the verbal inflectional morphology of Turkish (which I shall call the standard view) the reasoning would be as follows. *-di* can only appear in slot 3, hence causing a clash with *-miş* which is also typed to appear in that slot. What about (38) then, where the sequence *-miş+-di* is grammatical? Again, as illustrated above, there is another suffix which looks conspicuously similar to *-di*, and that is *-(y)di* in slot 4. This is the suffix that appears in (38).

I will claim that *-(y)di* and the other suffixes which are characterised as occupying a distinct slot (namely, slot 4) do not exist as separate suffixes. Rather *-di*, *-miş* and *-sa* which attach directly to a stem, attach to *y*, the remnant of the obsolete verbal stem *är*, in cases where their slot is taken up by another suffix.[21] The difference in ungrammaticality between (37) and (38) then is the following: although these forms both have *-di*, (38) contains the copular stem as witnessed by the position of stress, but (37) does not. Therefore (37) presents a slot-type mismatch. To see how this works, it is necessary to address the issues raised by the proponents of the standard view regarding the distinction between *-di* and *-(y)di*.

Despite their common historical background, and despite the fact that the palatal glide in *-(y)di* is the remnant of an obsolete verbal stem, there is more or less a consensus on treating it as a separate suffix from *-di*. The reasons for this are given as follows:

1. *-di* is a verbal suffix, but *-(y)di* is a predicate suffix, attaching to both verbal and non-verbal predicates
2. *-di* is stressable; *-(y)di* is a stress assigner and is itself unstressable
3. *-(y)di* is negated using the form *değil*, whereas the negated form of *-di* involves the negative suffix *-ma*
4. phonologically the two are distinct; *-(y)di* contains *y*, which surfaces when attaching to syllables ending in a vowel, but *-di* attaches directly to a vowel.

These points have generally been taken as the criteria for considering *-di* and *-(y)di* two separate suffixes.[22]

However, there is another way of analysing *-di* and *-(y)di*. Suppose that morphologically there is a single morpheme *-di*, the marker of non future tense, which attaches only to verbal stems. As mentioned above the palatal glide in *-(y)di* is the remnant of an obsolete verbal stem which survives in Turkish as the bound stem *i*. It is not surprising then that this stem combines with a number of affixes, one of which is *-di*, giving rise to the form *idi*. This latter is a copular form which occurs with nominals as in (41) or with VPs as in (42), either as a free form, in which case it is *idi*, as in (41a&42a) or attached, as in (41b&42b):

(41) i. a. Çocuğ-um i-di.
child-1-P COP-P
'S/he was my child. It was my child…'
b. Çocuğ-um-du
child-1-P
'S/he was my child. It was my child…'
ii. a. Çocuk-lar i-di.[23]
child-PL COP-P
'(It) was the children.'
b. Çocuk-lar-dı.
child-PL-P
'(It) was the children.'
iii. a. Çocuk i-di-ler.
child COP-P-3PL
'They were/used to be children.'
b. Çocuk-tu-lar.
child-P-3PL
'They were/used to be children.'

(42) i. a. Gel-iyor i-di.
b. Gel-iyor-du
come-PROG COP-P
come-PROG-P
'S/he was coming.'
'S/he was coming.'
ii. a. Bak-acak-lar i-di.
look-FUT-3PL COP-P
'They were going to look.'

b. Bak-acak-lar-dı.
look-FUT-3PL-P
'They were going to look.'

iii. a. Bak-acak i-di-ler.
look-FUT COP-P-3PL
'They were going to look.'

b. Bak-acak-tı-lar.
look-FUT-P-3PL
'They were going to look.'

In short, the claim that *-di* and *-(y)di* are separate suffixes on the grounds that they attach to different types of morphological or syntactic objects is not valid. *-di* is a verbal suffix which attaches to any verbal stem including *i*. It occurs only in slot 3, in (40), and not in slot 4. In the forms where it appears to be in slot 4, it is actually in slot 3, attached to *i*, which although absent as an overt mopheme, is phonologically present as a stress assigner (the stressed syllables are indicated by capital letters below):

(43) a. Gel-MİŞ-ti.
come-PERF-P
'S/he has/had come.'

b. Gel-eCEK-ti.
come-FUT-P
'S/he was going to come.'

c. Gel-İR-di.
come-AOR-P
'S/he used to come.'

Recall that one of the points brought forward to support the view that *-di* and *-(y)di* were separate morphemes was that *-di* is stressable, whereas *-(y)di* assigns stress to the syllable preceding it and is unstressable itself. This fact actually strengthens the view held here that there is actually one *-di*, rather than showing that there are two distinct morphemes. In order to see how this works, one need only to look at the principles of stress assignment in units larger than the phonological or morphological word. Although it is true that *-di* is stressable, this is only true for words in isolation, such as:

(44) Kal-DI.
stay-P
'S/he stayed.'

for the simple reason that stress is in 'word' final position in Turkish. However if the same form appears in a clause, as in:

(45) Ev-DE kal-dı.
home-LOC stay-P
'S/he stayed at home.'

primary stress falls on the constituent preceding the verb, because this is the position for sentential stress in the clause. The verb is a stress assigner, and whatever occurs to its left takes stress. This actually shows that *i*, also a verb, is actually phonologically present in the examples in (43) as a stress assigner, and it is this, and not the composite form *-y(di)* which assigns stress. Therefore, from the point of view of stress assignment, one cannot claim that there are two separate suffixes either. Rather, it seems to be the case that *-di* is stressable unless the verb it attaches to has phonological material to the left of it that it can assign stress to. So the forms in (43) look like single words, but they contain two phonological domains, namely *gelmiş* and *(i-)di.*

The next point which is raised as an objection to *-di* and *-(y)di* being identical concerns negation:

(46) a. Gel-me-di-m.
come-NEG-P-1
'I did not come.'
b. Öğretmen *değil*-di-im.
teacher NOT-P-1
'I was not a teacher.'
c. *Öğretmen *i*-me-di-m.
teacher COP-NEG-P-1

It is claimed that *-(y)di* is negated through *değil* whereas *-di* is negated through *-ma.* However, this is not a correct formulation of the facts. It is the verb *i* which does not accept the negative suffix, hence the ungrammaticality of (46c). Nor does *i* accept other suffixes that verbs generally do, such as grammatical function changing suffixes or the necessitative suffix. In fact it accepts only a few temporal and aspectual markers. So although it is a verb in terms of its syntactic category, it does not select any affix, just as, say, the verb *gör* 'see' does not combine with the causative suffix. It is, however, an unusual verb whose morphological properties should be investigated in the light of morphological restrictions induced by the other well-formedness conditions on structure.

The final point concerning *-di* and *-(y)di* involves the phonological shape

of these two: *-(y)di* contains *y*, which surfaces when attaching to syllables ending in a vowel, but *-di* attaches directly to a vowel. To reformulate this within the approach taken in this paper, the morpheme *idi* surfaces as *-di* after consonants and *-ydi* after vowels, this latter due to the fact that vowel sequences do not occur in Turkish phonology:

(47) a. Öğretmen-di.
teacher-P
'S/he was a teacher.'
b. Öğretmen-leri-y-di.
teacher-POSS.3PL-COP-P
'They were their/her/his teacher(s).'

The question here is why the free form *idi* has 'become' the suffix *-(y)di* and not the suffix *-idi*. I do not have an answer to this question at this stage.[24] It is possible for a form in transition to lose some of its lexical properties and this may be what is happening here, as witnessed by the phonological presence of *i*, even in cases where it lacks a morphological form. At present, there do not seem to be sufficient reasons for assigning distinct characterisations to *-di* and *-(y)di* just on the basis of this when there is compelling evidence that the latter contains the former plus the copula.[25]

The claim that slot 4 is not occupied by distinct material calls for a reformulation of (40) (i.e. (3)). If *-(y)di*, *-(y)miş* and *-(y)sa* do not stand as separate markers, then the slot that hosts them does not exist. The revised characterisation of the relevant parts of (3) is then the following:

(48)	V	-(y)a	-bil	-iyor (PROG) -ir/ar (AOR) -(y)acak (future) -malı (NEC) -di (P) -miş (EV/PERF) -sa (COND)	AGR	-dir (ASS/PROB)
				1	2	3

The morphemes which previously occupied slot 3 are actually slot 1 morphemes, which means that they attach to a stem, and those that were in slot 4 do not exist. The abilitative morpheme *-(y)abil* which occupies two slots contains the suffix *-(y)a* and the the bound stem *bil*. This latter marks a domain boundary and is available as a stem for any of the suffixes in slot 1 to attach to. The last three in

slot 1 also attach to the copula. To illustrate, a form such as (49) which seems to have five suffixes actually contains three verbal stems, *gör*, *bil* and *i*, this latter phonologically observable between *-(y)acak* and *-miş* as a stress assigner:

(49) *Gör*-e -*bil*-eCEK -*Ø*-miş-sin-dir.[26]
see-ABIL -ABIL-FUT -*i*-PERF-2-NEC
'It is evidently the case that you would have been able to see (it).'

6.2 Word size

One of the most important outcomes of the reformulation of the inflectional domain in the verb along the lines suggested above is that it presents a new insight into one of the lesser known aspects of morphological structure, namely, structural restrictions concerning the size of a word in terms of the number of affixes that a stem can bear. This notion, discussed in Göksel (1998) is based on the hypothesis that languages are parameterised with respect to the space allocated to affixes. In addition to the requirement that an affix can only occur in a certain slot, there is the requirement that the total number of (a particular group of) affixes attaching to a stem cannot exceed the maximum defined for that language. Verb stems in Turkish cannot have more than three inflectional suffixes whether they are finite as illustrated in (49), or non-finite:[27]

(50)	V	-(y)a -bil (ABIL)	-(y)aca (FUT) -di (NON.FUT)	-ğ (C)	AGR
			1	2	3

Forms such as (37), then, are ungrammatical for yet another reason; the number of suffixes they have exceed the number specified for Turkish, which is three.[28]

To summarise, the form in (37) is ungrammatical for two reasons. A slot-type mismatch (since *-di* is of the type that attaches directly to a stem), and word size. On both accounts a new stem is required for the attachment of the suffix *-di* and *ol* emerges for that reason.

7. A further note on the syntactic and morphological role of the auxiliary verb in main clauses

Is the syntactic invisibility of *ol* restricted to ORCs, or is it syntactically inactive in certain main clauses as well? We saw above in examples (16)–(24) that the presence of the auxiliary verb in main clauses was required morphologically

but, in addition, induced a semantic effect. The question is whether this is true of all main clause constructions. As the sequences in (a) below are ungrammatical for reasons regarding slot-type mismatches, the forms in (b) are morphologically required.

(51) a. *Gör-müş-ür-üz.
see-PERF-AOR-1PL
'We will have seen.'
b. Gör-müş *ol*-ur-uz.
see-PERF AUX-AOR-1PL

(52) a. *git-miş-se-ydi-k
go-EV/PERF-COND-P-1PL
b. git-miş *ol*-sa-ydı-k
go-PERF AUX-COND-P-1PL
'had we gone'

(53) a. *Git-miş-ebil-ir-ler./*Gid-ebil-miş-ir-ler.
go-EV/PERF-ABIL-AOR-3PL
b. Git-miş *ol*-abil-ir-ler.
go-PERF AUX-ABIL-AOR-3PL
'They might have gone.'

Although it is not possible to make a syntactic comparison between the forms in (a) and (b), miş+*ol* sequences have perfect aspect. Without going into further detail here, I will claim that the aspectual characteristics of the sequences in (b) above are the result of the presence of the perfect aspect marker *-miş* rather than the auxiliary verb. Therefore it is possible for main clause constructions to have the auxiliary verb solely as a morphological buffer. For further discussion of this point, see Göksel (forthcoming).

8. The internal structure of compound verbs

What kind of a phonological and morphological object is the compound verb of ORCs as in (54a) and those main clauses where *ol* is purely a buffer stem as in (54b)?

(54) a. V+TAM *ol*+TAM+C+AGR
b. V+TAM *ol*+TAM+TAM+AGR

In order to answer this question we first look at the criteria for identifying a phonological domain in Turkish. There are two basic criteria in Turkish, stress and vowel harmony.

As mentioned above, stress in Turkish falls on the final syllable of a word, well known types of exceptions aside (see Sezer 1983; Çakır 2000). In terms of stress, (54a&b) are not phonological words since *ol* assigns stress to the TAM marker of the main verb. If phonological material appears to the left of (54), then the main verb assigns stress to the constituent preceding it, as we saw in (45). This also rules out an analysis whereby (54) is analysed as having compound stress. These facts show that phonology is sensitive to the syntactic category of *ol*.

(54a&b) have two phonological domains also with respect to vowel harmony, indicated by the fact that *ol* marks the beginning of a harmonic domain. It can be concluded from these that (54) is made up of two phonological domains.

It is a well known fact that phonological domains may not overlap with morphological domains, and that there are various definitions of 'word', as the considerable amount of literature on the topic illustrates (see Di Sciullo & Williams 1987; among others). The criteria for distinguishing a morphological domain from a phonological domain are not well known in the case of Turkish words. Since compound verbs in ORCs do not allow clitic insertion between the main verb and the auxiliary verb it might be tempting to suggest that clitic insertion is a test for morphological domainhood. However, it is problematic to use clitics for testing domain boundaries since they are both vowel harmonic indicating that they do not mark the beginning of a phonological domain, but are unstressable indicating that they actually may be the signal for a domain boundary. Although clitic insertion is not an option in ORCs, it is clear that from a morphological point of view *ol* is a separate stem that creates slots for further affixation. I shall therefore take it to be the case that compound verbs are composed of two morphological domains.

Conclusion

The verb stem *ol* functions as an auxiliary verb with aspectual characteristics only in certain main clauses. In other main clauses and ORCs it is syntactically inactive and is therefore not present in the syntactic representation. *Ol* is required in such clauses for reasons of morphological well-formedness; its morphological presence guarantees that slot-type mismatches and violations

of word size do not occur. So *ol* emerges as a buffer stem to support further affixation.

Although it is accepted that 'word size' differs from one language to another, neither the actual limits on affixation, nor the determinants of such limits are well known.[29] The findings here support the view that when the space in a particular form is not sufficient, an auxiliary verb may be used purely for morphological reasons. The present work also attempts to describe the size of a verbal stem in Turkish in terms of the slots it has. A re-evaluation of the morphology of the verbal forms show that the space allocated to inflectional suffixes is three, based on the analysis of predicate suffixes as composite forms, and independently supported by the morphology of the verb form.

It is interesting to note that the syntactic category of *ol* in ORCs is visible both to phonology and morphology, but not to syntax. *Ol* is visible to phonology as the stress pattern of the complex verb form in ORCs indicates the presence of a verb. It goes without saying that *ol* is visible to morphology as well, since the affixes that attach to it are verbal.

There are several points which are not addressed in the present paper. One of these is the type of syntactic information that filters into morphology, and vice versa, and the type of structure that is shared both by morphology and syntax (see Di Siullo 1997). Notice that this is not the same question as whether morphological and syntactic derivations go hand in hand.[30] Another interesting topic of research is the link between the type of a suffix and the size of a word. A description of these would lead to a better understanding of the interaction between slot-type mismatches and word size. It would then be possible to understand if the limitations on word size actually determine the type of a suffix, whether this latter be defined in terms of its combinatoric TYPE spelling out its adjacency requirements or the slots that it can occupy.

Notes

* I would like to thank Meltem Kelepir and Eser Taylan for their comments on this paper. Naturally, all errors are mine. The abbreviations in this paper are as follows: 1,2,3: singular person markers, 1,2,3PL: plural person markers, ABIL: abilitative, ACC: accusative, AGR: subject agreement, AOR: aorist, ASS: assertion marker, AUX: auxiliary, C: complementiser, COND: conditional, COP: copula, EV: evidential, FUT: future, NEC: necessitative, P: past, POSS: possessive, PROB: probability marker, PROG: progressive, PERF: perfect

1. This chart does not give a full description of TAM markers in Turkish. Some suffixes have been left out and some of those that have been included have not been fully described.

Neither of these have a bearing on the morpho-syntactic aspects of the auxiliary verb and other issues discussed in this paper. Suffixes conform to the harmony and assimilation processes of Turkish phonology, as a result of which a morpheme may be realised in a number of ways. I divert from the custom of using capital letters in the representation of affixes and use lower case letters throughout, purely for reasons of convenience. The vowel 'i' in a suffix may be realised as any one of the high vowels (/i/, /ı/, /ü/ or /u/), 'a' as an unrounded non-high vowel (/a/ or /e/), a final 'd' as a voiced or voiceless denti-alveolar plosive (/d/ or /t/).

2. *-mağ, -diğ* and *-(y)acağ* generally appear as *-mEK, -DIK* and *-(y)EcEK* in the literature, where capital letters indicate variations due to the phonological processes of vowel harmony in the cases of *A* and *I*, consonant assimilation in the case if *D* and final devoicing in the case of *K*.

3. The temporal and aspectual status of *-diğ* and *-(y)acağ* and the relation of these to the past tense and future markers, respectively, have been discussed in a number of articles. (cf. Kerslake 1997; Yükseker 1997; Kural 1998). Although *-di* is a past tense marker and *-(y)acak* a marker for future tense (among its other functions), their temporal reference in embedded clauses is not clear, at least in the case of *-(y)acak* which may co-occur with a temporal adverb referring to the past. This issue is not significant for the purposes of the investigation here, and the reader is referred to Ozil (1998) for a discussion of this point. The segment *-di* in *-diğ* is glossed as P in the examples, but is referred to as NON.FUT in structural descriptions.

4. *-diğ* existed in Orkhun Turkic as *-duq/-dük*. Orkhun Turkic is the ancestor of Modern Turkish and was spoken in the 8th century A.D. in Mongolia (see Tekin 1968). The form in Orkhun Turkic is described as a verbal noun by Tekin. It appears to have two syntactic functions: as a non-finite form creating clauses (Tekin 1968: 178–179) and as a finite perfect form (Tekin 1968: 190–191). The proposal that the *-diğ* of Modern Turkish is complex does not entail that its ancestor was also compositional. On the other hand, this does not rule out the possibility that the Orkhun Turkic *duq/-dük* is also complex (see Tekin 2001: 55 for a discussion of this possibility).

5. Kural (1993) considers *-(y)acağ* to be *-(y)acak+k,* hence *-(y)acakk*. Although interesting from a morphological point of view, the implications of this are not relevant to the analysis of *-diğ*.

6. There are various proposals regarding the formal syntactic properties of ORCs. Kennelly (1992), Kornfilt (1997b) and Özsoy (1998) consider *-diğ* a simplex morpheme. Kornfilt analyses *-diğ* clauses as CPs with a phonologically null head, while Kennelly and Özsoy analyse them as IPs (under DPs), with *-diğ* as the head of the IP. Due to their origins, there is a tendency in the field of Turkish language studies and descriptive grammars, both traditional and current (see among many others Lewis (1967) and Kornfilt (1997a)) to describe *-diğ* and *-(y)acağ* as simplex participial suffixes. I argued earlier that, despite historical reasons, there is a case for them to be reanalysed as complex morphemes (Göksel 1997).

7. For the various possibilities of the suffixes that can occur with *ol*, see van Schaaik, this volume.

8. It has been pointed out to me by Eser Taylan that the source of the ungrammaticality in this example might be *-miş ol*. This suggestion would be plausible if it could be shown that

-miş ol is a composite form which is semantically unanalysable, since the presence of *-miş* itself does not lead to ungrammaticality.

9. In this sentence, *böylecene* 'thus' is a sentential adverb, which should not be confused with *böylecene* 'in this manner', a VP adverb. The former has rising intonation and has secondary stress on the final syllable, whereas the latter has falling intonation. The sentence is ungrammatical with the sentential adverb, not with the VP adverb. The one which is of interest here is the one that has the sentential adverb, as it contrasts with (23b).

10. Based on its morphological behaviour, *bile* is also considered to be a clitic, see Erdal (2000).

11. It has been pointed out to me by Jaklin Kornfilt that there may be other reasons for the ungrammaticality of *mi* insertion in ORCs which do not have anything to do with a morpho-syntactic contrast such as the one I discuss. One of these has to do with the general nature of possessive NPs with which ORCs share certain properties, such as nominal agreement. This is an issue which has to be investigated further, and it would have to be seen whether the unavailability of *mi* in ORCs is a result of syntactic constraints only.

12. The grammatical position for the interrogative clitic is the end of the phrase as in *görmüş olduğun film mi?* 'the film you have seen?'

13. ORCs with *ol* differ from main clauses also in terms of allowing certain epistemic modals, as has been observed before. *Meğer* 'apparently', *hani* 'I thought you said', *halbuki* 'but, whereas', occur in main clauses but are not allowed in embedded clauses (cf. Erkman-Akerson and Ozil 1998; Ozil 1998; Erguvanlı-Taylan 2000). It is unlikely that this contrast is related to the status of *ol.* Rather, it seems to be linked to the fact that ORCs contain a gap and that an epistemic modal such as *halbuki* 'whereas' can only be adjoined to a proposition:

i. a. Halbuki Ahmet-i *gör-müş* ***ol****-du* (istemediği halde).
whereas Ahmet-ACC see-PERF AUX-P against her will
'Whereas, against her will, she had seen Ahmet.'
b. *[Halbuki *gör-müş* ***ol****-du-ğ-u*] Ahmet
whereas see-PERF AUX-P-C-3 Ahmet
Intended interpretation: 'Ahmet, whom, whereas, she has seen'

14. Defining the exact nature of the XP is not relevant at this stage. A fewTAM markers in Turkish have been evaluated with respect to their syntactic position as heads; see Tosun (1998), Cinque (1999b).

15. It is generally agreed that adverbs are linked to aspectual and temporal markers. The structural link that exists may be characterised as adjunction or adverbs may occupy the specifier positions of the heads they are linked to, as suggested by Cinque (1999a). See also Tosun (1998) for an analysis of adverbs in specifier positions in Turkish.

16. A question which has been raised by Eser Taylan (p.c.) is how *ol* and *ol*-NEG co-occur with substantives (e.g. *kuvvetli ol-ma-dı-ğ-ı* 'that s/he is/was not strong') if the auxiliary verb is not a syntactic element. It is a widespread view that *ol* in such forms is generally considered to be a suppletive form of the copula, which would mean that it is syntactically active. This is, of course, a possibility, but it has to be seen why a perfect marker is used as a suppletive form for a stative marker. An alternative way of analysing these forms is to assign *ol* the status

of a morphological buffer which carries the negative suffix and other types of morphology which would otherwise remain unattached. A detailed discussion of this topic lies beyond the scope of this paper.

17. In approaches which take *-diğ* as a simplex morpheme, the ungrammaticality of (37) might be seen to result from the presence of this morpheme, which does not have a bearing on the present issues.

18. It is mentioned in Cinque (1999a) (cited from Kornfilt 1996) that the presence of *ol* is a result of *-miş* being a 'closing' suffix, that it does not allow further concatenation. Since I did not have access to Kornfilt (1996) at the time of writing this paper, I cannot comment on this point. In view of the fact that *-miş* allows further concatenation (as (38) indicates), what is meant by this is not clear to me.

19. The combinatoric TYPES themselves, and not slots per se, determine co-occurrence possibilities in Sell's approach; however, if an affix has already occurred adjacent to another with a particular TYPE, then that position is not available for an affix with the same TYPE.

20. Kornfilt (1997a) mentions a slot-type mismatch with respect to the morpheme *-diğ*, where she suggests that "since the participial suffix occupies the morphological slot of the tense in the corresponding finite verb, the tense of such participial clauses is neutralised and is interpreted as non future without any further differentiation" (Kornfilt 1997a: 65). This analysis leaves the following points unanswered: (i) why *-diğ* cannot be followed by aspectual markers which is a possibility in the corresponding main clause verb, (ii) why the future tense suffix *-(y)acağ* can occur in the very same position while the other tenses are disallowed. Treating *-diğ* and *-(y)acağ* as complex suffixes partially answers these questions, as will be discussed shortly. However, at this point, I do not have an explanation as to why the other tense suffixes cannot occur in this position.

21. See, for example, Tekin (1968), Erdal (2000).

22. See van Schaaik (1996), and Erdal (2000).

23. This usage is obsolete. It is given here to illustrate the difference between the two forms (42 (ii)–(iii) a) and (42 (ii)–(iii) b), as in *Bu sabah camımızı kıranlar mahalledeki* ***çocuklardı.*** 'It **was the children** of the neighbourhood who broke our window', vs. *Onlar mahallenin camlarını kırdıkları zamanlarda* ***çocuktular*** '**They used to be children** in the days that they would smash the windows in the neighbourhood'.

24. If it had been the latter case, then the rules of vowel harmony would have operated, giving rise to forms such as **Küçük-ü-dü* 'S/he was a child' and **Gel-iyor-u-du* 'S/he was coming', which are actually grammatical in some dialects of Turkish.

25. It has been pointed out to me by Jaklin Kornfilt that she had reached a similar conclusion in an earlier paper (Kornfilt 1996) which, unfortunately, I did not have access to at the point of submitting the present paper.

26. When there are two potential stress assigners in a form, the leftmost one becomes the stress assigner (see Sezer 1983; Göksel and Özsoy 2000).

27. The term 'inflectional suffix' here includes Agr which is actually a clitic with properties slightly different from the other clitics mentioned here. It would have to be seen whether Agr creates a domain boundary or not in order to understand the type of space it occupies.

28. Describing the slots attached to a stem in the form of numerals is merely a way of defining a finite space and should not be taken as implying a counting mechanism.

29. For an attempt to describe the variation in word size in Turkic languages see Göksel (1998) where it is suggexted that Turkish has one more slot than Yakut.

30. Mismatches in syntax and morphology indicate that attempts to analyse these two in a parallel fashion as proposed by Baker (1985) are problematic and are empirically inadequate (see Alsina 1990; Sadock 1991; Janda and Kathman 1992; Göksel 1993 and Sells 1995; among others).

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Functional projections and their subjects in Turkish clauses*

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Summary

This paper discusses non-finite argument and adjunct clauses in Turkish, the functional projections they contain, and the subjects found in such projections. I shall concentrate on those projections that do have overt subjects, focussing on the question of when these subjects have overt (Genitive) Case, and when they don't have such Case. I shall suggest an adaptation of Raposo's (1987) proposal which claims that "…a tenseless Infl positively specified for *Agr* can assign nominative Case to a lexical subject only if it is itself specified for Case." (Raposo 1987: 107) I shall generalize this proposal so as to cover any "subject" Case assigned by *Agr* (rather than just Nominative), but I shall also narrow the proposal, saying that it does not suffice for the *Agr* associated with a tenseless (and, in Turkish, nominal) *Infl* to be itself Case-marked (and thus governed); rather, it must be theta-governed. (As a matter of fact, I shall present some evidence suggesting that it is not relevant for the *Agr* element to be Case-marked.) I further propose that an operator can participate in the Case marking potential of nominal *Agr*, just as my extension of Raposo's condition for a Case-marked *Agr* can. In other words, the Case-assignment potential of nominal *Agr* must be "unlocked" somehow; this can be done either by having the *Agr* element be theta-governed (and thus be, in some sense, *"marked"* by the theta-governor, e.g. by being gamma-marked, in the sense of Lasnik & Saito 1984), or by having it be co-indexed by a syntactic operator, and thus *marked* by co-indexation. In other words, only a *marked Agr* can assign Case to its subject in a non-finite clause. Please note that for the purposes of this paper, it is irrelevant whether Case is *assigned* (as in the Government and Binding framework),

or whether it is *checked* (as in the Minimalist Program); I have used these two terms interchangeably in this paper.

The relationship of this solution to the more general topic of functional categories in Turkish syntax is clear: If nominal *Agr* participates in the Case-marking of the subject, then Turkish must possess the syntactic (functional) category *Agr*, which would head the projection *AgrP*; if an operator participates in the Case-marking of the subject, as well, then there must be a position to host such an operator. This position is usually assumed to be *SpecCP*, i.e. the specifier of a functional projection. In a nominalized clause, this projection itself might be nominalized, or it might be a *DP* — a (nominal) functional projection, as well. In this paper, I shall not address the issue of the exact nature of such functional projections, but I shall make the assumption that, for the proposed account of the Case properties of the subject in nominalized embeddings to work, there must be an extensive architecture of functional projections realized in such embeddings.

1. Introduction

Turkish has typically nominalized subordinate clauses. (Non-nominalized, tensed clauses are very restricted, and I shall touch upon one type of those only in passing.) In this paper, I discuss some aspects of nominalized subordination in Turkish, focussing on some properties of adjunct subordinate clauses that contrast with those of argument subordinate clauses. By the term "adjunct clauses" I mean clauses that are not directly arguments in a superordinate clause and therefore are not directly assigned a thematic role by the predicate of such a higher clause nor are governed by such a predicate; "argument clause" means here a clause which is such an argument of a higher clause and is assigned a thematic role within that higher clause. When discussing adjunct clauses, I shall focus attention on clauses with adverbial function, but shall also briefly discuss modifier clauses in relative clause constructions. (For general discussion of different subordination types along these lines, cf. the chapters by Noonan, Keenan, and Thompson & Longacre in Shopen 1985: Vol. 2.) Among the former, I differentiate between clauses that fulfill their adverbial function via the intermediary of a postposition and those that do not have such an intermediary.

A brief survey of the general properties of Turkish subordination follows, after which I turn to the central issues of the ppaper.

2. Subordination in Turkish: A brief outline

Subordination in the syntax of Turkish (as indeed in the Turkic languages in general) typically involves clauses that are not fully finite, and are said to be nominalized to varying degrees. While there is a tacit understanding of the term "finite" in diachronic, descriptive and theoretical studies, the implications of this term in all its details are less than clear, and — at least in theoretical syntax — there has been some controversy as to whether "finiteness" is implicated by the notions of tense, aspect, mood, predicate – subject agreement, and whether singly or in combination (cf. Chomsky 1981; George & Kornfilt 1981 and related work; Menges 1968; Grønbech 1979; Johanson 1998; among others).

In this paper, I concentrate on clauses with non-finite predicates, in the sense of not exhibiting the full array of Tense, Aspect and/or Mood [*TAM*] morphology, but rather having (in the same morphological slots as *TAM*-morphemes in finite predicates) certain "nominalization" morphemes that are somewhat comparable to gerundive and participial forms in better-studied Indo-European languages. Such clauses fall into different types, depending on whether they are marked for (overt) Case or not, on whether their predicates exhibit overt subject-predicate agreement or not, and on whether they have overt subjects or not. I shall limit myself to those clauses that do have overt subjects and overt agreement on their predicates and will touch upon some of the other types for purposes of contrast.

It has been often claimed in the more traditional Turkological literature that in Turkish (as well as in other Turkic languages with similar constructions) such nominalized clauses are not even clauses, but rather reduced entities, i.e. reduced phrases of some sort. In contrast with this view, my assumption here will be that nominalized clauses are comparable to fully finite ones in terms of having functional projections that are typical for clause structure, but that verbal functional projections in such clauses are dominated by some nominal functional projections. Thus, we capture, as we shall see later, the double-nature of such subordination, namely as internally clausal (and verbal, in some sense), but externally nominal.

3. Types of syntactic subordination and types of "non-finiteness"

I will consider here the following types of non-finite subordination: I. Argument clauses (i.e. subordinate clauses that are assigned thematic roles by the

predicate of a superordinate clause or sentence); II. "Adverbial" clauses, i.e. clauses that directly, without the intermediary of a postposition, modify the predicate of the superordinate sentence; III. Complement clauses of postpositions; IV. Modifier clauses in relative clause constructions.

The common denominator of all of these types is that their predicates are morphologically different from predicates of fully finite clauses, in that they do not exhibit the full array of tense, aspect and mood (*TAM*) morphemes found with "finite" predicates. Instead, some "nominal" morphemes are found; only some of those have impoverished *TAM* connotations; other such "nominal" morphemes have no *TAM* connotations at all.

In the following subsections, I will discuss some morphological properties that correspond to the four types of structures listed above.

3.1 Non-finite argument clauses

Argument clauses bear the Case corresponding to their thematic role on their nominalized predicate; the few instances of finite argument clauses do not bear Case morphemes in corresponding positions. The subject of nominalized argument clauses is in the Genitive Case, as opposed to the Nominative subjects of corresponding finite clauses. Furthermore, the subject-predicate agreement morphemes are drawn from a nominal paradigm rather than from a verbal paradigm as with finite clauses. In all of these respects, non-finite argument clauses are similar to possessive noun phrases. Illustrations follow:

Finite root clause:

(1) Ali geçen akşam nehr-in kenar -ın -da koş -uyor -du
Ali past evening river-GEN shore -3SG -LOC run -PROGR -PAST
'Ali was running along the river the other evening.'

Finite embedded clause:

(2) [Ali geçen akşam nehr -in kenar -ın -da koş -uyor -muş]
Ali past evening river -GEN shore -3SG -LOC run -PROGR -REP.PAST
diye duy -du -m
'saying' hear -PAST -1SG
'I heard that Ali was running along the river the other evening.'

I assume that in such finite clauses, it is the *Agr* element that is responsible for the Nominative Case marking on the subject. Exceptional Case Marking [*ECM*]-constructions provide evidence that it is not *TAM*-morphology which bears such

responsibility, as in Turkish, *ECM*-clauses (with Accusative rather than Nominative subjects) are not infinitival as in English, but do bear *TAM*-morphology. On the other hand, for an important dialect of Turkish, such clauses do not bear *Agr*-morphology. The following two examples illustrate this point:

(3) a. [Sen geçen akşam nehr-in kenar -ın -da koş -uyor -du -*n*]
you past evening river-GEN shore -3SG -LOC run -PROGR -PAST -2SG
san -dı -m
believe -PAST -1SG
'I believed that you were running along the river the other evening.'

b. [Sen -*i* geçen akşam nehr-in kenar -ın -da koş -uyor-du]
you -ACC past evening river-GEN shore -3SG -LOC run -PROGR-PAST
san -dı -m
believe -PAST -1SG
'I believed you to have been running along the river the other evening.'

Non-finite embedded clauses:
"Factive" (indicative) nominalized clause:

(4) a. [Ali-*nin* geçen akşam nehr-in kenar -ın -da koş -tuğ -*un*] -u
Ali-GEN past evening river-GEN shore -3SG -LOC run -FN -3SG -ACC
gör -dü -m
see -PAST -1SG
'I saw that Ali was running along the river the other evening.'

"Non-factive" (subjunctive) nominalized clause:

(4) b. [Ali-*nin* nehr-in kenar -ın -da koş -ma -*sın*] -ı
Ali-GEN river-GEN shore -3SG -LOC run -NFN -3SG -ACC
isti -yor -um
want -PROGR -1SG
'I want for Ali to run along the river.'

Possessive NPs (for comparison of their Case and agreement properties):

(5) [Ali-*nin* kitab -*ın*] -ı çal -dı -m
Ali-GEN book -3SG -ACC steal -PAST -1SG
'I stole Ali's book.'

The subject of finite root and subordinate clauses is in the Nominative, while the corresponding subject in nominalized non-finite argument clauses is in the Genitive. In this respect, the latter type of subject patterns with the possessor of

possessive nominal phrases. Furthermore, nominalized argument clauses exhibit subject-predicate agreement of the same type as the possessive agreement in possessive phrases. The 3rd person singular agreement morpheme in (4) is the same one as the corresponding morpheme in (5), abstracting away from the morpheme-initial *s* which drops after a consonant.

In contrast, note that in both the finite root clause and the finite subordinate clause, there is no overt 3rd person singular agreement morpheme on the predicate. This is because this agreement morpheme is null in the verbal agreement paradigm. There are differences between the verbal and the nominal paradigms with respect to other person and number combinations, as well.

Finally, note that both types of nominalized argument clauses carry appropriate Case morphemes, as does the possessive nominal phrase. In contrast, the fully finite subordinate clause in (2) and (3)a does not carry Case. This is not surprising, if we regard the nominalized type as a kind of nominal functional projection, while the finite type is a kind of verbal functional projection, and if we make the familiar assumption that nominal phrases need Case, while verbal phrases do not.

I now turn to non-argument subordinate clauses.

3.2 "Adverbial clauses"

Subordinate clauses with adverbial function are typically headed by non — finite predicates that do not bear any type of subject agreement. Typically, they are not marked for Case, either, and often, they don't have a subject; instead, their subject is understood to be co — referential with the subject of the superordinate clause.

(6) a. [Üsküdar-a gid -er -*ken*] (ben) bir mendil
Üsküdar-DAT go -AOR -'while' I a handkerchief
bul -du -m
find -PAST -1SG
'While going to Üsküdar (neighborhood in Istanbul), I found a handkerchief.' (beginning of a popular song)

The missing subject can be interpreted as the higher subject, irrespective of the latter's person and number features; we see this by comparing this with the next example:

(6) b. [Üsküdar-a gid -er -*ken*] Ali bir mendil bul -du
Üsküdar-DAT go -AOR -'while' Ali a handkerchief find -PAST
'While going to Üsküdar, Ali found a handkerchief.'

The predicates of such clauses are called by some "converbs" (cf. Johanson 1998), by others "gerunds" (cf. Lewis 1967).

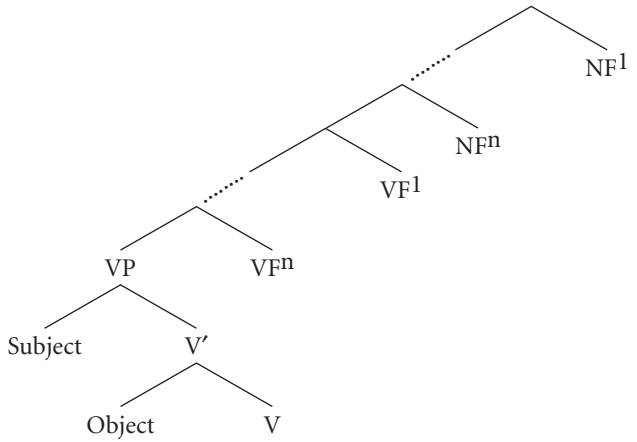
If "finiteness" is associated with tense (or, more generally, with TAM), nominalized argument clauses and adverbial clauses are both non-finite. But here, the resemblance stops. While argument clauses have the distribution and the external as well as internal properties of noun phrases (i.e. Case marking on the predicate and genitive subjects, as well as "nominal" subject-predicate agreement), these non-argument clauses have the distribution of adverbs, have (most typically) no Case on their predicate, and no agreement marking.

Why should these two clause types be so different, and how are the individual properties of each type best accounted for?

3.3 Accounting for the properties of non-finite clauses

How are we going to explain the fact that (most) nominalized clauses, while indeed exhibiting clausal properties within the clause itself, nevertheless also appear in canonical nominal positions? I claim here (following Borsley & Kornfilt 2000) that such nominalized clauses have the internal structure of "regular", finite clauses, but that they are dominated by nominal functional layers of syntactic structure. Depending on the type of nominalized clause, the layers of verbal functional structure are either missing completely or else are incomplete, but otherwise we are dealing here with lower verbal functional layers and higher layers of nominal functional structure. Roughly speaking, these structures can be diagrammed as follows:

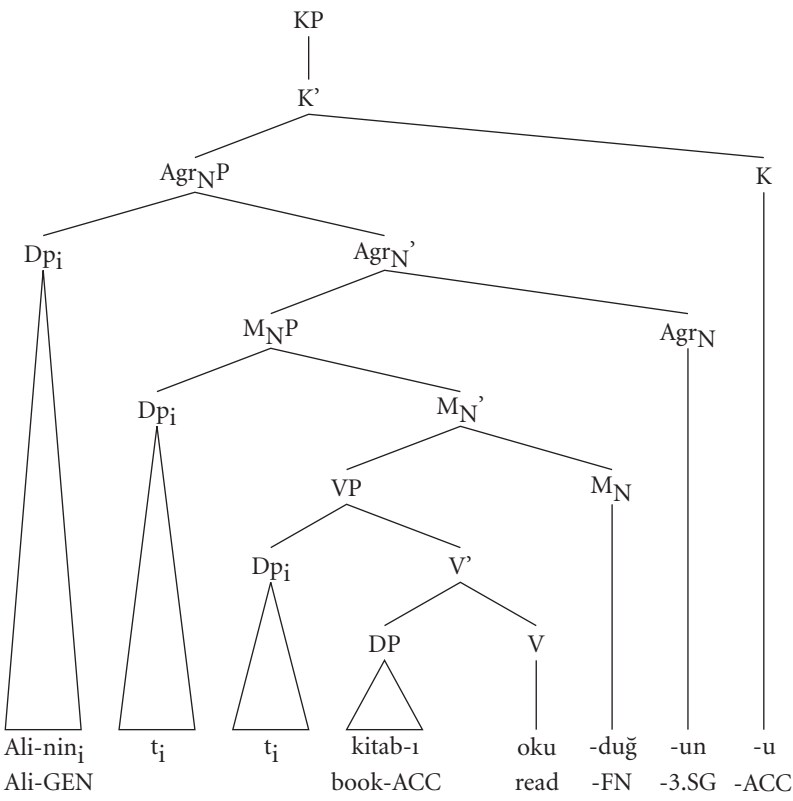
(7)



I follow here Fukui & Speas (1986) and Koopman & Sportiche (1991) in assuming that the verb phrase (VP) contains both the subject and the object of the verb. I further follow Borsley & Kornfilt (2000) in assuming that the VP is dominated first by a number of verbal functional categories and then a number of nominal functional categories. The number of verbal functional categories can be zero. The nominal functional categories may include a determiner (D), but also a nominal agreement category (*AgrN*; cf. Kornfilt 1984). The verbal functional categories may include *AgrS* (i.e. verbal subject agreement), T(ense), Asp(ect), M(ood). The subject moves to the specifier position of some verbal functional projection in finite clauses, and to the specifier position of a nominal projection in nominalized clauses. This explains the fact that in most nominalized clauses, the subject is in the Genitive, while in finite clauses it is in the Nominative, if we further assume that *AgrN* assigns the Genitive to its specifier, while *AgrS* assigns the Nominative. In such an approach, constructions differ in what functional categories they contain and in what movement processes apply within them.

The following diagram offers a concrete example for this analysis of Turkish clausal structure in nominalized subordination:

(8)



'that Ali read the book'

Ali-nin$_i$ t_i t_i kitab -ı oku -duğ -un -u
Ali-GEN book -ACC read -FN -3SG -ACC
'that Ali read the book'

(Adapted from Borsley & Kornfilt 2000: 108; abbreviations are listed in the list of abbreviations)

I now turn to some of the constructions that this paper focusses on.

3.4 Adjunct versus argument non-finite subordinate clauses

How does this approach to non-finite clauses explain the differences among them? Let us start with the properties of the two types of non-finite clauses we have seen so far, i.e. argument and "adverbial" clauses.

Verbal predicates assign thematic roles as well as Case to their arguments.

Furthermore, noun phrases (NPs) — or, as in more recent versions of syntactic theory, determiner phrases (DPs) — need Case. Thus, we expect to find DPs in argument positions of predicates. Nominalized clauses, by virtue of having a nominal "outer shell", would have the same requirements as "regular" DPs, i.e. they would need Case and be assigned the appropriate Case by the verbal predicate that they would be an argument of. Thus, we account for Case morphology on nominalized argument clauses. Furthermore, I assume that government of a clause by a superordinate verbal predicate "unlocks" the Case-assigning capacity of the head of that clause — in the instances under discussion, that head is the nominal agreement morphology. (This idea is inspired by proposals for European Portuguese in Raposo 1987.) Hence, we find that the subject of argument nominalized clauses with a nominal agreement morphology bears the appropriate nominal subjective Case, i.e. the Genitive.

In contrast, "adverbial" clauses are adjuncts, and, as we just saw, most of them have neither Case morphology attached to them, nor do they have a subject (other than PRO), hence there is no consitutent in their subject position that itself needs Case.

What we have said so far about lacking overt subjects holds of the most typical adverbial clauses, e.g. (6). However, there are some instances where such clauses do have an overt subject. I now turn to a discussion of these "untypical" adverbial clauses, and it is those that constitute the focus of this study, insofar as adjunct clauses are concerned.

Overt subject without genitive case:

(9) [*ben* ev -den çık *-ınca*] Oya sinema -ya git -ti
I house -ABL exit -'when' Oya cinema -DAT go -PAST
'When I left home, Oya went to the movies.'

(10) [*ben* ev -den çık *-arken*] Oya yemek pişir -iyor -du
I house -ABL exit -'while' Oya food cook -PROGR -PAST
'While/just when I was leaving home, Oya was cooking food.'

(11) [*ben* ev -den çık *-alı*] üç saat ol-du
I house -ABL exit -'since' three hour be -PAST
'It's been three hours since I left the house.'

Such non-finite adverbial clauses with overt subjects are found in other Turkic languages, as well.

Even less typically, one also finds adjunct clauses with overt agreement on the non-finite predicate:

(12) [*ben* ev -den çık -*tığ* -*ım*] -da Oya yemek pişir -iyor- du
I house -ABL exit -FN -1SG -LOC Oya food cook -PROGR -PAST
'When I was leaving home (at my leaving home), Oya was cooking food.'

Note that here, the adjunct clause bears the factive nominalization morpheme otherwise encountered with argument clauses, and that it also bears nominal agreement morphology, in addition to bearing Case. In all these respects, it is surprisingly similar to argument clauses. However, its subject is not Genitive, but rather bare; an account is needed for this difference between the subjects of argument versus adjunct non-finite clauses.

I would like to claim that there is a default Case assignment mechanism that assigns Case (realized as phonologically null) to subjects of adjuncts, irrespective of whether there is subject agreement morphology or not. This accounts for the uniformly bare subjects of the *Agr*-less (9), (10), and (11) on the one hand, and for the likewise bare subject of (12) with overt, rich nominal *Agr*. According to what was said earlier, given that government of the clause by a superordinate predicate is needed to "unlock" the Case potential of the agreement morphology, we have in fact predicted the irrelevance of that agreement morphology for Case assignment to the subject, as is clearly illustrated in example (12), where, despite the nominal subject-agreement, the subject is not in the Genitive, but is bare. In purely descriptive terms, then, we find the syntax for Case assignment (or Case checking) of languages like Chinese and Japanese for the adjunct clauses and for the subjects of those clauses in MST and certain cognate languages similar to it (e.g. Kirghiz, Turkmen, Uzbek and a number of others): the subject receives default Case, independently of *Agr*, in factive adjunct clauses. However, these same Turkic languages resemble languages like English for their argument clauses with respect to Case for the subjects of these argument clauses. In other words, the subject of argument clauses requires the presence of subject – predicate agreement to receive an appropriate Case.

Examples like (12), then, provide evidence that something like Raposo's Generalization, cited in the introduction of this paper, is at work here. An example from European Portuguese follows, showing that a nominal *Agr* element heading an infinitival clause assigns Nominative Case to the subject; note that this *Agr* heads a clause which is a complement of the predicate of the superordinate clause:

(13) Eu lamento [os deputados ter -*em* trabalhado pouco]
'I regret the deputies to-have -Agr worked little'
(Raposo 1987: 87, his [7a])

If, however, the superordinate predicate doesn't govern the adjunct clause, how is the locative assigned to the clause in (12)? This is an important question, because example (12) might be problematic for the proposal developed in this paper. This is for the following reasons: If we assume (as we have been doing all along) that Case is assigned (or checked) under government,[1] then it might be inferred that the nominalized clause in (12) is not an adjunct, but a complement of the predicate of the root clause, given that the subordinate clause is Case-marked. If it were a complement, it would also be Theta-governed by the root predicate, and we would expect for the subject of the lower clause to be in the Genitive, given that the subordinate clause is headed by overt *Agr*. Given that no Genitive shows up, this example could be viewed as problematic.

I would like to argue, however, that this problem is only apparent: The locative here is assigned not via government, but semantically. Following Larson (1985), I have claimed in Kornfilt (2000b) that not all Case is assigned by a governor or via specifier – head agreement, but rather that some configurations require, for semantic reasons, certain Cases. The Locative here is required to convey the semantics of something like "at a specific point in time", and it has to be overt, because otherwise the appropriate semantic interpretation could not be assigned to it. Thus, in example (12), we have properties that appear contradictory: overt Case on the adjunct clause, yet no Genitive on the subject of that clause. However, both properties are accounted for in the approach adopted here: the overt Case on the clause is one of the few "semantic Cases" assigned to adjuncts independently from any government or Spec–Head relation. Since the clause, as an adjunct, is not theta-governed, its *Agr*-head isn't theta-governed, either. Consequently, its subject can't be checked for Genitive, and default bare Case must be assigned to the subject instead.

I turn now to a discussion of non-argument clauses that are complements of postpositions.

3.5 Non-finite complement clauses of postpositions

Non-finite nominalized complement clauses can serve as complements of postpositions. Both the factive and the non-factive (or "action") types can appear here; since this paper focuses attention to factive subordination, the following examples illustrate this type exclusively:

(14) [[Oya ev -de kal -dığ -ı] *için*] Ali iş -e gid -ebil -di
Oya house -LOC stay -FN -3SG because Ali work -DAT go -ABIL -PAST
'Ali could go to work because Oya stayed at home.'

(15) [[Oya ev- de kal -dığ -ın] -a *göre* Ali de ev -de
Oya house -LOC stay -FN -3SG -DAT according to Ali too home -LOC
kal -acak
stay -FUT
'Given that Oya stayed at home, Ali will stay at home, too.'

(16) [[Ali erken yat -tığ -ın] -*dan dolayı*] misafir -ler -i Oya
Ali early lie down -FN -3SG -ABL because guest -PL -ACC Oya
uğurla -dı
see.off -PAST
'Because Ali went to bed early, Oya saw off the guests.'

Note that in these factive nominalizations, the subject is in a "bare" Case.[2] This observation, i.e. the fact that the subject of factive nominalized clauses in argument positions is in the Genitive, while the subject of corresponding nominalized clauses in adjunct position is bare, is predicted from what we have said so far: Given that the whole postpositional phrase is an adjunct to the predicate of the main clause (and is therefore not governed by that predicate), the Genitive assigning capacity of the nominal agreement is not "unlocked", and the subject must therefore be assigned the bare default Case. (Of course, where there is no subject agreement at all, as we saw in the examples of the "adverbial" clauses, we also find not the Genitive, but the default bare Case.)

Another point that emerges after studying nominalized complement clauses of postpositions is the importance of a *thematic* governor of *Agr* to the issue of how Genitive Case gets assigned to the subject. Postpositions obviously govern their complements, and thus they govern their nominalized clausal complements in the examples we just observed. This is also made clear by the fact that clausal complements of postpositions carry whichever Case a particular postposition assigns (cf. [15], [16]). This might raise the expectation that the subject ought to be marked Genitive, given that the *Agr*-head of the clause is governed by the postposition. Such an expectation is not fulfilled. The reason is clear: government of *Agr* by a Case assigner is not enough, counter to what is inferred from Raposo's generalization. *Agr* must be *Theta-governed*,[3] so as to be able to assign (nominal) Case — i.e. Genitive Case — to the subject.

We have now covered the most typical instances of clausal postpositional complements. There are two remaining types, however. The first is illustrated below:

(17) [[Oya-*nın* duy -duğ -un] -a *göre*] Ali deprem -de
Oya-GEN hear -FN -3SG -DAT according to Ali earthquake -LOC

vefat et-miş
die -REP.PAST
'According to what Oya heard, Ali died in the earthquake.'

(18) Ali [[baba -sın -*ın* iste -diğ -i] *kadar*] başarı -lı
Ali father -3SG -GEN want -FN -3SG as.much.as success -with
ol -a -ma -mış
become -ABIL -NEG -REP.PAST
'(It is said that) Ali wasn't able to become as successful as his father wanted.'

(19) Orkestra bu parça -yı [[şef -*in* iste -diğ -i] *gibi*]
orchestra this piece -ACC conductor -GEN want -FN -3SG like
çal -dı
play -PAST
'The orchestra played this piece like the conducter wanted.'

Note that the subject of the nominalized factive clausal complement of the P is in the Genitive rather than in the bare, default Case. What is the explanation of this surprising fact?

All of the postpositions here have either comparative semantics, or else the construction can be interpreted as a (free) relative clause. More specifically, I suggest that (17) and (19) are Free Relatives, while (18) is a comparative construction. Among a number of competing analyses for comparatives, one widely accepted analysis has been to view comparative constructions as involving an operator, in a sense similar to relative clauses (cf. Bresnan 1973 and 1975; for an account of Turkish comparatives along these lines, cf. Knecht 1976). The translations of these last three examples are suggestive: (17), a Free Relative: 'According to *what (i.e. on the basis of the things that)* Oya heard, …'; (18), a comparative construction: 'Ali wasn't successful *as much as, i.e. to the extent that* his father wished'; (19), a Free Relative: 'The orchestra played this piece like *the way which* the conductor wanted'.

It is particularly interesting to compare (17) with (15), since the same postposition (*göre* 'according to') is used in both, yet the subject of the postposition's clausal object is bare in (15), but has Genitive Case in (17). The reason is, I claim, that we have a Free Relative in (17) (and therefore, as we shall presently see, crucially) an operator, leading to the presence of the Genitive. In (15), there is no reason to assume the presence of an operator. All we have is the clausal complement within a Postpositional Phrase, with the PP being an adjunct — hence the lack of Genitive, despite nominal, rich *Agr* and the default, bare Case on the subject instead.

The common denominator of relative clauses and comparatives is the presence of an operator. I suggest that it is this operator (albeit a phonologically abstract one in Turkish for both constructions, and often for comparatives in English) which, similar to the superordinate predicate for argument clauses, "unlocks" the potential of the nominal agreement morphology for Genitive assignment to the subject. I thus turn to the next section, a very brief sketch of relative clauses. After that section, I shall discuss why an operator might function similarly to a thematic governor in the service of "unlocking" the Case assignment properties of *Agr*.

Before doing so, however, let me mention the second exceptional type of clausal postpositional complement, illustrated by the following examples:

(20) [[Ben gid -ince] -*ye* kadar] kapı yı kilitlé -me!
I leave -'WHEN' -DAT until door -ACC lock -NEG
'Don't lock the door until I leave!'

(21) [[Ben git -tik] -*ten* sonra] kapı-yı kilitle -yebil -ir -sin
I leave -FN -ABL after door-ACC lock -ABIL -AOR -2SG
'You may lock the door after I have left (= after my leaving).'

(22) [[Ben gít -me] -*den* önce] kapı-yı kilitlé-me!
I leave -NEGN -ABL before door-ACC lock-NEG
'Don't lock the door before I have left (= before my leaving)!'

As mentioned in passing earlier, I have claimed (cf. Kornfilt 2000b) that the temporal expressions *önce, sonra,* and *kadar* are actually temporal comparatives[4] whose "correct" glosses should be 'earlier than', 'later than' and 'until', respectively. Assuming this analysis to be correct, the last three examples host an operator – more specifically, a temporal comparative operator. Yet, the subject is not in the Genitive. This shows that the operator cannot assign Genitive by itself. We saw earlier that (nominal) Agreement cannot assign Genitive by itself, either. It looks like we need both: nominal Agreement as well as an operator (or, as in argument clauses, nominal Agreement and a thematic governor) for the nominal subject Case, i.e. for the Genitive to be able to be assigned.

Time has come now to turn to relative clauses.

3.6 Relative clauses

True to their general head-final nature, Turkic languages exhibit left-branching, head-final relative clauses. (Some Turkic languages, including Turkish, have also right-branching constructions, but in this paper, I focus on those structures

that are typical and representative, and therefore I leave those other types out of consideration.)

It is generally assumed that the modifier clause in a relative clause construction is an adjunct of the head of the construction, rather than its complement. Therefore, relative clauses belong to the area under investigation in these last subsections, given that they constitute an instantiation of a nominalized adjunct clause. Here, I would like to address one particular aspect of this construction with respect to the topic that has been the main focus of attention here, namely the issue of the Case marking on a subject of a non-finite clause.

Head-final relative clauses are typically non-finite. The target of relativization corresponds to a "gap" in the modifying clause. Where the target of relativization is the subject, the non-finite clause never bears agreement morphology; this is true not just of MST, but of all Turkic languages. Where the target is a non-subject, the Turkic languages exhibit essentially three types of constructions: those that still have no subject agreement morphology, those that do have such morphology on the predicate of the modifying non-finite clause, and those that have such morphology on the head of the relative clause (cf. Schönig 1991/92; Csató 1996). MST is a good example of the second type. (For discussion and examples of Turkish relative clauses in detail, concentrating on the question of how to determine choice of particular nominalization morphemes and presence versus absence of overt *Agr*, see, among many others, Underhill 1972; Kornfilt 1997, 2000a.)

As stated in the introduction to this section, relative clauses are mostly analyzed as exemplifying an adjunction structure rather than a complementation structure. In other words, the modifying clause is an adjunct of the head, not a complement of the head. MST offers empirical support for this analysis: the modifying clause precedes not only simple modifiers like adjectives, but also determiners like demonstratives:

(23) [Ali-nin geçen gün dükkân -dan al -dığ -ı] bu şahane vazo
Ali-GEN past day shop -ABL buy -FN -3SG this magnificent vase
'This magnificent vase which Ali bought at the store the other day'

Compare this example with the following one, where the non-finite clause is a complement of the head:

(24) şu [[Ali-nin$_i$ [*pro*$_i$ aile -sin] -i terket -tiğ -i] söylenti -si]
that Ali-GEN family -3SG -ACC abandon -FN -3SG rumor -CMPM
'That rumor that Ali abandoned his family'

In actual pronunciation, the determiner in such an example can also be interpreted as the determiner of the clause's subject. This reading is irrelevant for our purposes; in the context of our present discussion, we are interested in elements that function as the determiner of the whole construction. Especially when uttered with a pause after the determiner, an example like (24) does have the required interpretation (although this is stylistically somewhat awkward), whereby the determiner is construed with the head noun *söylenti* 'rumor'. Crucially, the determiner must precede the clause here, i.e. when the clause is a complement of the head. This is in strong contrast with (23), where the determiner follows the clause. These ordering facts are not surprising, since we analyzed the clause in (23) as an adjunct to the head rather than as a complement. Note also that (24) becomes ill-formed when the determiner follows the non-finite clause, in the manner of the (well-formed) (23):

(25) *[Ali-nin$_i$ [*pro*$_i$ aile -sin] -i terket -tiğ -i] şu söylenti -si
Ali-GEN family -3SG -ACC abandon -FN -3SG that rumor -CMPM
Intended reading: 'That rumor that Ali abandoned his family'

Note also the fact that in (24), the subject of the nominalized complement of the head noun is marked with the Genitive. This goes along with the approach adopted here, as the clause, and thus its nominal *Agr* head, are *theta-governed* by the head noun, given the complement status of the clause. This example also distinguishes between Raposo's (1987) strictly Case-based formulation of the condition at stake, and my extension of it to (theta-)government; clearly, the extension to theta-government is favored here: to be able to mark the subject with Genitive Case, the *Agr* head must be theta-governed. Note that a noun is different from a verb or postposition: it does not assign Case to its complement (or at least not *structural* Case). Indeed, there is no overt Case on the complement clause of the noun. Therefore, the presence of the Genitive Case on the subject of the nominalized complement as in (24) shows that in order to assign the Genitive to the subject, a nominal *Agr* head does not have to be assigned (structural) Case; it does have to be (theta-)governed, however.[5]

Getting back to relative clauses, if determiners like demonstratives "complete" a DP, as in (23), then the clause itself must be adjoined to that DP, rather than be a complement internal to such a phrase; otherwise, the sequential order with the modifying clause preceding the demonstrative (and other determiners) would be problematic. But if the clause is an adjunct, then we would expect that its subject should not be marked with Genitive, yet it is, as shown in (23).

In some previous work (cf. Kornfilt 2000a), I analyzed relative clauses in MST as involving an abstract relativization operator, corresponding to moved *wh*-pronouns in better-studied (Indo-) European languages like English and German. I suggested there that this (abstract) operator binds the "gap" position within the clause that corresponds to the head of the relative clause. Here, I want to claim further that this operator also participates in assigning Genitive Case to the subject (where the target is a non-subject). Again, it is the operator that "unlocks" the potential of agreement morphology to assign the Genitive Case to the subject that agrees with the agreement morphology. (Similar facts are found in other languages, as well; for an analysis of Bavarian, where a complementizer agrees with and thus assigns Case to the subject in relative clauses, i.e. where an operator is present in SpecCP, see Bayer 1983–84.)

Thus, we have here a similar situation to what we saw in the previous section with respect to comparatives and Free Relatives, where I attributed the Genitive Case on the subject of a nominalized adjunct clause to the presence of a comparative operator and a relativization operator, respectively.

4. Why does the operator have a similar effect as a thematic governor?

In the extention and adaptation of Raposo's proposal, I have suggested that a nominal *Agr* element must be *theta-governed* so as to be able to assign nominal subject Case (i.e. in Turkish, the Genitive) to the subject. Why should the presence of an operator have a similar effect on the nominal *Agr* element?

It has been proposed for a number of languages that UG must have a mechanism for transferring the index of an operator in SpecCP to the C. For example, Pesetsky (1982b) argues that such a mechanism can account for the well-known facts of the *que/qui* alternation in French relative clauses:

(26) l'homme [$_{CP}$ *que*$_i$ [$_{IP}$ Poirot a arrêté e_i]]
'the man that Poirot has arrested'

(27) l'homme [$_{CP}$ *que*$_i$ [$_{IP}$ e_i a été arrêté]]
'the man who has been arrested'

The general complementizer is *que*, which is found in subordination in general, as well as in relative clauses with a non-subject target. However, when the target is a subject, the complementizer must be *qui*. Pesetsky (1982b) proposes that in the presence of a subject variable, the operator co-indexed with the subject and the complementizer undergo contraction, whereby the index of the operator

gets transmitted to C; C can now properly govern the subject variable (and thus save it from an ECP violation). The indexed C is spelled out as *qui*. In a similar spirit, Bayer (1983–84) proposes that in Bavarian, a certain type of complementizer in C qualifies as a governor of the subject and "might be a Case-assigner" (Bayer 1983–84: 261). Where such a C becomes a proper governor, Bavarian assumes properties of a Null Subject language. Bayer 1983–84 further proposes the existence of a phenomenon whereby *Agr* is raised from its clause to C (Bayer 1983–84: 249, 260).

I propose here that Turkish has a similar phenomenon, whereby *Agr* is raised to the (nominal) C in the presence of an operator. Assuming an index-transfer mechanism of the sort proposed by Pesetsky (1982b), we can now say that it is this indexing of *Agr* by the operator that "unleashes" the Case-marking abilities of *Agr* in adjunct constructions with an operator.

There is some independent evidence for the existence of such index-transfer from operator to C in Turkish. In Kornfilt (2000a), I have argued that the well-known asymmetry in the morphology of the nominalized predicates in Turkish relative clauses, i.e. (roughly speaking) *-(y)An* for subject targets and *-DIK (+Agr)* for non-subject targets is, in a sense, the Turkish equivalent of the French *que/qui* alternation. In Turkish, *-DIK (+Agr)* is the most general morphology found in nominalized (factive) subordinate clauses *in general*, i.e. not just in relative clauses; the same is true for French subordination, where *que* is found as the most general subordination marker. Furthermore, similarly to the French *que*, the *-DIK (+Agr)* form is also found as the "elsewhere" Case in Turkish relative clauses, while a special form, i.e. *-(y)An*, is found with subject targets. If we say that the *-(y)An* form is the realization of an indexed (*Agr*-less) C which has received its index from the (abstract) relativization operator, we explain the distribution of these nominalization morphemes, both language-internally and also in accord with phenomena observed in other languages.

In addition, if we assume that, just as in Bavarian, *Agr* (where it is present) can raise to C, we explain the facts we observed in the present paper. We can now say that a "*marked*" nominal *Agr* can assign the appropriate (i.e. nominal=Genitive) Case to a subject. A non-*marked* nominal *Agr* cannot do so. There are two ways for an *Agr* to receive a "*marking*": either by co-indexation (via raising and merging) with a C, as just explained, or by being *marked* by a *theta*-governor, via *theta-government* (*theta* for *thematic*).

The latter can be instantiated in such a way that *Agr* receives *marking* as well: Following Lasnik & Saito (1984) in spirit, even if not in all details, I propose that theta-governed arguments receive a *gamma-marking* (*gamma* for

government) from their *theta-governors*. According to Kornfilt (1984) and related work, non-finite clauses are headed by a nominal Agr. If it is correct to say that the *Agr* element in that Agr position raises to a *gamma-marked* C-head of an argument clause, it follows that the *gamma-marking* of an argument clause ends up on the nominal *Agr*. It is in this fashion that such an *Agr* receives a marking, i.e. a *gamma-marking*, which, just like a marking via co-indexation, activates the Case-marking (or Case-checking) potential of the nominal *Agr*.

Nominal *Agr*, then, has two options for getting *marked*: either via co-indexation with an operator, or via *gamma-marking* by a theta-governor (a disjunction which is, incidentally, reminiscent of the similar disjunction in the definition of *proper government* in Chomsky 1981 and related work). I suggest that it is the existence of the operator that "activates" the higher layers of the nominalized embedded clause, i.e. of the "mixed category phrase" (cf. Borsley & Kornfilt 2000). It is at this activated higher phrase-structural layer that a nominal *Agr* can be licensed as a Case marker.

The implementation of this idea is as follows: the nominal *Agr* of a nominal *indicative* clause with its attached nominalized verb that has risen to it raises to C only if the C is "strong". A C is "strong" only if it heads either a theta-governed CP, and/or a CP whose specifier position is occupied by an operator. Only in such a strong C position can the nominal *Agr* be *marked* and in turn Case-mark the subject. Otherwise, the nominal *Agr* remains within $Agr_N P$ and cannot Case-mark the subject from that lower position in these instances, i.e. in nominalized indicative clauses where the nominal *Agr* isn't licensed clause-internally.[6]

In this context, I should also mention the well-known fact that in Turkish, specificity interacts with structural Case marking (cf. Erguvanlı-Taylan 1984; Enç 1991; Kornfilt 1984; among others). The most often mentioned instance of this phenomenon is the "drop" of the Accusative when an object is non-specific. However, the same phenomenon can also be observed with Genitive subjects (in addition to the above, see also Kornfilt 1995 for a discussion of the interaction between the Genitive and referentiality). This phenomenon is independent from the considerations concerning Genitive or non-Genitive subjects that we have been discussing in this paper so far; however, this phenomenon does interact with the principle of an "indexed *Agr*" as a Genitive assigner, as follows:

I propose that what has to be established first is whether a nominal *Agr* element bears a *marking* (via the principles established in this paper, i.e. depending on its being either Theta-governed and thus *gamma-marked*, or else co-indexed with an operator or not. If the *Agr* element does not bear a *marking*,

then the subject of the clause (if there is such an overt subject) will not be assigned Genitive. Whether the subject is specific or not is irrelevant.

If the nominal *Agr* does bear an index, then it assigns Genitive to its subject. It is at this point that the specificity of the subject becomes relevant. If a subject does receive Genitive from an indexed *Agr*, then this Genitive can be realized overtly if the subject is specific. If the subject is non-specific, however, then the Genitive cannot be overtly realized, and the subject remains bare.[7]

5. What is the Case of the non-Genitive subjects in adjunct clauses?

Having now covered all instances of subjects in nominalized clauses that we set out to acount for, a question arises about the nature of the Case of the subjects that cannot be assigned the Genitive, because the *Agr* head of their clause bears no index. I have said in this paper that this is a bare Case, simply because there is no morpho-phonological expression of it. I have also referred to this as a default Case. But can we say anything more specific about this default Case?

I claim that the default Case in these instances is the Nominative in Turkish. There is some independent evidence for this analysis; this can be seen, for example, in Left-Dislocation constructions, and, most revealingly, in non-Case matched contexts.[8] In Left-Dislocation constructions, the dislocated element can either exhibit the same Case as the corresponding constituent in the clause, or the default Case, i.e. it can be bare; but it cannot be in the Accusative, if the corresponding constituent in the clause is not Accusative:

(28) Ali (-yi) mi? Ben kendisin-i üç ay -dır gör -me -di -m
Ali (-ACC) Y/N I himself-ACC three month -since see -NEG -PAST -1SG
'(About) Ali, I haven't seem him for (the last) three months.'

(29) Ali(*-yi) mi? Ben kendisin- den çok kork -ar -ım
Ali(-ACC) Y/N I himself -ABL very fear -AOR -1SG
'(About) Ali, I am very much afraid of him.'

This is in contrast to English, where the default Case appears to be Accusative:

(30) a. Who's there? — It's me.
b. Who's there? — *It's I.

Chomsky (1999) offers a typology of Case which is, in part, similar to his older proposals (cf. Chomsky 1981) in including structural and inherent Case. But an important addition is the notion of default Case, i.e. Case assigned not by a

governor, and not within a particular syntactic structure, but rather assigned independently of such relationships. Examples like those in (30) are offered as illustrations of this notion. My proposal to analyze the dislocated subjects in (28) and (29) as well as the "bare" subjects of adjuncts without operators as being in the Nominative Case accords well with this recent approach. The basic default Case assignment/checking mechanism would be the same in English and Turkish; the only difference would be in the actual morphological realization of the default Case: Accusative in English, Nominative in Turkish.

It is interesting to note that the "bare" subjects of adjunct clauses, i.e. subjects that fail to be assigned Genitive due to not being Case-marked by a *marked Agr* element behave differently from the "bare" subjects which are non-specific; the former pattern with Nominative subjects in being able to scramble, while the latter cannot do so; furthermore, the former can — and often do — appear in the canonical subject position, i.e. clause-initially, while the latter must appear immediately preceding the verb. To illustrate the basic contrast, I offer example (31) to illustrate the former (i.e. subjects that are "bare" independently of specificity), and I offer (32) and (33) to illustrate the latter (i.e. subjects that are "bare" due to being non-specific):

(31) a. [*bu çocuk* ev -de kal -dığ -ı] *için* Ali iş -e
this child house -LOC stay -FN -3SG because Ali work -DAT
gid -ebil -di.
go -ABIL -PAST
'Ali could go to work because *this child* stayed at home.'

The Nominative (=default Case) subject shows up in canonical subject position. It can also scramble; what's important here is to show that it does not have to immediately precede the verb — although it can, especially when it is focussed:

(31) b. [ev -de *BU ÇOCUK* kal -dığ -ı] *için* Ali iş -e
house -LOC this child stay -FN -3SG because Ali work -DAT
gid -ebil -di.
go -ABIL -PAST
'Ali could go to work because *THIS CHILD* stayed at home.' (The subject is focussed in this example.)

Regular Nominative subjects in finite clauses behave in exactly the same way:

(32) a. *bu çocuk* ev -de kal -dı
this child house -LOC stay -PAST
'This child stayed at home.'

b. ev -de *BU ÇOCUK* kal -dı
house -LOC this child stay -PAST
'*THIS CHILD* stayed at home.' (The subject is focussed in this example.)

Likewise, note that the ease with which the "bare" (i.e. Nominative) subject in (31) as well as (32) can scramble parallels the ability to move of a corresponding subject with Genitive marking:

(33) a. [*Araba -nın* yol -dan geç -tiğ -in] -i gör -dü -m.
car -GEN road -ABL pass -FN -3SG -ACC see -PAST -1SG
'I saw that *the car* went by on the road.'
b. [yol -dan *ARABA -NIN* geç -tiğ -in] -i gör -dü -m.
road -ABL car -GEN pass -FN -3SG -ACC see -PAST -1SG
'I saw that *THE CAR* went by on the road.' (The subject is focussed in this example.)

In contrast to both the Genitive and the Nominative subjects, we find that the non-specific subjects whose "bareness" is due to their lack of specificity cannot scramble away from their V-adjacent position and cannot even appear in the canonical subject position:

(34) a. [yol -dan *bir araba* geç -tiğ -in] -i gör -dü -m.
road -ABL a car pass -FN -3SG -ACC see -PAST -1SG
'I saw that *a car* (non-specific, non-referential) went by on the road.' (The subject may be focussed, but it does not have to be.)
b. *[*bir araba* yol -dan geç -tiğ -in] -i gör -dü -m.
a car road -ABL pass -FN -3SG -ACC see -PAST -1SG
Intended reading: 'I saw that *a car* (non-specific, non-referential) went by on the road.'

I conclude that not all bare subjects are equal. While bare non-specific subjects lack (structural) Case[9] (and are, probably due to that reason, fixed in their pre-verbal position), subjects that are bare but carry default Nominative Case behave like regular Nominative subjects in finite clauses as well as their Genitive counterparts in non-finite clauses.

6. Conclusions

The nominal subject-predicate agreement morphology of argument clauses may assign Genitive to the subject, by virtue of being *marked*. This *marking* can be achieved in two ways: 1. The *Agr* element (and the clause that it heads) is Theta-Governed by the higher predicate, or 2. the *Agr* element receives the index of a comparative or relativization operator.

Subjects that cannot be assigned Genitive due to the absence of a *marked Agr* element receive default Nominative Case. This default Case is different from the bare Case of subjects (of nominalized clauses of any kind) where lack of specificity or referentiality precludes overt realization of Genitive Case.

In this paper, I have assumed a number of functional categories — both heads and projections. Most centrally, I have assumed the existence of Agr as a syntactic entity, as a potential Case licenser, and as an element that may be governed, may be *marked* (by its governor), or by a co-indexed operator and may itself be assigned Case. I have further assumed that this element projects into an *AgrP*, and that the subjects we have been centrally concerned about are located in the specifier position of that projection. In nominalized subordinate clauses, this *AgrP* is nominal, due to the nominal nature of their *Agr* head. This whole analysis is housed within a general approach to (mixed) syntactic projections where it is assumed that nominal functional projections dominate verbal functional projections; what's crucial is the central assumption that Turkish subordinate clauses, while (generally) non-finite and nominal, and while appearing DP-like externally, are essentially clausal internally, with transpose: functional projections similar to those of fully finite clauses.

Abbreviations:

1.	First person	Agr_NP	Nominal Agreement Phrase
2.	Second person	AOR	Aorist
3.	Third person	CAUS	Causative
ABIL	Abilitative	CMPM	Compound marker
ABL	Ablative	DAT	Dative
ACC	Accusative	DP	Determiner phrase
ADV	Adverbial	DVN	Deverbal noun
AGR	Agreement as a syntactic node	FN	Factive nominalization
Agr	Agreement (as a morpheme); agreement in general	FUT	Future
		GEN	Genitive

K	Case as a syntactic node	PASS	Passive
KP	Case Phrase (as a functional syntactic projection)	PL	Plural
		PROF	Professional suffix
LOC	Locative	PROGR	Progressive
MN	Nominal Mood	REP.PAST	Reported past
MNP	Nominal Mood Phrase	RES	Resultative
MST	Modern Standard Turkish	SG	Singular
N	Noun; nominal as a distinctive feature	TAM	Tense/Aspect/Mood
		V	Verb; verbal as a distinctive feature
NEGN	Negative nominalizer		
NF	Nominal functional category	VBL.CONJ	Verbal conjunction
NFN	Non-factive nominalization	VF	Verbal functional category
NP	Noun phrase	VP	Verb phrase

Notes

* This paper consists of parts of two interrelated studies, both presented at Boğaziçi University. The first was presented at the Workshop on Clause Structure in Turkish, held in May 1999. I am grateful to Eser Erguvanlı-Taylan for inviting me to that workshop, and to Aslı Göksel, Engin Sezer and to the audience for their questions and comments. The second study was presented to the Linguistics Department of Boğaziçi University in December 1999; I am grateful to Sumru Özsoy for inviting me, and to her, to Eser Erguvanlı-Taylan, and to the audience for their questions and comments. I owe a special debt of gratitude to Mehmet Yanılmaz for some native speaker's judgements. All shortcomings of the resulting study are to be blamed on the author. This study is related to Kornfilt (2001), whose subject matter it partially intersects with. There, a wider range of adjunct clauses are studied and additional Turkic languages are considered. As opposed to the approach taken here, no formal solution is advanced in that typological study to the problem of Genitive versus Nominative subjects.

1. Recent approaches to Case assume that all (structural) Case is assigned not under government, but rather under Specifier–Head agreement, at the level of some functional projection. Thus, Nominative (and thus, for Turkish, also Genitive for subjects of nominalized clauses) is assigned under Spec–Head agreement at the level of a subject Agreement Phrase, and Accusative is assigned under Spec–Head agreement at the level of an object Agreement Phrase. The analysis of subjects in subordinate clauses that I am proposing in this paper can easily be translated into such an approach; Genitive Case of subjects in nominalized clauses would be checked by nominal *Agr* under Spec–Head agreement under the condition that *Agr* is theta-governed.

2. For the remainder of this paper, I shall disregard non-factive nominalized clauses in adjunct position, as their subjects are in the Genitive Case both when the clause is an adjunct and when it is an argument. The former instance is illustrated in the following example:

i. [[Oya-nın ev -de kal -ma -sı] *için*] Ali kapı-ya kilit tak -tı
Oya-GEN house -LOC stay -NFN -3SG for Ali door-DAT lock attach -PAST
'Ali attached a lock to the door so that Oya would stay at home (so as for Oya's staying at home).'

While this difference between factive and non-factive nominalized adjunct clauses deserves attention, I leave this issue to future research, but do offer some speculations, based on the idea of category matching between the *Infl* and the nominal *Agr*, in footnote 6. In the present paper, I am concerned with the differences between argument and adjunct clauses, and I thus focus on *factive* nominalized clauses.

3. An interesting question that arises here is whether the postpositions that assign Case to their complements also assign a *theta*-role to those complements. In Turkish, postpositional phrases are all adjuncts; thus, the question of whether an argument which is assigned Case by a P rather than a V receives its *theta*-role from the V or the P does not arise. The only issue is that of adjuncts headed by a P. I assume that Ps which don't head a *theta*-marked domain do not assign a *theta*-role to their complements, but rather themselves express a particular "adjunct *theta*-role". This proposal follows in spirit ideas of Grimshaw (1990), according to which adjuncts "form a kind of secondary argument structure not associated with the lexical representation of individual predicates but constituting a template to which the adjunct structure of the clause must be accommodated… This template licenses adjuncts…" (Grimshaw 1990: 149). I claim that an element like a P which heads a domain that is licensed by a secondary rather than primary argument structure cannot assign a *theta*-role.

4. Note that the temporal *kadar* is different from the (regular) comparative *kadar* in three immediately obvious respects: 1. The regular comparative *kadar* doesn't check for overt Case, while the temporal *kadar* checks for overt Dative; 2. The comparative *kadar* takes as its complement a non-finite clause headed by nominal rich *Agr*, while the locative *kadar*'s non-finite complement clause has no overt *Agr* at all; 3. The comparative *kadar*'s complement clause has a Genitive subject, while the corresponding subject of the locative *kadar*'s complement clause is bare.

It is this last difference which is of interest to us. This difference is not surprising; the non-finite complement clause of comparative *kadar* has an operator which enables the nominal *Agr* to check for Genitive Case on the subject. In contrast, the non-finite complement clause of temporal *kadar* has no *Agr*. Hence, there is no possibility for Genitive Case on the subject to be checked. There are similar contrasts between *göre* 'according to', which takes Free Relatives with Genitive subjects, as in (17), and *göre* 'given that', which takes a simple factive nominal complement clause without an operator:

(17′) [[Oya bu haber -i duy -duğ -un] -a *göre*] [Ali -nin
Oya this news -ACC hear -FN-3SG -DAT according to Ali -GEN
deprem -de öl -düğ -ün] -ü herkes -e anlat -abil -ir -iz
earthquake -LOC die -FN -3SG -ACC everybody -DAT tell -ABIL -AOR -1PL
'Given that Oya heard this piece of news, we can tell everybody that Ali died in the earthquake.'

Here, the subject of the complement clause of *göre* is in the bare default Case, despite the presence of *Agr* as well as the presence of an overt Case marker on the clause. This contrasts with (17), which has a Genitive subject. This pair of examples clearly shows that the analysis of (17) as a Free Relative and the claim that the associated relative operator is involved in the Genitive assignment ability of *Agr* must be correct.

5. Chomsky (1986) proposes that nouns (as well as adjectives) *can* assign Case — but only inherent Case, and that inherent Case can only be assigned along with theta-marking — in contrast with structural Case, which has no such requirement (cf. Chomsky 1986: 193). It might be possible to claim, then, that the noun does assign inherent Case to its complement clause and thus also to the non-finite nominal *Agr* that heads that clause. Note, however, that this inherent Case would not be overtly realized in this instance. If inherent Case is motivated by the requirement that certain theta-roles can only be assigned (and distinguished from each other) via Case (cf. Chomsky 1981, 1986; Pesetsky 1982a), and, more generally, if the Case Filter is itself motivated in this way (cf. Chomsky 1986: 94–95), we would expect that at least in morphologically rich languages like MST which distinguish overt from non-overt Case as well as a variety of overt Cases from each other, we would find *overt* realization of *inherent* Case. These considerations make it unlikely that the clause and its nominal *Agr* head in noun complement constructions as in (24) are Case-marked.

Note also that, even if we were to assume *abstract* inherent Case here, we also have theta-marking of the clause and its nominal *Agr*. Which of the two — inherent Case or theta-marking — are the "unlocking" factor for the nominal *Agr* and its own Case-assigning potential? I opt for theta-marking. First of all, I just argued that it is theta-marking that motivates inherent Case in the first place and is thus the more basic notion. Secondly, we saw previously in the text, with respect to the complement clauses of postpositions, that theta-marking does interact with the ability of nominal *Agr* to assign Genitive to the subject, even in those instances where Case marking appears to be irrelevant.

6. This is due to less-than-full matching of categorial features between the nominal *Agr* and the nominal factive marker *-DIK*. Nominal *Agr*, when it fully matches the nominal features of the domain it heads (e.g. of the head noun in possessive DPs, or the *-mA* head of nominalized subjunctive clauses), is a legitimate object, licensed internally of its domain by this full categorial feature matching. However, in the *indicative* nominal clauses with *-DIK*, i.e. the constructions which are the focus of this paper, the nominalization isn't complete in some sense: some vestiges of tense, aspect and mood remain. Therefore, nominal *Agr* isn't licensed IP-internally and needs licensing from IP-external sources. This can happen, as I have suggested, in two ways: by a theta-governing head, or by a co-indexed operator, due to the fact that only then can the nominal *Agr* raise to the C which has thus been made "strong" and thus attracts the nominal *Agr*.

7. I am indebted to Eser Erguvanlı-Taylan for asking (at a presentation of related material to the Linguistics Department of Boğaziçi University) about the interaction between the phenomenon discussed in this paper and the better-studied phenomenon concerning specificity of subjects as determining overt Genitive. Her question helped clarify my thinking about the differences between these two phenomena.

8. I am grateful to Guglielmo Cinque for pointing out the relevance of these constructions at a presentation of some of this material to the Linguistics Department at the University of Venice.

9. Some syntacticians have analyzed non-specific DPs in Turkish that cannot move freely from the immediately pre-verbal position (or similar non-specific DPs in other languages) as having some sort of special Case. Belletti (1988) analyzes such DPs as having Partitive Case, which she classifies as an inherent Case. Lasnik (1999) essentially agrees with this view (or at least argues that this view is defendable within a Minimalist approach). de Hoop (1992) proposes that the Case at issue is structural, but "weak" (as opposed to "strong" structural Case, which would be regular structural Case assigned to — or checked for — specific DPs). Her "strong" structural Case is what I have called overt structural Case in this paper and in previous work going back to Kornfilt (1984). Since the question of the exact nature of non-specific DPs is tangential to the main concern of this paper, I shall not pursue it here. But let me mention nevertheless that the approaches just mentioned for the Case of non-specific DPs might not carry overt straightforwardly to non-specific counterparts of the subjects studied here, because the non-specific DPs considered in the mentioned works were mainly objects of verbs, or else subjects in existential constructions. The subjects considered here are neither.

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On 'small' clauses, other 'bare' verbal complements and feature checking in Turkish

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1. Introduction

Within the Minimalist Program developed in Chomsky (1993, 1995), agreement and the structural case phenomenon of the Government and Binding framework are treated in a unified manner whereby both constructs are taken to be "manifestations of Spec–Head relation, (DP, Agr)" (Chomsky 1995: 174) where Spec–Head relation is a strictly local one holding between a head, Agr (AgrS/AgrO), and its specifier. Expanding the insight provided by Pollock's (1989) SPLIT-INFL hypothesis to project the functional category AgrOP dominating VP, Chomsky (1993, 1995) also treat the Exceptional Case Marking (ECM) constructions of Government and Binding uniformly with the rest of CASE phenomena; ECM is "raising of DP to the Spec of the AgrP dominating V" (1995: 174). Thus, within the framework in which inflectional morphology is licensed by a process of feature matching/checking, CASE is licensed by movement of elements with CASE morphology to the Specifier position in the domains of the functional projections AgrSP and AgrOP to have their inflection(s) checked. Universal principles determine the conditions under which movement can apply, licensing or banning movement in the derivation of a construction.

This study aims at introducing a special type of ECM construction in Turkish which poses problems to a theory which assumes that CASE, hence ECM, can be accounted for in terms of Spec–Head relation (DP, Agr). The facts presented by the construction are contrary to the predictions of Chomsky (1995) and present evidence that not all instances of ECM, hence CASE marking, involve Spec–Head relation. Examples of the structure are the following:

(1) a. Herkes [ben -i Ankara -ya git -ti -m]
everyone I -ACC -DAT go -PAST -1SG
san -ıyor -muş.[1]
consider -PROG -HEARSAY
'It seems everyone considered me (to have) gone to Ankara.'

b. (Biz) [sen -i taşın -dı -n] san -dı -k.[2]
we you -ACC move -PAST -2SG consider -PAST -1PL
'We considered you to have moved.'

In (1a–b), the predicates of the bracketed strings are fully inflected for T and Agr. The Agr(eement) morphology on the embedded predicates is from the verbal paradigm.[3]

The ACC-marked DPs are thematically related to the lower verb. Agreement on the predicates inside the brackets is with the ACC-marked DPs. This is evidence that at the time Agr of the lower clause was checked, the ACC-marked DPs were subjects of their respective clauses. The question is how to account for the ACC-marking on these DPs.

Note that the facts presented in (1a–b) are contrary to the predictions of a theory which holds that CASE licensing involves feature checking with the closest checking category (cf. Chomsky 1993, 1995). In (1a–b), the subject DPs of the bracketed strings have skipped over a possible checking category, AgrSP of the lower clause. The movement of the ACC-marked DP from its subject position in the embedded clause to SpecAgrOP of the matrix clause violates the principle of Shortest Move which holds that movement should be over the shortest distance in a structure. In (1a–b), the ACC- marked DP skips over the first available target position, SpecAgrSP of the lower clause and lands in the SpecAgrOP of the higher clause. In the analysis in which it has not skipped over the SpecAgrSP of the lower clause but has in fact landed in that position to license agreement on the lower verb, CASE licensing is violated since AgrSP licenses Nom(inative), not Acc(usative), in Turkish.

Yet the structures in (1) are legitimate. This paper presents a discussion of this phenomenon with the understanding that any theory of grammar aiming at universality will have to account for facts displayed by natural languages.

The paper will proceed as follows. Section Two will present a brief overview of the basic tenets and assumptions of the Minimalist Program which provides the theoretical framework for this analysis. Section Three will present arguments to the effect that the ACC-marked DPs in (1a–b) were indeed in the lower clause at the time Agr was checked. Thus, it will be claimed that (2) is the structure of (1a–b) prior to feature checking:

(2) $[_{VP}\ [_{AgrSP}\ [_{TP}\ [DP_{Acc}\ VP]]]\ V]$

This section will also discuss the properties of other 'bare' clausal complements in Turkish with the aim of showing that the theory makes correct predictions with regard to CASE licensing in those structures. The section will also contain an argument in favor of the small clause nature of one of the bare clausal complements. In Section Four we will turn to a discussion of the cases of feature checking anomaly illustrated in (1a–b).

2. Theoretical framework

The Minimalist Program developed in Chomsky (1993, 1995) assumes a two-level representation of syntactic structure. Logical Form is the level of meaning representation, PF of sound representation.

Within the framework, lexical items are listed in the Lexicon in their fully inflected forms. Structure is built by the application of two generalized transformations. Fully inflected lexical items are introduced into the structure by *Merge*. Operating on the principle of binary branching in which only two items are strung together at a single application, *Merge* strings together items to form a third category. Structure is built by expanding a phrase marker to a binary branching projection which attaches an empty position to a phrase marker. Structure building can be completed either by substituting another phrase marker into the empty position or by substituting an element of the phrase marker for the empty position. The latter operation involves the second generalized transformation of the framework, *Move*.

A structure is licensed when the inflectional morphemes on the elements in the structure are checked with the heads of the functional categories associated with the projections of the lexical phrases. The structure *converges* when all the features are checked; otherwise, in the presence of unchecked features, it *crashes*.

Feature checking involves movement to Spec and Head movement. Spec–Head agreement is strictly local.

Movement is motivated by the need to check features. Economy principles specify the conditions under which *Move* is licensed. *Greed* restricts movement to only feature checking needs of the head (Chomsky 1995: 201). *Procrastinate* holds that overt movement is more costly than covert movement (1995: 198). *Last Resort* holds that movement applies only if the derivation cannot be licensed in any other way (1995: 28).

Move is constrained by the principles of Shortest Move and Fewest Steps. A reformulation of Shortest Move is proposed by Ferguson (1996) who restates it as the Shortest Move Requirement formulated as follows:

> *Shortest Move Requirement*
> A category a moving to check feature b;
> A category a may not skip the checking domain of the closest c-commanding head capable of checking feature b.

3. Bare Clausal Complements in Turkish

3.1 Types

In Turkish, with respect to the nature of CASE morphology on their subject DPs and presence/absence of agreement morphology on their predicates, three distinct types of verbal complement clauses are identified:

(3) a. $[[DP_{Acc}\ XP_{-Agr}]\ V]$[3]
b. $[[DP_{Nom}\ XP_{+Agr}]\ V]$
c. $[[DP_{Acc}\ XP_{+Agr}]\ V]$

(The bracket notation is not intended to make claims about clausematiness of the DP and the XP in syntax or LF at this point. It merely indicates the morpho-syntactic pattern displayed by an embedded predicate and an Acc-marked DP that is interpreted to be its thematically related subject.)

Verbal complement clauses contrast with nominalized clauses in Turkish in not having a nominalizer suffix on their predicate, as in (3a–c). Other major morphosyntactic differences between verbal and nominalized clauses are (i) selection of the inflectional morphology of the predicate of a verbal clause from the verbal paradigm as opposed to the nominal agreement paradigm of the predicates of the nominalized clauses, (ii) nominative (cf. 3b) or accusative (cf. 3a and 3c) CASE on the embedded subject of a verbal clause as opposed to GEN(itive) on the subjects of the nominalized clauses, and (iii) lack of CASE on the verbal complex of the predicate of a verbal clause.
The following is an example of one type of nominalized clause, the typical complement clause structures in Turkish:

(4) (Ben) [siz -in Ankara -ya git -tiğ -iniz-] -i duy -du -m.
I you -GEN -DAT go -NOM -2PLPOSS -ACC hear -PAST -1SG
'I heard that you went to Ankara.'

As illustrated in (4), the verb of the nominalized clause is marked with one of the nominalizing suffixes in the language. [4] In (4), the nominalizer is -DIK, commonly referred to as the factive nominalizer (Underhill 1976; Kornfilt 1997; Özsoy 1999). Agr(eement) morphology on the embedded verb marks agreement with the subject of the containing clause. The agreement morpheme is POSS(essive) of the nominal paradigm. The subject bears genitive CASE.[5] The whole clause is marked with CASE appropriate for the function of the nominalized clause within the matrix predication. The morphology of CASE appears on the verbal complex.

In the examples in (5) below, (5a) is the typical 'small clause' configuration found in languages like English and Hebrew. In Turkish, the configuration has associated with it such functional projections as TP and NEGP; the embedded verb is marked with the full range of TAM markers of a matrix predicate, but not Agr(eement). The subject bears accusative CASE. (5b) is the case of embedding with matrix clause inflectional morphology on the subject and the verb. The embedded verb is marked with the full array of TAM markers typical of matrix predicates; Agr-marker is from the verbal paradigm. The subject bears nominative CASE. Such structures are referred to as 'direct' complements in George and Kornfilt (1981). They will be referred to as AgrSP-projections within the scope of this paper. (5c) is the anomolous feature checking construction. The embedded verb is marked with the full range of TAM markers typical of matrix predicates. It is also marked with Agr of the verbal paradigm. The subject, however, bears accusative CASE, not nominative, in contrast to the predictions of MP.

Examples of the three types of verbal complements are given in (5a–c) respectively.

(5) a. Herkes [ben-i Ankara-ya git-ti] san -ıyor.[6]
everyone I -ACC -DAT go -PAST consider -PROG
'Everyone considers me to have gone to Ankara.'

b. (Biz) [sen Ankara-ya git-ti -n] san -dı -k.
we you -DAT go -PAST -2SG consider -PAST -1PL
'We considered you (to have) gone to Ankara.'

c. Herkes [ben-i Ankara-ya git-ti -m] san -ıyor.
everyone I -ACC -DAT go -PAST -1SG consider -PROG
'Everyone considers me to have gone to Ankara.'

In the following section, we argue, not so trivially, for the small clause analysis of at least a subset of the [[DP_{Acc} XP_{-Agr}] V] configurations in Turkish. We will

specifically argue against an analysis in which the ACC-marked DP is generated at the matrix clause level, being related to a phonologically null argument of the lower clause. We will also present evidence that a Larsonian VP-shell analysis holds only for a subset of the [[DP_{Acc} XP_{-Agr}] V] structures, specifically for those with DP and PP predicates.

3.2 [[DP_{Acc} XP_{-Agr}] V] configurations

The [[DP_{Acc} XP_{-Agr}] V] structures in Turkish exhibit the same pattern of morphosyntactic behavior typical of structures referred to as Small Clauses in better described languages as English and Hebrew (cf. Williams 1975; Stowell 1983; Kitagawa 1985; Rothstein 1995; Contreras 1995). The predicates inside the brackets lack, or, as in the case of constructions with verbal predicates, are deficient in the full array of functional categories that are typically associated with fully inflected clauses. The DPs thematically related to the lower predicates (or in relation with an argument of the lower predicates) are ACC-marked.

3.2.1 *Entailment*

VPs, AdjPs, DPs, and PPs can function as predicate in an [[DP_{Acc} XP_{-Agr}] V] type of embedding in Turkish.

(6) a. Herkes [sen -i Ankara -ya git -ti] san -ıyor.
everyone you -ACC -DAT go -PAST consider -PROG
'Everyone considers you to have gone to Ankara.'

b. (Ben) [sen -i yorgun] san -ıyor -du -m.
I you -ACC tired consider -PROG -PAST -1SG
'I considered you (to be) tired.'

c. (O) [sen -i avukat] san -ıyor.
s/he you -ACC lawyer consider -PROG
'S/he considers you (to be) a lawyer.'

d. Herkes [sen -i ban -a yakın] san -ıyor.
everyone you -ACC I -DAT close consider -PROG
'Everyone considers you (to be) close to me.'

Note that the standard arguments raised in favor of the small clause analysis for structures exhibiting similar morphosyntactic properties in English and other languages (cf. Williams 1975; Stowell 1983, 1995; Rothstein 1995; Contreras 1995) can be raised for these structures in Turkish too. It is not merely the ACC-marked DP/DP *sen* 'you' but the whole sequence [DP_{Acc} XP_{-Agr}] that is

θ-marked by the matrix predicate *san-* 'consider'. As (7) indicates, the ACC-marked DP is uniquely θ-marked by the embedded predicate.[7] The predicate *san-* 'consider' does not subcategorize for a single DP/DP in Turkish:

(7) *(Ben) sen -i san -dı -m.
I you -ACC consider -PAST -1SG
'I considered you.'

(7) is possible only in the interpretation of recoverable predication. This is reflected in (8a–b) in which (b) is possible as a reply to the question in (a):

(8) a. (Sen) [kim -i gel -iyor] san -dı -n?
you who -ACC come -PROG consider -PAST -2SG
'Who did you consider was coming?'
b. (Ben) [sen -i *e*] san -dı -m.
I you -ACC consider -PAST -1SG
'I considered you (to be coming).'

Sentences with matrix predicates that subcategorize for both DP/DPs and clauses with [[DP_{Acc} XP_{-Agr}] V] configuration do not necessarily entail structures with a simple DP/DP complement.[8] *bil-* 'know' is such a verb:

(9) a. (Ben) sen -i bil -iyor -um.
I you -ACC know -PROG -1SG
'I know you.'
b. (Ben) [sen -i Ankara -ya git -ti/ mutlu/ avukat]
I you -ACC -DAT go -PAST/ happy/ lawyer
bil -iyor -du -m.
know -PROG -PAST -1SG
'I considered you (to be) gone/smart/lawyer.'

(9b) does not necessarily entail (9a). Likewise, (10) is not a contradictory sentence:[9]

(10) Herkes [sen -i mutlu] bil -iyor ama sen -i hiç
everyone you -ACC happy know -PROG but you -ACC at.all
bil -m -iyor -lar.
know -NEG -PROG -PL
'Everyone considers you happy but they do not know you at all.'

Furthermore, the constructions in (11a–b) share the same presuppositions as the structure in (6a):

(11) a. Herkes [sen -in Ankara -ya git -tiğ -in-] -i san -ıyor.
everyone you -GEN -DAT go -NOM -2SG -ACC consider -PROG
'Everyone considers that you have gone to Ankara.' (nominalized)
b. Herkes [sen Ankara -ya git -ti -n] san -ıyor.
everyone you -DAT go -PAST -2SG consider -PROG
'Everyone considers that you went to Ankara.' (AgrP-projection)

As (11a) and (11b) indicate, the presuppositions of an [DP_{Acc} XP_{-Agr}] construction are shared by constructions with a full clausal structure. This can be taken as evidence that the Acc-marked DP in [DP_{Acc} XP_{-Agr}] constructions is base generated in the lower clause and raised to SpecAgrOP to check for case.

3.2.2 *Functional projections*

Complement clauses with the [DP_{Acc} XP_{-Agr}] configuration exhibit asymmetries with respect to the presence/absence of overt T(ense) morphology and NegP projection on their predicates. While T morphology is overtly manifested on the VP predicate of a [DP_{Acc} XP_{-Agr}] complement as in (12), those [DP_{Acc} XP_{-Agr}] complements with AdjP, DP and PP predicates lack an overt T-marker (cf. (13)):[10]

(12) Herkes [ben -i Ankara -ya git -ti/ -iyor -ecek] san -ıyor.
everyone I -ACC -DAT go -PAST/ PROG/ FUT consider -PROG
'Everyone considers me to have/be gone/going to Ankara.'

(13) a. Herkes [ben -i mutlu/ avukat/ o -na karşı] san -ıyor.
everyone I -ACC happy/ lawyer/ he -DAT against consider -PROG
'Everyone considers me (to be) happy/ a lawyer/ against him.'
b. *Herkes [ben -i mutlu -ydu/ avukat -tı/ o -na karşı -ydı]
everyone I -ACC happy -PAST/ lawyer -PAST/ he -DAT against -PAST
san -ıyor.
consider -PROG
'Everyone considers me (to have) been happy/a lawyer/against him.'

A temporal adjunct related to the embedded predication can occur inside the [[DP_{Acc} XP_{-Agr}] V] type with a verbal predicate, (cf. 14); no element indicating temporal relation of the embedded predication can occur with adjectival, nominal or postpositional predicates, as illustrated in (15):

(14) Herkes [ben -i dün Ankara -ya git -ti] san -ıyor.
everyone I -ACC yesterday -DAT go -PAST consider -PROG
'Everyone considers me (to have) gone to Ankara yesterday.'

(15) *Herkes [ben-i dün mutlu/avukat/o-na karşı]
everyone I -ACC yesterday happy/lawyer/he-DAT against
san -ıyor.
consider-PROG
'Everyone considers me yesterday (to have been) happy/a lawyer/against him.'

Given the argument that adverbials are specifiers of maximal projections (cf. Cinque 1999), absence of these elements in (7) which have adjectival, nominal and postpositional phrases as predicates can be taken as an argument that those small clause structures with non-verbal predicates in Turkish lack a TP projection.[11] This is evidence that ECM-effect constructions with VP, but not AdjP, DP or PP predicates in Turkish possess anaphoric tense in the sense of Enç (1987) and hence have a projection of TP associated with them.

[[DP_{Acc} XP_{-Agr}] V] type constructions with VP and AdjP predicates, on the other hand, exhibit parallel behavior with respect to having NEGP projection. In this, they pattern differently from those with DP and PP predicates which do not have NEGP projection.[12]

(16) Herkes [ben-i Ankara-ya git-me-di] san -ıyor.
everyone I -ACC -DAT go-NEG-PAST consider-PROG
'Everyone considers me not gone to Ankara.'

(17) Herkes [ben-i mutlu değil] san -ıyor.
everyone I -ACC happy NEG consider-PROG
'Everyone considers me not happy.'

(18) *Herkes [ben-i avukat/o-na karşı değil] san -ıyor.[13]
everyone I -ACC lawyer/he-DAT against NEG consider-PROG
'Everyone considers me not happy/a lawyer/against him.'

(18) shows that those [DP_{Acc} XP_{-Agr}] constructions in Turkish with DP and PP predicates do not have NegP projections.

In the next section, we show that the asymmetry exhibited by those [DP_{Acc} XP_{-Agr}] constructions with VP and AdjP predicates as opposed to those with DP and PP predicates with respect to the morphosyntactic properties of their predicates also holds for their syntactic properties. Specifically, while the Acc-marked DPs in the former constructions behave as subjects with respect to binding facts, those of the latter do not.

3.2.3 *Small clauses vs. complex predicates*[14]

[DP_{Acc} XP_{-Agr}] constructions with VP and AdjP predicates as opposed to those with DP and PP predicates exhibit asymmetry in their behavior with respect to binding facts:

(19) a. (Biz) [siz -i biz-den/ *kendi-miz -den bahsed -iyor]
we you(PL)-ACC we-ABL/ self -1PLPOSS-ABL talk.about-PROG
san -ıyor -du -k.
consider-PROG-PAST-1PL
'We considered you to be talking about us/*ourselves.'

b. (Ben) [sen -i ban-a/ *kendi-m -e kızgın]
I you-ACC I -ACC/ *self -1POSS-DAT angry
san -ıyor -du -m.
consider-PROG-PAST-1SG
'I considered you angry at me/*myself.'

(20) a. (Sen) [ben-i kendi-n -e/ *san-a yakın]
you I -ACC self -2POSS-DAT/ *you-DAT close
san -ıyor -sun.
consider-PROG-2SG
'You consider me (to be) close to yourself/*you.'

b. (Biz) [sen -i kendi-miz -in/ *biz-im]
we you-ACC self -1PLPOSS-GEN/ *we-GEN
san -ıyor -du -k.
consider-PROG-PAST-1PL
'We considered you (to be) our own.'

DP_{Acc} behaves as subject in (19a–b) with respect to binding. [DP_{Acc} XP_{-Agr}] constructions with VP and AdjP predicates in (19a–b) form opaque domains with respect to the binding of anaphors while those with DP and PP predicates, as in (20a–b), do not. This can be explained under the analysis in which the string with the VP/AdjP predicate constitutes Complete Functional Complex (CFC) for the anaphor in the sense of Chomsky (1986). Since the antecedent of the anaphor is not contained within this CFC in (19a–b), the ungrammaticality of the variant with the anaphor is expected; Binding Theory A is violated.[15]

Similarly, [DP_{Acc} XP_{-Agr}] constructions with adjectival predicates exhibit asymmetry in the bound variable reading of the pronouns, as illustrated in (21):

(21) a. (Ben) her müdür$_i$ -ü [*pro*$_i$ memur -u$_i$] -na bağlı
I every manager -ACC employer -3POSS -DAT attached
san -ır -ım.
consider -AOR -1SG
'I consider every manager attached to his employers.'

b. *(Ben) [*pro*$_i$ müdür -ü$_i$] -nü her memur$_i$ -a bağlı
I manager -3POSS -ACC every employer -DAT attached
san -ır -ım.
consider -AOR -1SG
'I consider his manager attached to every employer.'

Note that the null pronoun *pro* can have a bound variable reading in which it is bound by the quantifier *her müdür* 'every manager' in (22a). However, *pro* does not have a reading in which it is bound by the quantifier *her memur* 'every employer' in (22b).

We therefore follow the argumentation presented by Contreras (1995) for similar facts in English to argue that the syntactic differences exhibited by [DP$_{Acc}$ XP$_{-Agr}$] constructions with verbal/adjectival and nominal/postpositional categories in (20) and (21) are due to the fact that while the former are small clausal in nature, the latter are not. In line with Contreras (1995) and contra Williams (1997), we claim that the latter form complex predicates with the higher predicate *san-* 'consider' in which DP$_{Acc}$ never occurs in subject position, hence defining the higher clause as the CFC for the purposes of binding.

We hence propose that those [DP$_{Acc}$ XP$_{-Agr}$] configurations in which XP is defined as VP or AdjP have the following representation at the time binding applies:

(22) [$_{AgrOP}$ Spec [$_{VP}$ Subj [$_{TP}$ Spec [$_{XP}$DP$_{-Acc}$ XP$_{-Agr}$] T] V] AgrO]

while those in which XP is defined as DP or PP have the following representation:

(23) [$_{AgrOP}$ Spec [$_{VP}$ Subj [$_{TP}$ Spec [$_{XP}$DP$_{-Acc}$ XP$_{-Agr}$] V] AgrO]

The functional projection associated with the string [$_{XP}$DP$_{-Acc}$ XP$_{-Agr}$] in (22) is TP. NegP can also be optionally projected. The binding facts indicate that [DP$_{Acc}$] is in the subject position, defining the embedded clause as the local domain for binding.

The above set of facts indicate that the independent arguments against the VP-shell analysis of [DP$_{Acc}$ XP$_{-Agr}$] constructions presented by Zidani-Eroğlu (1997) who considers the ungrammaticality of an accusative marked NPI in the presence of a negated lower predicate to hold only for those [DP$_{-Acc}$

XP_{-Agr}] constructions in which the XP is VP/AdjP. Zidani-Eroğlu observes that reanalyzing the complex predicate formed by the matrix predicate *san-* and the lower predicate and raising it would make the prediction that the ACC-marked NPI base-generated at the matrix clause would be licensed, which is contrary to the facts of the language.

The VP-shell analysis, on the other hand, seems to make correct predictions for the binding facts of the [DP_{-Acc} XP_{-Agr}] constructions in which the XP is realized as DP and PP. Within the VP-shell analysis, the accusative marked DP never occupies a subject position; therefore, the lower clause is not a CFC.

(24) [$_{VP1}$ [$_{V1}$ [$_{VP2}$ sen-i [$_{V2}$ [$_{YP}$ kendimiz-e yakın] san-]] e]]

Raising of the predicate [$_{V2}$ *kendimize yakın san-*] to [$_{V1}$ e] and reanalysis of the projection [$_{V2}$ [$_{YP}$ kendimiz-e yakın] san-] as a complex predicate with the features of the complement of *san-* would make the matrix clause the CFC of the anaphor in (20a–b), explaining the legitimacy of the anaphor in these constructions.

Note that the complex predicate analysis of [DP_{Acc} XP_{-Agr}] configurations in which the predicate is a DP or PP also explains the ungrammaticality of those constructions in which the DP or PP is marked with T. Since the [DP_{Acc} XP_{-Agr}] sequence never enters into a direct predicational relationship at any moment in the derivation, there are no projections of functional categories associated with predicates. Therefore the tense morphology on these elements would never be checked, causing the construction to crash.

(25) a. ?(Ben) [sen -i yorgun -du] san -ıyor -du -m.
I you -ACC tired -2SG consider -PROG -PAST -1SG
'I considered you tired.'

b. *Herkes [sen -i avukat -tı] san -ıyor.
everyone you -ACC lawyer -2SG consider -PROG
'Everyone considers you a lawyer.'

c. *Herkes [sen -i ban -a yakın -dı] san -ıyor.
everyone you -ACC I -DAT close -2SG consider -PROG
'Everyone considers you close to me.'

The marginal possibility of having a TP associated with the AP in (25a), we claim is due to the [+V] nature of the element.

Lack of AgrSP projection in the structure also explains the case checking properties of the accusative marked DP. The only possible case checking site for DP_{Acc} is AgrOP of the matrix clause. DP_{Acc} raises to SpecAgrOP to check its accusative case. Hence the impossibility of structures in Turkish as the ones in (25a–c).

Note that, as pointed out by Zidani-Eroğlu (1997), an alternate analysis of the [DP_{Acc} XP-$_{Agr}$] structure as one in which the ACC-marked DP is generated at the matrix level where it is coindexed with a phonologically null subject of a lower predicate will still have to account for the range of syntactic properties investigated by Zidani-Eroğlu, i.e. NPI licensing, adverbial scope and word order facts.

3.3 CASE checking in [DP_{Acc} XP_{-Agr}] clauses

Given the proposed analysis of the complement clauses with the [DP_{Acc} XP_{-Agr}] configuration, case checking of the ACC-marked DP is accounted for in terms of the principles of the MP. The [DP_{Acc} XP_{-Agr}] constructions with a SC structure inherently lack an AgrSP-projection. XP raises to TP to check for Tense. In the absence of a closer case checker, i.e. AgrSP, the subject of the SC raises to SpecAgrOP of the matrix predicate to check for its accusative CASE.

(26) [$_{AgrOP}$ [$_{VP}$ [$_{V'}$ [$_{TP}$ [$_{T'}$ [$_{VP}$ DP_{Acc} … VP] T] san-]]]] AgrO]

The structure also illustrates that T does not check for Nom-CASE in Turkish. Consequently, the closest site for feature checking is SpecAgrOP of the matrix clause. This is in compliance with feature checking as conceived within the MP.

In those [DP_{Acc} XP_{-Agr}] constructions with a complex predicate, too, feature checking conforms to the predictions of the theory in which CASE is accounted for in terms of Spec–Head relation. The Acc-marked DP, after reanalysis, raises to the AgrOP of the matrix verb to have its case checked.

Making reference to data presented by structures in which the subject of a lower clause in the [DP_{Acc} XP_{-Agr}] configuration has checked, or failed to check, CASE with AgrOP of the matrix clause, Zidani-Eroğlu (1997) and Kural (1997) independently present evidence to the effect that CASE is checked before Spell Out in Turkish.

Zidani-Eroğlu (1997) argues that the subject of a [DP_{Acc} XP_{-Agr}] clause must have reached the matrix clause at the time such syntactic phenomena as NPI licensing, adverbial scope and word order apply. She proposes that (27a), not (27b) (her (2a) and (2b) respectively), reflects the representation of such structures:

(27) a. [$_{s1}$…. DP-ACC$_i$ … [$_{s2}$ t_i …] …]
b. [$_{s1}$…. [$_{s2}$ … DP-ACC …] …]

Within the terminology of MP, her analysis indicates that CASE is checked before SPELL-OUT in Turkish.

Drawing evidence from clauses with similar configuration, Kural (1997) too presents evidence that checking for CASE must apply before SPELL-OUT in Turkish. Specifically, he points out that the illegitimacy of structures like (28) and (29) (Kural's (i) and (ii) respectively) is due to the fact that in neither instance is the accusative marked DP in the checking domain of a case checker:[16]

(28) *pro [[dün gece] Ahmet' i vur -ul -du] varsay -ıyor -uz.
1PL last night -ACC shoot -PASS -PAST assume -PRES -1PL
'We assume Ahmet to have been shot last night.'

(29) [[Dün gece] Ahmet vur -ul -du] varsay -ıl -ıyor.
last night -NOM shoot -PASS -PAST assume -PASS -PRES
'It is assumed that Ahmet was shot last night.'

The presence of the adverbial *dün gece* 'last night' preceding the DP that has to check CASE renders the sentences ungrammatical. Since LF-access to the CASE checker would have licensed the structures, it can be concluded that CASE is checked before SPELL-OUT, i.e. in syntax.

3.4 CASE in [DP_{Nom} XP_{+Agr}] configurations

Parallel to the behavior of [DP_{Acc} XP_{-Agr}] constructions, feature checking in [DP_{Nom} XP_{+Agr}] configurations also complies with universal principles of MP. The first available checking site of CASE on DP_{Nom} that is in agreement with the lower predicate is AgrSP of its own clause. As the inflectional morphology of the clause is from the verbal paradigm, AgrSP of the lower clause checks for nominative.

(30) [$_{V'}$ [$_{AgrSP}$ [$_{Spec}$ ……] [$_{TP}$ [$_{T'}$ [$_{VP}$ DP-Acc… V] T] AgrS] san-]]]

The subject DP raises to the first available SpecAgr position, i.e. SpecAgrSP of its own clause, legitimately checking, hence licensing, its nominative feature.

4. [$\mathbf{DP_{Acc}}$ $\mathbf{XP_{+Agr}}$] configurations

4.1 DP_{Acc} as subject of XP_{+Agr}

Note that all of the facts regarding entailment and presuppositions of the structures mentioned in reference to [DP_{Acc} XP_{-Agr}] constructions above hold for [DP_{Acc} XP_{+Agr}] constructions as well. We will hence take these facts, as well

as the untenability of the alternate analysis in which, similar to the [DP_{Acc} XP_{-Agr}] structures, the ACC-marked DP is base generated at the matrix clause level, coindexed with the phonologically null subject of the lower predicate, as evidence that similar to the case of the latter set of constructions, the ACC-marked DP in [DP_{Acc} XP_{+Agr}] configurations is also generated in the lower clause.

(31) Herkes [sen -i Ankara -ya git -ti -n] san-ıyor
everyone you -ACC -DAT go -PAST -2SG consider-PROG
'Everyone considers you (to have) gone to Ankara.'

Note that with respect to the same set of syntactic phenomena discussed by Zidani-Eroğlu (1997) and Kural (1997) for clauses with [DP_{Acc} XP_{-Agr}] configuration, [DP_{Acc} XP_{+Agr}] clauses exhibit parallel behavior, indicating that the accusative marked DP in these structures is in fact in the matrix clause. In view of these facts, it will be concluded that CASE checking in [DP_{Acc} XP_{+Agr}] constructions also applies before Spell-Out.

i. An adverb occurring to the right of the accusative marked DP in a [DP_{Acc} XP_{+Agr}] construction can have matrix scope.

(32) pro [ben -i dün gece Ankara -ya gid -iyor -um] san -dı -lar.
1PL I -ACC last night -DAT go -PROG -1SG consider -PAST -PL
'Last night, they considered me to be going to Ankara.'

ii. Adjunction of an element to the left of the accusative marked DP in a [DP_{Acc} XP_{+Agr}] construction renders the structure ungrammatical.

(33) *pro [Dün gece ben -i Ankara -ya git -ti -m] san -ıyor -lar.[17]
1PL last night I -ACC -DAT go -PAST -1SG consider -PROG -PL
' They consider me to have gone to Ankara last night.'

iii. Similar to the behavior of NPIs in [DP_{Acc} XP_{-Agr}] constructions, an NPI in the subject phrase of a [DP_{Acc} XP_{+Agr}] clause is not licensed by embedded negation. As the NPI-head *kimse* 'noone' does not trigger any overt agreement morphology on the predicate, we present facts regarding subject-NPI licensing in a [DP_{Acc} XP_{+Agr}] clause using the negative quantifier *hiç* 'none' in the subject phrase. *Hiç biriniz* 'no one of you' as subject optionally triggers agreement on its predicate.

(34) Hiç bir -i -niz gel -me -di -(niz).
no one -POSS -2PLPOSS come -NEG -PAST - 2PL
'No one of you came.'

Hiç bir-i-niz is not legitimate in those [DP_{Acc} XP_{+Agr}] structures in which the negative trigger is on the lower predicate:

(35) *Hiç bir -i -niz -i gel -me -di -(niz) san -dı -m.
no one -POSS -2PLPOSS -ACC come -NEG -PAST - 2PL consider -PAST -1SG
'No one of you came.'

Given the facts of NPI- licensing as discussed by Zidani-Eroğlu (1997), the ungrammaticality of (35) is predicted. (35) confirms that the DPI *hiç biriniz* 'none of you' is not in the embedded clause, but in the matrix clause.

Further, note that if the complex predicate analysis of the [DP_{Acc} XP_{-Agr}] constructions with DP and PPs as XPs holds, we predict there not to be [DP_{Acc} XP_{+Agr}] projections. That this is indeed the case can be observed in the ungrammaticality of the following in Turkish:

(36) *(Sen) [ben -i kendi -n -e yakın -ım] san -ıyor -sun.
you I -ACC self -2POSS -DAT close -1SG consider -PROG -2SG
'You consider me (to be) close to yourself.'

At no point in the derivation of the [DP_{Acc} XP_{-Agr}] constructions with DP and PPs as XPs do these projections enter into a predicational relationship with the ACC-marked DP; therefore projection of AgrP (or any FC that is typically related to predication) is not expected.

4.2 Feature checking in the [DP_{Acc} XP_{+Agr}] configuration

We now turn to the feature checking anomaly presented by the [DP_{Acc} XP_{+Agr}] configuration in (1), repeated here for convenience' sake:

(37) a. Herkes [ben -i Ankara -ya git -ti -m] san -ıyor -muş.
everyone I -ACC -DAT go -PAST -1SG consider -PROG -HEARSAY
'It seems everyone considered me to have gone to Ankara.'
b. Biz [sen -i taşın -dı -n] san -dı -k.
we you -ACC move -PAST -2SG consider -PAST -1PL
'We considered you to have moved.'

The subject DPs of the strings in the brackets, which are in the checking domain of SpecAgrSP of their clauses, have raised to SpecAgrOP of the matrix clause to check for accusative CASE. They have thus skipped over the SpecAgrSP of the lower clause, giving rise to an apparent violation of Shortest Move.

Note that even if the facts about the level at which CASE checking applied were reversed, i.e. in Turkish CASE were licensed at LF, Case checking would

still face the same problems as CASE checking before SPELL OUT in the case of [DP_{Acc} XP_{+Agr}] configurations. The accusative marked subject of the lower clause is within the domain of AgrSP of the lower clause, not of AgrOP of the matrix clause. There is an intervening CASE checking position between the clause-internal position of the accusative marked DP where it is introduced into the structure and its target position, i.e. SpecAgrSP of the lower clause. Consequently, Shortest Move violation would have to be eliminated at the relevant level of representation for (1a–b) to be licensed.

If it is indeed the case that CASE is checked in a Spec–Head relation, the following questions regarding the [DP_{Acc} XP_{+Agr}] configuration will have to be answered:

1. Why is it that at the point of feature checking, SpecAgrSP is not available as a target position for the moved element DP_{Acc}?
2. What renders SpecAgrOP equidistant to DP_{Acc}?

In the derivation of the [DP_{Acc} XP_{+Agr}] constructions, the first available target position for CASE checking, i.e. SpecAgrSP, has been skipped. SpecAgrSP of the lower clause is a position that could have been reached by a shorter move by the accusative marked DP. It is also a position that needs to have its CASE features checked. Therefore, SpecAgrSP is expected to ATTRACT DP_{Acc} to check its nominative CASE. However, in the derivation of the [DP_{Acc} XP_{+Agr}] constructions, neither holds. Note that the subject would have to raise to AgrSP to license agreement of the lower predicate. However, once having licensed Agr of the lower predicate, it would have to raise to SpecAgrOP to license its own case. In other words, the presence of SpecAgrSP would be necessary to license agreement on the lower predicate; but the same position would have to be unavailable for CASE checking, behaving as if it is nonexistent as a CASE checker, hence rendering SpecAgrOP equidistant to the ACC-marked DP for CASE checking.

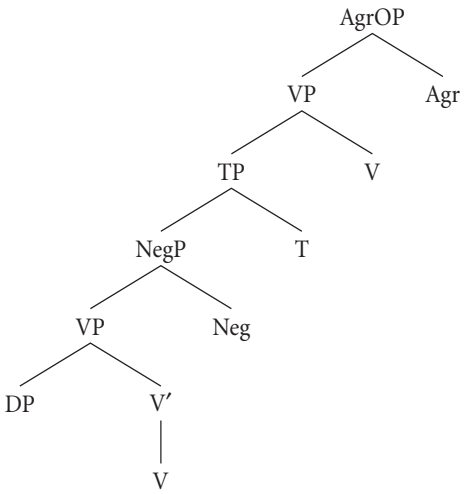
The question then is which principle makes this possible. One possible explanation for the above set of facts related to feature checking in [DP_{Acc} XP_{+Agr}] constructions might lie in the possibility that Turkish distinguishes between strong and weak AgrSP. The features of a weak AgrSP L-related to a lexical verbal head are optionally absorbed by the lexical head, so that they are no longer available for checking. In the absence of a closer c-commanding head capable of checking CASE, in the sense of Ferguson (1996), the ACC-marked subject of the lower clause would then simply move to the Spec position of the weak AgrSP to license the agreement of the verb, but then raise to AgrOP

to check its features. Thus a weak AgrSP would render the Spec of the next CASE checking category, i.e. SpecAgrOP, an available position.

We hence propose the following structures for the three bare clausal complements in Turkish:

(38) i. $[[DP_{Acc}\ XP_{-Agr}]$

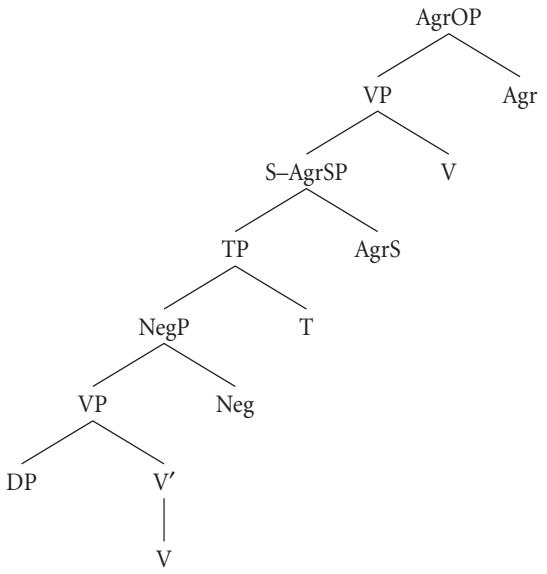
(i) $[[DP_{ACC}\ XP_{-AGR}]$



In (i), the embedded subject, in the absence of an AgrSP dominating the embedded clause raises to SpecAgrOP directly to check for case, hence licensing its accusative case. In (ii), the embedded clause is dominated by strong AgrSP which checks for nominative case. The embedded subject raises to SpecAgrSP to check its nominative case and license agreement on the embedded predicate. (iii), on the other hand, is dominated by weak AgrSP, hence cannot check for case. The embedded subject raises to SpecAgrSP long enough to license agreement on the embedded predicate. It then raises to SpecAgrOP to check its own case feature, licensing the whole structure.

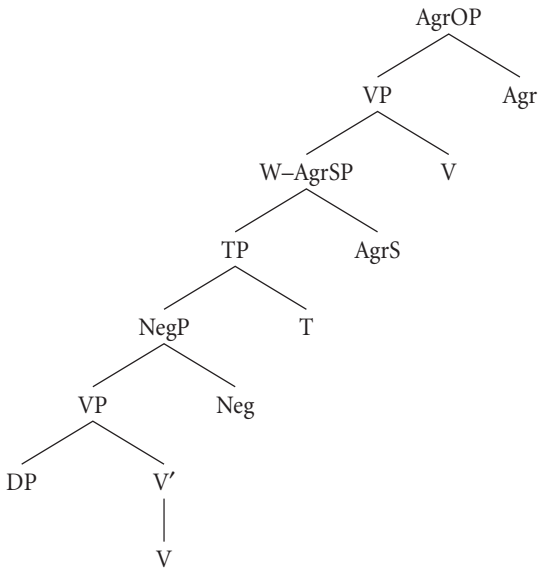
ii. $[DP_{Nom}\ XP_{+Agr}]$

(ii) $[[DP_{NOM}\ XP_{+AGR}]$



iii. $[DP_{Acc}\ XP_{+Agr}]$

(iii) $[[DP_{ACC}\ XP_{+AGR}]$



5. Concluding comments

Absorption of features is not novel to syntactic theory. Within the government and binding framework, constructs such as case absorption and theta-role absorption have been shown to be operative in triggering syntactic operations. Whether 'absorption' as conceived here is in fact incorporation of the weak Agr into the verb, in the sense of Baker (1988), or whether it is feature absorption parallel to the absorption of accusative case by the passive verb in the sense of Burzio (1986) would have to be ascertained. One drawback to the former hypothesis is that a functional category would be incorporating into a lexical category.

Further note that L-relatedness, which is necessary for AgrSP to have weak DP-features, is not a sufficient condition for projecting weak AgrSP. Strong AgrSP can also occur in a narrowly L-related position, as illustrated in the grammaticality of [DP_{Nom} XP_{+Agr}] constructions.

An alternative hypothesis for the above fact would be to hold that Spec–Head relation is not the explanatory principle of the Case checking phenomenon in language. Similar observation has already been put forth by Thráinsson (1996) who proposes that not all languages present evidence for the SPLIT-INFL hypothesis. Although Turkish does not seem to present any direct evidence against the SPLIT-INFL hypothesis, as has been shown by Aygen-Tosun (1998), any theory of Case checking will still have to address the issue raised by the [DP_{Acc} XP_{+Agr}] constructions in Turkish and explain how it is that an element can check for its case with a head higher in the structure in the presence of a closer c-commanding head.

Notes

1. There is a dialect in Turkish in which the grammaticality judgments on these structures might vary slightly from the ones given in the text. However, there is a dialect of Turkish which judges these structures in a manner similar to the one found in the text.

2. Turkish is a pro-drop language; non-emphatic, non-contrastive subjects are not pronounced. See Özsoy (1988) for arguments in favor of Turkish as a pro-drop language. See Öztürk (1999 and this volume) for an argument against Turkish being a pro-drop language.

3. There are two sets of agreement morphology in Turkish: verbal and nominal. The paradigms are:

verbal	sg	pl	nominal	sg	pl
1	-m	-k		-(y)Im	-Iz
2	-n	-nIz		-sIn	-sInIz
3	–	-lAr		–	-lAr

The nominal paradigm occurs in the agreement between the subject and the head of NP, and between the subject and the predicate of nominalized complement clauses in Turkish.

4. Within this study, we assume a head-final order of constituents for Turkish, as proposed by Erguvanlı-Taylan (1984). A discussion of the problems raised by Turkish for Kayne's (1994) Linear Correspondence Axiom can be found in Kelepir (1996) and Kural (1997).

5. The typical embedding strategy in Turkish is nominalization whereby the embedded verb is marked with a nominalizing suffix. There are two basic sets of nominalizing suffixes in the language: *-DIK/-(y)AcAK, -mA/-mAK*. The *-DIK/-(y)AcAK* nominalizers are generally referred to as the factive and the *-mA/-mAK* as the non-factive nominalizers, although the distinction is not an all-exclusive one (cf. Özsoy 1999). *-mAK* is the nominalizer of control constructions. Nominalization applies in the case of subject/object complement clauses as well as adjunct clauses. In the following, the embedded clause is nominalized by attaching the nominalizing suffix *-DIK* to the embedded predicate:

i. a. [Sen -in Ankara -ya git -tiğ -in -]i san -dı -m.
you -GEN -DAT go -NOM -2POSS -ACC consider -PAST -1SG
'I believed you to have gone to Ankara.'

b. [Sen -in akıllı/ avukat ol -duğ -un -]u san -dı -m.
you -GEN smart/ lawyer be -NOM -2POSS -ACC consider -PAST -1SG
'I considered you to be smart/a lawyer.'

The embedded predicate is marked with the nominalizing suffix *-DIK* and agreement morphology of the nominal paradigm. The subject of the embedded clause is marked with the genitive marker. In the case of adjectival and nominal clauses, the nominalization marker *-DIK* and the inflectional suffixes are attached to the copular verb *ol-* 'be, become' inserted into the structure.

6. In some adjunct clauses, the subject of the embedded clause bears nominative CASE although the agreement morphology on the predicate is from the verbal paradigm:

i. Sen çağr-ıl-dığ-ın-a göre, …
you call-PASS-NOM-2POSS-DAT since
' Since you were called, ….

Kornfilt (1999) presents an account of the genitive/nominative CASE morphology in Turkish nominalized clauses.

7. In the first investigation of the phenomenon in the literature, Brendemoen and Csato (1986) argue for Agr being the head of S′ and INFL that of S.

8. We distinguish between those structures that are similar to the ones exemplified in (6a–d) as opposed to those illustrated below:

i. a. Ben çay-ı soğuk iç-er-im.
I tea-ACC cold drink-AOR-1SG
'I drink tea cold.'
b. Herkes kahve-yi sıcak sev-er.
everyone coffee-ACC hot like-AOR
'Everyone likes coffee hot.'

The sentences in (i) contrast with the ones of (5a–c) in the text in terms of the θ-role(s) assigned to the accusative marked NPs. In (5a–d), the relevant NPs are uniquely θ-marked by the predicate phrase in the lower clause. In (i-a–b), on the other hand, θ-assignment uniqueness principle is violated (cf. Chomsky 1986). Rothstein (1996) refers to the corresponding structures in English as instances of secondary predication in which the matrix predicate θ-marks only the accusative bearing NP and not the sequence [NP AP]. Based on the differences in the entailment of the two sets of sentences, Rothstein argues that the APs in structures similar to the ones exemplified in (ii-a–b) are in adjunct relation to the accusative marked NP. These structures are also among those referred to as 'secondary predications' by Schroeder (2000).

Not included in this study are also structures with perception verbs like *gör-* 'see', *bul-* find' and the resultative *yap-* 'make':

ii. Herkes [ben-i yorgun] gör-/bul-du.
everyone I-ACC tired see-/find-PAST
'Everyone saw/found me tired.'

Note that perception verbs do not select verbal predicates in their SC complements.

*Herkes [ben-i Ankara-ya git-ti] gör-dü.
everyone I -ACC -DAT go-PAST see-PAST
'Everyone saw me go to Ankara.'

iii. Aile -si [o -nu öğretmen] yap -tı.
family-3POSS he-ACC teacher make-PAST
'His family made him a teacher.'

9. Some of the other predicates that take [NP_{Acc} XP_{-Agr}] complements are *bil-* 'know'; *say-* 'count'; *varsay-* 'assume', *kabul et-* 'accept':

i. Herkes [sen -i akıllı] bil-/ say-/ varsay-/ kabul ed-Iyor.
everyone you-ACC smart know-/ count-/ assume/ accept -PROG
'Everyone knows/counts/assumes/accepts you (to be) smart.'

10. The corresponding adjunct structure, on the other hand, is contradictory:
i. ??(Ben) çay-ı soğuk iç -ti -m ama çay-ı iç -me -di -m.
I tea-ACC cold drink-PAST-1SG but tea-ACC drink-NEG-PAST-1SG
'I drank the tea cold but I did not drink the tea.'

11. In contrast to Williams (1975) and Stowell (1983) who have argued that small clauses are projections of the lexical categories that function as their predicate, Hornstein and Lightfoot (1987) and Kitagawa (1985) as well as others have presented evidence from different languages in support of the presence of functional categories related to SCs.

12. See Aygen-Tosun (1998) for the relevance of Pollock's (1989) SPLIT-INFL hypothesis for Turkish.

13. (16) and (17), in contrast to (18), indicate that NEGP is lower than TP in Turkish. This is reflected in the order of morphemes on the predicates, giving support to Baker's (1985) Mirror Principle. Ouhalla (1991) uses Turkish data to point out that order of functional categories is parametrically determined.

14. Negation of embedded clauses with non-verbal predicates is possible only with the nominalization strategy:

i. Herkes [ben-im avukat/o-na karşı ol-ma-dığ-ım -]ı san -ıyor.
everyone I -1GEN lawyer/ he-DAT against be-NEG-NOM-1POSS-ACC believe-PROG
'Everyone believes that I am not a lawyer/against him.'

15. We will consider the complex predicate analysis proposed by Larson (1988). Alternate proposals for the nature of complex predicates have been put forth in Williams (1983) and (1997).

16. This also explains the difference between (a) and (b) below:

i. a. (Biz) [her hoca -yı *e* öğrenci-si -nden sorumlu] say -ıyor -uz.
we every teacher-ACC student-3POSS-ABL responsible consider-PROG-1PL
'We consider every teacher responsible for his student.'

b. *Biz [*e* hoca -sı-nı her öğrenci-den sorumlu] say -ıyor -uz.
we teacher-ACC every student-ABL responsible consider-PROG-1PL
'We consider his teacher responsible for every student.'

Stowell (1983) notes that a pronoun can receive a bound variable reading when c-commanded by a quantifier.

17. There is a dialect of Turkish in which such sentences are grammatical. In that dialect, CASE is checked at LF. Since TP does not check for CASE in Turkish, its Spec is not a target for the ACC-marked NP *Ahmet-i*, which would raise to SpecAgrOP of the matrix clause to check for CASE.

18. This sentence is in fact judged higher on the scale of grammaticality if the ACC-marked NP *ben-i* is stressed indicating that it is focussed. Note that contrary to the previous analyses of focus in Turkish (cf. Erguvanlı 1984), we do not assume that the stressed constituent in this sentence has made a rightward movement closer to the verb. In fact previous studies on focus in Turkish have claimed that focussed elements occur immediately adjacent to the verb. However, recent research has shown that focus is closely related to stress rather than a specific position in Turkish (Göksel and Özsoy 2000). We therefore assume that the stressed constituent is in its structural position in these sentences and that it is the topicalized element that has moved to the left of this constituent.

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Turkish as a non-pro-drop language

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1. Introduction

1.1 Turkish as a pro-drop language

As Turkish allows its subjects to remain unexpressed in certain cases, within the Generative Framework, it is generally analyzed to be a *pro*-drop language, where the empty category *pro* is posited in the subject position, its referent being specified by the agreement morphology. (cf. Kornfilt 1984; Enç 1986; Özsoy 1987).

1.2 Aim

The main aim of this study is to argue against the claim that Turkish is a *pro*-drop language. By examining the discourse dependent nature of overt personal pronouns in Turkish it will be argued that overt pronouns are in fact pragmatically conditioned pronouns whose presence or absence within a particular structure is solely determined by discourse and that they are not generated in SpecVP, but in a higher position in the C system. It will also be claimed that the agreement morphology in Turkish is a pronominal category base-generated in SpecVP as the VP-internal subject.

2. Motivations to analyze Turkish as a non-*pro*-drop language

In the following, the motivations which pave the way to make the claim that Turkish is a not a *pro*-drop language will be discussed.

2.1 Discourse dependent distribution of overt pronouns in Turkish

Enç (1986) claims that the occurrence of overt pronouns in Turkish is not optional or redundant, as in each case they have certain pragmatic functions within the discourse, which need to be learnt by the speakers of Turkish.

Erguvanlı-Taylan (1986) also states that in certain cases depending on discourse where the subject has a topic changing function the occurrence of an overt pronoun as the subject is obligatory and the presence of an empty pronoun leads to an ungrammatical structure. Consider:

(1) a. Ben gel-di-m. Ama sen gel-me-din.
I come-PAST-1SG but you come-NEG-PAST-2SG
'I came. But you did not come.'

b. Ben gel-di-m. Ama **pro* gel-me-di-n.
I come-PAST-1SG but come-NEG-PAST-2SG
'I came. But you did not come.'

(2) a. Bu soru-yu kim sor-du?
this question-ACC who ask-PAST
'Who asked this question?'

b. Ben sor-du-m.
I ask-PAST-1SG
'I asked.'

c. **pro* sor-du-m.
ask-PAST-1SG
'I asked.'

Parallel to the analyses of Enç and Erguvanlı-Taylan, as illustrated by the (b) examples, lack of an overt pronoun, i.e. the presence of *pro* in the subject position, yields an ill-formed sentence in the specified discourse.

These examples imply that even though *pro* whose reference is determined by the agreement morphology acts as an empty pronominal counterpart of the overt pronouns in Turkish, its discourse properties do not overlap with that of the overt pronouns.

2.2 Topic status of overt pronouns in Turkish

Having stated that the distribution of overt pronouns is discourse dependent, now let us briefly discuss their topic changing functions in discourse. Note that overt pronouns also have focus properties in Turkish. But this is not within the

scope of this study, yet it is not inconsistent with the claim made here that overt pronouns in Turkish behave as pragmatically conditioned pronouns, whose distribution is determined by discourse.

Consider examples (3a–d). These examples illustrate that the presence of overt pronouns, which are generally held to be base-generated in SpecVP, is in fact dependent on the presence of a topic change in discourse.

(3) a. Ben$_i$ ev-e gel-di-m. *pro*$_i$ kitap oku-du-m. *pro*$_i$
I house-DAT come-PAST-1SG book read-PAST-1SG
televizyon seyret-ti-m.
TV watch-PAST-1SG
'I came home. I did some reading. I watched TV.'

b. Ben ev-e gel-di-m. *Ben kitap oku-du-m. *Ben
I house-DAT come-PAST-1SG I book read-PAST-1SG I
televizyon seyret-ti-m.
TV watch-PAST-1SG
'I came home. I did some reading. I watched TV.'

c. Ben$_i$ ev-e gel-di-m. *pro*$_i$ kitap oku-du-m. *pro*$_i$
I house-DAT come-PAST-1SG book read-PAST-1SG
televizyon seyret-ti-m Sen ara-dı-n.
TV watch-PAST-1SG you call-PAST-2SG
'I came home. I did some reading. I watched TV. You called (me).'

d. Ben$_i$ ev-e gel-di-m. *pro*$_i$ kitap oku-du-m. *pro*$_i$
I house-DAT come-PAST-1SG book read-PAST-1SG
televizyon seyret-ti-m. **pro*$_j$ ara-dı-n
TV watch-PAST-1SG call-PAST-2SG
'I came home. I did some reading. I watched TV. You called (me).'

As seen in (3a), the occurrence of an overt pronoun at the outset of discourse is sufficient to set the topic; its repetition in the on-going discourse leads to ungrammaticality as in (3b). In (3c), on the other hand, the presence of an overt pronoun is a must when there is a topic change in discourse, contrasting with the ill-formed (3d).

Consider the following examples as well, which contain 3rd person NPs given in (4):

(4) a. O$_i$ yemek ye-di. *pro*$_i$ çay iç-ti.
s/he meal eat-PAST tea drink-PAST
'S/he ate (lit. had a meal). S/he drank tea.'

b. O_i yemek ye-di. $O_{*i/j}$ çay iç-ti.
s/he meal eat-PAST s/he tea drink-PAST
'S/he ate. S/he drank tea.'
c. Ali_i yemek ye-di. pro_i çay iç-ti.
Ali meal eat-PAST tea drink-PAST
'Ali ate. He drank tea.'
d. Ali_i yemek ye-di. $O_{*i/j}$ çay iç-ti.
Ali meal eat-PAST he tea drink-PAST
'Ali ate. He drank tea.'

In these example, *pro* is considered to be coreferential with the overt pronoun 'O' and the referential expression 'Ali' in (4a) and (4c) respectively. However, in the case of an overt pronoun as in (4b) and (4d) it is not possible to have such a coreferential reading.

To summarize, as the data presented above show, in Turkish the presence of overt pronouns indicates a topic change in discourse, implying that all the cases where pronouns occur are marked. This raises the question of whether overt pronouns in Turkish can be analyzed as pragmatically conditioned pronouns, specifically as topic pronouns rather than subject pronouns, which will, then, call for a non-*pro*-drop analysis of Turkish.

2.3 Evidence against Spec–Head relation between the overt pronouns and agreement in Turkish

Under the canonical analysis of Turkish overt pronouns and agreement morphology are assumed to reveal a Spec–Head relation, agreement morphology being the Head and the overt pronouns being the Specifier. However, in Turkish ECM constructions and adjunct clauses constitute cases where overt pronouns occur without the relevant agreement morphology, that is, there are cases where Spec positions are filled but there is no overt head.

2.3.1 *ECM constructions*

Now we will take a look at ECM structures in Tk:

(5) a. Ben [seni git-ti] san-ıyor-du-m. (ECM)
I you-ACC go-PAST think-PROG-PAST-1SG
'I thought you are gone'

b. Ben [*pro* git-ti-n] san-ıyor-du-m.
I go-PAST-2SG think-PROG-PAST-1SG
'I thought you are gone'
c. Ben [?/* seni git-ti-n] san-ıyor-du-m. (ECM)
I you-ACC go-PAST-2SG think-PROG-PAST-1SG
'I thought you are gone'
d. Ben [sen git-ti-n] san-ıyor-du-m.
I you go-PAST-2SG think-PROG-PAST-1SG
'I thought you are gone'

In (5a) in the embedded clause it is seen that the overt pronoun is present without the relevant agreement morphology. In (5b), by means of the agreement morphology the intended referent of *pro* is expressed. In (5c), even though the overt pronoun and the relevant morphology co-occur, this leads to a highly marked structure (or even an ungrammatical one for some speakers of Turkish), providing evidence to the fact that the presence of the overt pronouns is not dependent on the agreement morphology.

2.3.2 *Adjunct clauses*

Similarly, in certain adjunct clauses in Turkish, overt pronouns occur without the relevant agreement morphology:

(6) a. Ben konuş-ur-ken, o gül-üyor-du.
I talk-AORIST-while s/he laugh-PROG-PAST
'While I was talking, s/he was laughing.'
b. pro_i konuş-ur-ken, pro_i gül-üyor-du.
talk-AORIST-while laugh-PROG-PAST
'While s/he talking, s/he was laughing.'

(7) a. Ben yemek ye-me-den önce, o git-miş.
I meal eat-COMP-ABL before s/he go-REPORTED.PAST
'S/he left, before I had a meal.'
b. pro_i yemek ye-me-den önce, pro_i git-miş.
meal eat-COMP-ABL before go-REPORTED.PAST
'S/he left, before s/he had a meal.'

(8) a. Ben yemek ye-dik-ten sonra, o git-miş.
I meal eat-COMP-ABL after s/he go-REPORTED.PAST
S/he left, after I had a meal.
b. pro_i yemek ye-dik-ten sonra, pro_i git-miş.
meal eat-COMP-ABL after go-REPORTED.PAST
S/he left, after s/he had a meal.'

Considering the examples (6–8), it is seen that the overt pronouns, supposedly the Specs are present to convey the topic change in discourse without the agreement morphology.

Under the canonical analysis it is claimed that Agr acts as a case assignor. In finite clauses it assigns nominative case to the NP in its Spec and marks its Spec genitive in non-finite clauses. However, it is seen that in Turkish there are cases where agreement assigns either nominative or genitive case to its Spec in non-finite clauses. Consider example (9):

(9) a. Ben anla-dığ-ım-a göre, o da anla-r.
I understand-*dik*-1SG-DAT since s/he too understand-AORIST
'Since I understood it, s/he would understand (it), too.'

b. Benim anla-dığ-ım-a göre, o da
I-GEN understand-*dik*-1SG-DAT according to s/he too
anla-mış.
understand-REPORTED.PAST
'According to what I understood, s/he, too has understood (it).'

As seen in (9) even though the verb in both of the adjunct clauses bears the same nominalizer -*DIK* and the same agreement marker, (first person singular), it is seen that the overt pronoun which is assumed to be in SpecAgrP is marked with the verbal nominative in (9a) and the nominal genitive in (9b). This provides evidence against the claim that overt pronouns have to move to SpecAgrP to be case assigned by agreement, revealing a Spec–Head relation.

2.3.3 *Further evidence: genitive phrases*

Similar to the Spec–Head agreement at the sentential level, there is also Spec–Head relation within a DP in Turkish. Overt pronouns, which are base-generated in SpecDP positions, agree with the head noun in person and number.

(10) a. Ben-im teyze-m
I-GEN aunt-1SG
'my aunt'

b. Sen-in teyze-n
you-GEN aunt-2SG
'your aunt'

c. O-nun teyze-si
he/she-GEN aunt-3SG
'his/her aunt'

d. Biz-im teyze-miz
we-GEN aunt-1PL
'our aunt'

e. Siz-in teyze-niz
you-GEN aunt-2PL
'your aunt'

f. Onlar-ın teyze-si
they-GEN aunt-3PL
'their aunt'

What is significant is that, parallel to the *pro*-drop process observed at the sentential level, it is also possible to delete the overt pronouns at the phrasal level in Turkish:

(11) a. *pro* teyze-m
aunt-1SG
'my aunt'

b. *pro* teyze-n
aunt-2SG
'your aunt'

c. *pro* teyze-si
aunt-3SG
'his/her aunt'

d. *pro* teyze-miz
aunt-1PL
'our aunt'

e. *pro* teyze-niz
aunt-2PL
'your aunt'

f. *pro* teyze-si
aunt-3PL
'their aunt'

It is seen that the genitive pronouns in Turkish, like the overt pronouns at the sentential level, are subject to the same discourse rules and that they are pragmatically conditioned revealing topic (and possibly focus) properties.

2.3.3.1 *Discourse dependent nature of pronouns base-generated in SpecDP.* Pronouns base-generated in SpecDP also reveal a discourse dependent distribution sensitive to the same pragmatic conditions observed in the deletion of the overt pronouns at the sentential level:

(12) a. Biz-im evi-miz çok güzel ama siz-in ev-iniz güzel
we-GEN house-1PL very beautiful but you-GEN house-2PL beautiful
değil.
not
'Our house is very beautiful but your house is not beautiful.'

b. Biz-im evi-miz çok güzel ama *pro_j ev-iniz güzel değil.
we-GEN house-1PL very beautiful but house-2PL beautiful not
'Our house is very beautiful but your house is not beautiful.'

(13) a. Kim-in ev-i eski?
who-GEN house-1SG old
'Whose house is old?'

b. biz-im evi-miz
we-GEN house-1PL
'our house'

c. **pro* evi-miz
house-1PL
'our house'

In (12), only the presence of an overt pronoun allows the sentences to have the intended contrastive meaning. As seen in (12a) and (12b), such a contrast cannot be revealed solely with the presence of *pro*, whose referent is recoverable by the agreement morphology. In (13), on the other hand, the ungrammaticality of (13b) is due to the absence of the overt pronoun, as only in its presence the required information can be provided for the question. Thus, the pronouns base-generated in SpecDP exhibit a distributional pattern highly parallel to that of overt pronouns base-generated in SpecVP.

2.3.3.2 *Topic status of pronouns base-generated in SpecDP*. The presence of overt pronouns claimed to be base-generated in SpecDP in Turkish is also highly dependent on the presence of a topic change in discourse, parallel to those generated in SpecVP.

(14) a. Yeni bir ev al-dı-k. *Biz-im ev-imiz çok güzel.
new a house buy-PAST-1PL we-GEN house-1PL very beautiful
'We bought a new house. Our house is very beautiful.'

b. Yeni bir ev al-dı-k. *pro* ev-imiz çok güzel.
new a house buy-PAST-1PL house-1PL very beautiful
'We bought a new house. Our house is very beautiful.'

(15) a. Ali_i [pro_i anne-si]ni çok sev-iyor.
Ali mother-3SG-ACC very love-PROG.
'Ali loves his mother very much.'

b. Ali_i [o-nun$_{*i/j}$ anne-si]ni çok sev-iyor.
Ali s/he-GEN mother-3SG-ACC very love-PROG
'Ali loves his mother very much.'

As seen in the examples above, the SpecDP pronouns, similar to VP-internal subject pronouns, reveal a discourse dependent distribution; that is, their presence is obligatory when there is a topic change in discourse, otherwise their presence either leads to ungrammaticality as in (14) or affects the coreferentiality interpretations as in (15).

2.3.3.3 *Headless genitive phrases*. There are also structures in which the agreement morphology, i.e. the Head, is absent while the overt pronoun is marked genitive. These are illustrated in (16):

(16) a. Ben-im araba-m
I-GEN araba-1SG
'my car'

b. *pro* araba-m
car-1SG
'my car'
c. Ben-im araba
I-GEN car
'my car'

(16c), where there is a Spec without a head, reveals another case where the presence of the overt pronoun is not dependent on the presence of the overt agreement in Turkish.

Note that the structures with the suffix *-ki* also reveal a similar case:

(17) Biz-im ev-imiz güzel ama siz-in-ki çirkin.
we-GEN house-1PL beautiful but you-GEN-*ki* ugly
'Our house is beautiful but yours is ugly.'

In (17) *-ki* replaces the head noun, and there is no possessive marker in the structure. Nevertheless the genitive pronoun is present merely to signal the topic contrast in discourse, presenting another case of independent occurrence of overt pronouns in Turkish.

These cases observed in genitive constructions in Turkish can be accepted as another piece of evidence against the Spec–Head relation in Turkish.

To summarize, Turkish exhibits evidence for the claim that there is no interdependency between the overt pronouns and the agreement morphology in terms of a Spec–Head relation as claimed by the canonical analysis of Turkish. This can be considered as a motivation to analyze the overt pronouns as pragmatically conditioned pronouns base-generated as an independent category in a higher position in the structure, leading to a non-*pro*-drop analysis of Turkish.

3. Structural implications of the present analysis

3.1 Subject alternatives to overt pronouns

However, implications of such a claim that overt pronouns are not the VP-internal subjects but, in fact, are generated in the C system lead to a structure where the subject position remains unfilled. That such an analysis violates the EPP is obvious. Therefore we will first start to survey the possible theory-internal subject alternatives to the overt pronouns.

3.1.1 *pro as the VP-internal subject*

One possible subject alternative to the overt pronouns would be to posit an empty category, namely *pro*, in the VP-internal subject position:

(18) Topic S O V
[Ben [*pro* [elma-yı yi-yor-um]]]
I apple-ACC eat-PROG-1SG
'I am eating the apple.'

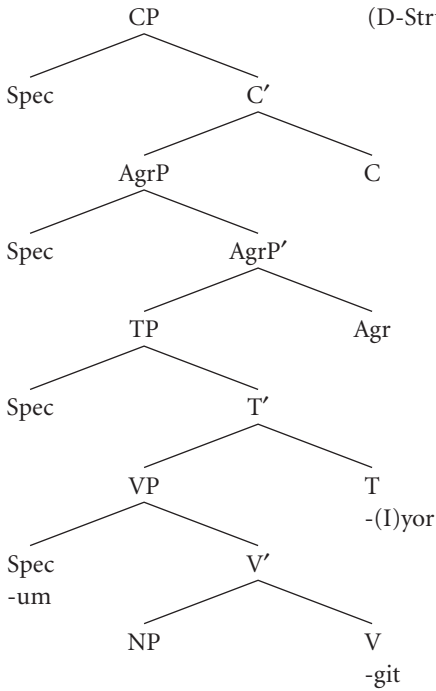
However, note that this analysis would have to assume that there is always a *pro* in the subject position in those cases in which there is an overt pronoun in the topic position. Considering the topic status of the overt pronouns, while such an analysis would satisfy EPP, lack of its generalizability is obvious. Further note that *pro* will have to be coindexed with the topic pronoun in each case, which is an another problem of such an analysis which should be sorted out. In addition, as Turkish will also generate a subject position which never gets filled overtly, it is obvious that this would raise some problems for children's acquisition of the language.

3.1.2 *Agreement as the VP-internal subject*

Having dismissed the possibility of *pro*'s being the VP-internal subject, we will consider the possibility of positing the agreement morphology as the subject. The presence of agreement morphology is generally taken to be sufficient to establish the referent of the subject in Turkish. This, in fact, makes it possible to claim that in Turkish, agreement morphology can be 'pronominal' in nature, wherein it may be possible to generate it as the overt thematic subject of the sentence, base-generated in SpecVP, but then incorporated to the verbal complex (cf. Anderson 1982).

The analysis proposed here assumes the configurational structure for Turkish given in (19) where the agreement morphology is analyzed as the VP-internal subject:

(19) a.


CP
(D-Structure)
Spec
C′
AgrP
C
Spec
AgrP′
TP
Agr
Spec
T′
VP
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-(I)yor
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-um
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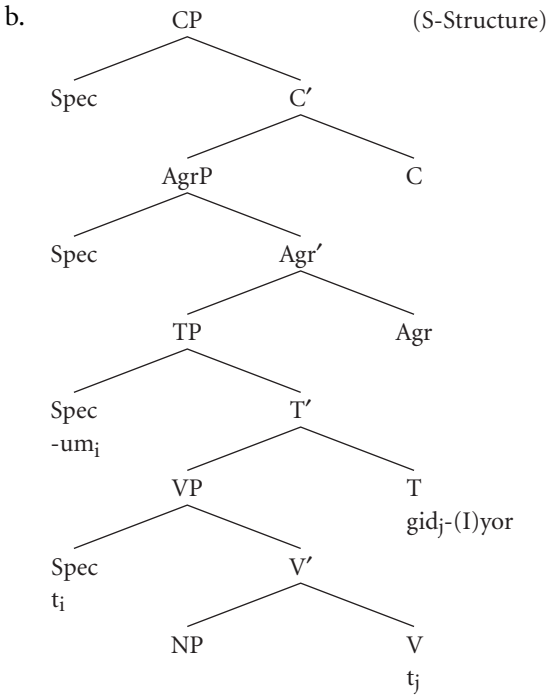
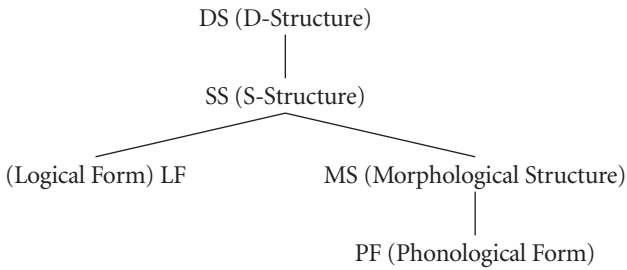
NP
V
-git



3.1.2.1 *Canonical verb-final analysis and agreement as the subject.* Generating a structure in which the agreement morphology would be the real subject of the sentence and the overt pronouns as pragmatically conditioned pronouns is highly problematic in terms of the canonical verb-final analysis of Turkish. Considering that the agreement marker is generated as subject in SpecVP, it would be impossible for it to appear to the right of the verb complex, i.e. in the position it appears in a regular verb complex in Turkish.

Halle and Marantz (1993) propose a grammar model diagrammed in (20). This model adopts the basic organization of a 'principles and parameters' grammar with an additional level of Morphological Structure (MS) which is regarded as the interface between syntax and phonology.

(20)

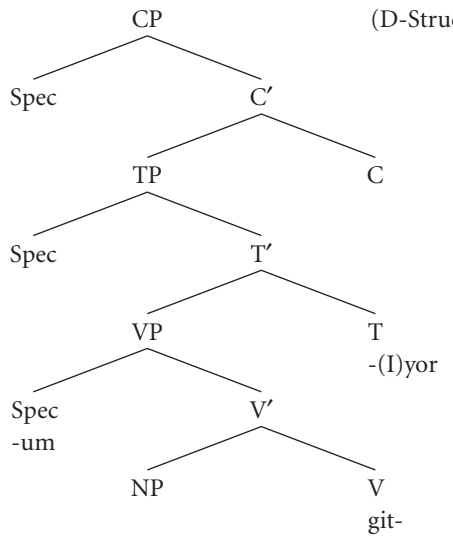


Within their approach the terminal nodes at LF, D-Structure and S-Structure lack phonological features and they obtain these only after the vocabulary insertion which takes place at the level of MS. Thus, they present an explanation for the instances where there is no one-to-one relation between terminal elements in syntax and phonology.

In accordance with the model proposed by Halle and Marantz, it can be proposed for Turkish that at the syntactic level of LF, DS and SS agreement morphology would occur in the relevant subject positions but after vocabulary insertion which takes place at MS it appears as cliticized to the inflected verb at PERF, as it is assumed to bear a [+clitic] feature.

3.1.2.2 *The status of AgrP in Turkish.* The structure proposed for Turkish above, where agreement morphology is analyzed to be the VP-internal subject, raises the question of whether Turkish possesses AgrP in its inflectional domain as a functional category. Iatridou (1990), analyzing Agr as a kind of Spec–Head relation, claims that it is not a structural position and eliminates it from the Inflectional domain. Kural (1993), on the other hand, considers the conception of Agr as a bundle of features and claims that Agr is not an independent head in syntax. Chomsky (1995) eliminates Agr from UG and assigns its strong features to T, stating that Agr lacks an independent case-assigning feature, that being provided by the V or T that adjoins it and that it consists solely of strong features.Thus, in line with the previous works cited, the present analysis also eliminates Agr as a head in the inflectional area of Turkish and introduces it as a bundle of features assigned to certain heads. The configurational structure of Turkish, henceforth, will be assumed to be like (21), which lacks AgrP:

(21)



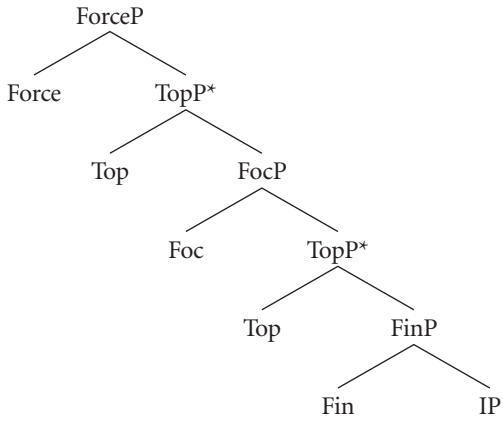
3.2 The position of topic pronouns

3.2.1 *Rizzi's split CP analysis*

Rizzi (1995) argues that the C system, being the interface between a lower IP and a higher clause, should at least express two kinds of information, one facing the inside and the other facing the outside. He introduces a ForceP, as the highest projection of the C system, which expresses the fact that a sentence is a question, a declarative, a relative, etc. and a FinP as the lowest projection which expresses a specification of finiteness which in turn selects an IP system with the familiar characteristics of finiteness, such as mood distinctions, subject agreement licensing nominative case, overt tense distinction. Thus, IP information is replicated in the complementizer system of a language.

Rizzi also argues that the C system reflects the Topic and the Focus of the lower clause. Therefore, he introduces the TopP and FocP to the C system. He states that per clause there can be an indefinite number of Topics but only one structural Focus position.

(22)

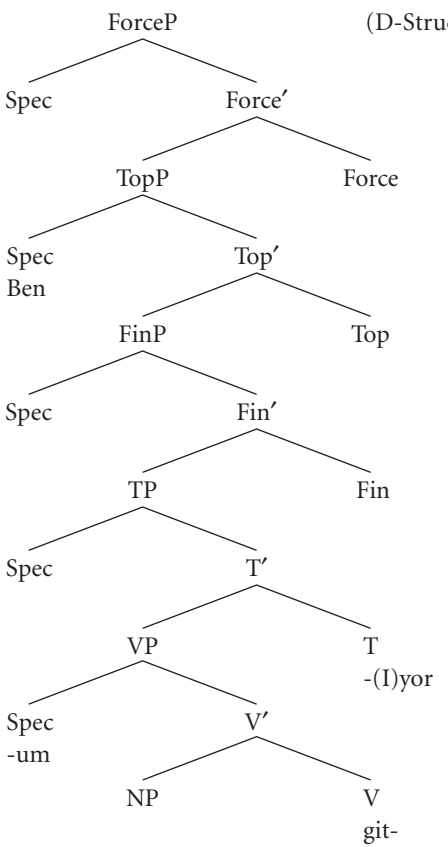


3.2.2 *Topic pronouns and co-indexation*

In accordance with Rizzi's analysis a possible position for the overt pronouns, which reveals topic properties in Turkish will be SpecTopP, Turkish being a head final language where the heads of all categories are projected on the right.(Note that FocP is neglected in the following structure):

(23) a. Ben gid-iyor-um.
I go-PROG-1SG
'I am going.'

b.



In Turkish in those cases in which topic pronouns are present, it is observed that there is a constraint which posits that the topic pronoun should be co-indexed with the VP-internal subject, namely the agreement morphology.

Rizzi also claims that not only the Fin head can copy the agreement features of I, but also these features can be associated with every substantive head within the C system and an independent AgrP can be projected, that is, when a substantive head X is endowed with Agr features, an independent Agr projection can crop up on top of it.

However, as discussed above within the current analysis, AgrP is eliminated totally from the configurational structure of Turkish and agreement is assumed to be found on certain heads, namely T.

Under the current analysis at S-structure, the VP-internal subject moves to SpecTP and checks for case and agreement features. The FinP, facing the TP,

replicates the agreement features of T, and the Fin head, endowed with the agreement features, moves to the Top head above.

Thus, the Top+Fin complex endowed with the same agreement features of the lower T enables the topic pronoun in SpecTopP to be coindexed with the subject in SpecTP. Note that due to the replication of the features of the T, the topic pronoun also bears the same case, namely, the nominative case with the subject.

To summarize, the current analysis argues for the claim that the overt pronouns in Turkish are base-generated in SpecTopP and reveal agreement with the agreement morphologym, which is the VP-internal subject in Turkish, eliminating the AgrP from the Infl domain and leading to a non-pro-drop analysis of Turkish.

4. Relative clauses

Now we will take a look at the analysis of relative clauses within the framework of this new non-*pro*-drop analysis of Turkish.

As the current analysis does not consider agreement as a functional category but as a lexical category, it also presents an alternative explanation to the controversial issue of choosing between different participle morphologies in relative clauses. In Turkish two different kinds of morphology are used in relative clauses. When relativizing a subject, the suffix *-(y)An* is used without any agreement morphology. When the target of relativization is a non-subject, the elsewhere strategy *-DIK* is used followed by subject agreement morphology. There is no overt complementizer, or wh-elements but a gap is found in the corresponding position of the target of relativization.

(24) a. Çocuk balık ye-di.
child fish eat-PAST
'The child ate fish'

b. Balık yi-yen çocuk
fish eat-PART child
'The child who ate fish' (-y(A)n morphology: subject relativization)

c. Çocu-ğun ye-diğ-i balık
child-GEN eat-PAR-POSS.3SG fish
'The fish the child ate' (-DIK morphology: non-subject relativization)

Özsoy (1994), claiming that all DPs in Turkish contain an AgrP, states that in both *-(y)An* and *-DIK* structures there is [+agreement]. In the *-DIK* strategy the

DP in SpecAgrP is marked for genitive and the verb of the relativized clause which moves to head Agr takes the person agreement marker. But the SpecAgrP where *-(y)An* strategy is used, is filled with an operator which is phonologically null. This operator cannot take the genitive marker but takes an abstract case marker and, in turn, it assigns the verb of the relativized clause the abstract strategy *-(y)An*. Thus, she claims that both the *-(y)An* strategy and the *-DIK* strategy bear the [+agreement] feature and she proposes that both strategies derive from the same underlying structure.

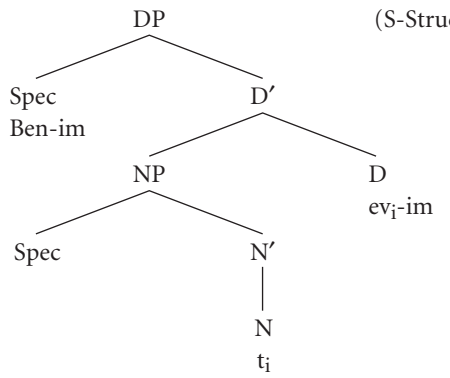
Kornfilt (1997), on the other hand, explains the choice between different morphologies in terms of a generalized version of Binding Theory, namely, the A′-disjointness Requirement, which requires a pronoun to be (A′-)free in the smallest Complete Functional Complex (CFC) which contains it. *-DIK* strategy cannot be used when the target of relativization is the subject because the agreement marker attached to it triggers application of the A′-Disjointness Condition. Thus, the *-(y) An* strategy for relativizing subjects is nothing but a special instance of this very general A′-Disjointness Condition, prohibiting the use of the otherwise unmarked nominalization strategy with the *-DIK*+Agreement sequence.

Under the current analysis, the choice between different morphologies in relative clauses in Turkish is accounted for in a fairly simple way. As stated above, the agreement morphology is taken to be the VP-internal subject rather than a functional head under the present analysis. Thus, the choice between *-(y) An* and *-DIK* strategies is predictable in relative clauses. When a constituent is relativized in Turkish, it is moved out of the relativized clause, leaving a trace in its original position in the relativized clause. As agreement morphology is assumed to be the subject of the clause, it is expected to be not present in the relativized clause, when the target of relativization is the subject. Therefore, *-(y) An* strategy is applied in subject relativization, while the *-DIK*+agreement strategy is excluded. *-DIK* strategy is possible elsewhere where the target is not the subject, thus, the presence of agreement following *-DIK* morphology is posited due to syntactic constraints.

5. Genitive phrases under the non-*pro*-drop analysis

In our discussion we have said that overt *pro*nouns in genitive phrases also reveal the same discourse *pro*perties just like the ones at the sentential level. Now we will try to consider this under the non-*pro*-drop analysis:

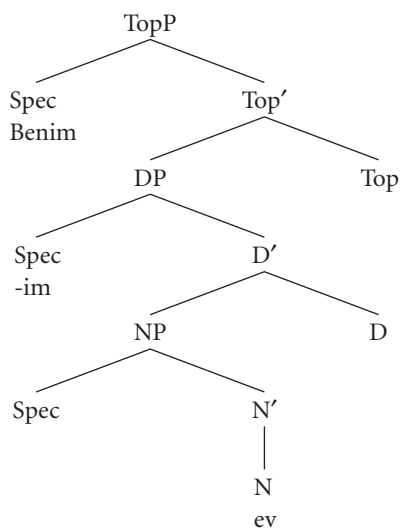
(25)



(25) illustrates the canonical analysis of the genitive clauses in Turkish where the overt pronoun and the agreement morphology are analyzed in terms of a Spec–Head relation.

We have seen that there are cases where overt genitive pronouns occur in the structure without the relevant agreement morphology. Their distribution reveals a discourse dependent nature, parallel to the case of the overt pronouns at sentential level. Hence, it could be claimed that overt pronouns in genitive phrases can also be analyzed to be the topic pronouns generated in a TopP above the DP and that the possessive agreement morphology has a pronominal nature just as the sentential agreement in Turkish.

(26)



Conclusive argument for the presence of such a higher maximal projection above DP, namely the TopP, requires further investigation. Note that the scrambling facts of Turkish seem to support the view that genitive phrases are base-generated in positions above TP, since only genitive phrases can scramble out of DPs in Turkish. However, scrambling out of DPs is more of a case of backgrounding.

(27) a. ben-im anne-m
I-GEN mother-1SG
'my mother'
b. anne-m ben-im
mother-1SG I-GEN
'my mother'

Yet, given the close relation between topicalized and backgrounded elements in a sentence, it is also probably safe to assume at this point that this position is SpecTopP.

Therefore, further investigation is required before concluding that genitive pronouns in Turkish are also base-generated in a topic position above DP, which goes beyond the scope of this paper.

6. Conclusion

In conclusion, the current analysis argues for the claim that overt subject pronouns in Turkish are base-generated in SpecTopP and reveal agreement with the agreement morphology, which is the VP-internal subject in Turkish, eliminating the AgrP from the Infl domain and leading to a non-pro-drop analysis of Turkish.

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