A MINIMALIST APPROACH TO ANALYZING PHRASE STRUCTURES THROUGH UNIVERSAL PRINCIPLES AND PARAMETERS TO IDENTIFY PARAMETRIC VARIATIONS BETWEEN ENGLISH AND TURKISH LANGUAGES

PhD DISSERTATION

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T.C.
YÜZÜNCÜ YIL ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İNGİLİZ DİLİ VE EDEBİYATI ANABİLİM DALI

İNGİLİZCE VE TÜRKÇE'DEKİ DEĞİŞTİRGENSEL FARKLILIKLARI SAPTAMAK İÇİN EVRENSEL İLKELER VE DEĞİŞTİRGENLER YOLUYLA ÖBEK YAPILARIN ÇÖZÜMLENMESİNE MİNİMALİST (İNDİRGEMECİ) BİR YAKLAŞIM

DOKTORA TEZİ

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LIST OF ABBREVIATIONS

A: adjective

ABIL: ability

ABL: ablative case

ACC: accusative case

ACP: Attract Closest Principle

ADV: adverb

ADVP: adverb phrase

AGR: agreement

AGR$_O$: object agreement

AGR$_S$: subject agreement

AFF: affinity Case

AP: adjectival phrase

Asp: aspect

ASSUMP: assumption

AUX: auxiliary

AUXP: auxiliary phrase

AxPrt: Axial Part

C: complementiser

CAU: causative case

COMP: comparative case

COND: conditional

Conj: conjunction

ConjP (&P): conjunction phrase

COOP: cooperative case

CONT: contrastive

CP: complementiser phrase

c-selection: category selection

D: determiner

DAT: dative case

DEC: declarative force

DEDUCT: deduction

-Def: indefiniteness

+Def: definiteness

DEG: degree

DIR: directive case

DP: determiner phrase

D-Structure: deep structure

EFL: English as a Foreign Language

ELA: elative case

ENG: English

EPP: Extended Projection Principle

ESL: English as a Second Language

EXC: exclamative force

FL: Foreign Language

Fin: finiteness

Foc: focus

FUT: future

GB: Government and Binding Theory

GEN: genitive case

H: head

HAB: habitual aspect

HMC: head movement constraint

I /Infl: inflection

IMPERF: imperfective aspect

INF: infinitive

InfP: infinitival phrase

INS: instrumental case

INT: interrogative force

K: case particle

KP: case phrase

L1: First language

L2: Second Language

LF: Logical Form

LOC: locative case

MP: The Minimalist Program

m-selection: morphology selection

Mod: modal,

ModP : modal phrase

n:light noun

N: noun / **NP:** noun phrase

Neg: Negation / **NegP:** negation Phrase

NOM: nominative case

Nom: nominalizer

NomP: nominalizer phrase

Num: number

OBL: obligation

P: preposition/postposition (adposition)

PASS: passivization

PAST: past tense

PER: perfect aspect

PF: phonetic form

PISH: Predicate Internal Subject Hypothesis

Pl: plural, e.g: **3PlP:** third plural person

POSS: possessive

PP: prepositional/ postpositional phrase

P&P: Principles and Parameters

PRE: present tense

PRED: predictive force

PRN: pronoun

Pro: a null subject specifier pronoun in NOM case

PRO: a null specifier pronoun in GEN or ACC case

PROG: progressive aspect

REL: relative force

REP: reportive force

S: sentence

Sg: singular

SgP: singular person, e.g: **1SgP:** first singular person

SOC: sociative case

Spec: specifier

S-structure: surface structure

Q: quantifier

QUE: Question

QUEP: interrogative phrase

Spec: specifier

SUB: subordinator

T: tense

TEMP: temporal

TGG: Transformational Generative Grammar

TNS: tense feature

-Tns: interpretable tense feature

Top: topic

TopP: topic phrase

TP: tense phrase

TR: Turkish

TSL: Turkish Speaking English Learner

u-: unvalued

UG: Universal Grammar

UNCERT: uncertainty

v: light verb

V: verb

VP: verb phrase

vP: a phrase headed by a light verb (split VP analysis)

wh: interrogative pronouns

WH: a feature which requires wh- movement

~~**xxx**~~**:** deleted /valued feature, or moved constituent

∅: empty, null

+∅**:** null affixal

φ-features: grammatical features

θ-roles*:* theta (thematic) roles

ACKNOWLEDGMENT

CHAPTER 1: INTRODUCTION

This part includes the title of the thesis with the subject and the purpose of the study. It also describes the significance and the limitations of the thesis as well as the research questions and the statement of the hypothesis.

1.1. THE TITLE OF THE THESIS

A minimalist approach to analyzing phrase structures through universal principles and parameters to identify parametric variations between English and Turkish languages.

1.2. THE SUBJECT OF THE THESIS

This study focuses on the universal principles and language particular parameters of English and Turkish grammatical structures within the terms of Universal Grammar. The grammatical structure of the two languages are analyzed and explained according to the Principles and Parameters Theory and the Minimalist Program under the concept of Universal Grammar. Since the analysis of the universal principles and parametric variations for the two languages are based on the Minimalist Program, requiring the representation of necessary components of sound and meaning but abolishing superfluous elements in order to represent languages more universally but simpler, this study has a minimalist approach to linguistic analysis of grammatical structures in both languages. Through the analysis of the parametric variations, the study also makes inferences about the extent to which English grammar requires grammatical or lexical learning for a Turkish speaking learner. In brief, in this dissertation, we analyze phrasal stuctures in English and Turkish languages in terms of universal principles comparatively and set parametric variations contrastively and thus making conclusions about English grammatical structures requiring grammatical or lexical learning considering the corresponding Turkish structures.

1.3. THE PURPOSE OF THE THESIS

The purpose of this study is to analyze phrase structures through universal principles and parameters to identify parametric variations between English and Turkish languages. We also aim to identify English grammatical structures as those requiring grammatical and lexical learning on basis of Turkish grammar.

1.4. THE SIGNIFICANCE OF THE STUDY

During our literature review in this field, we found out that although various studies are cited or referred in terms of integrated studies including 'linguistics' and 'language learning', we could not come across studies exactly setting 'parametric variations between English and Turkish' through the MP, analyzing a satisfactory number of grammatical structures and identifying them as structures requiring 'grammatical learning' or 'lexical learning' as to the parametric variations set for these languages, which reveals the importance of this study. Most of the previous studies which we have reviewed in this field are only right-handed (i.e. pure linguistic) studies looking into specific principles or parameters among different languages with different linguistic purposes or left-handed (i.e. acquisitional) studies looking into the relation between Universal Grammar and 'language learning' or 'language acquisition'. In our literature review, although we could reach several studies on English, we have not come across sufficient minimalist studies on Turkish grammar, except for a few studies focusing on specific structures. Therefore, this study which aims to analyze phrase structures through universal principles and parameters to identify parametric variations between English and Turkish languages will be an important study in that it analyzes both languages in terms of universal principles and identifies parametric variations in Turkish and English languages with a minimalist perspective within the context of Universal Grammar. Moreover, in this study, we also try to suggest minimalist solutions to some controversial structures in English and Turkish grammar, adducing evidence of either language to explain the other.

1.5. RESEARCH QUESTIONS

Referring to the purpose of this study stated in 1.3 above, we looked for the answers to the questions below:

1. To what extent is it possible to observe parametric variations and language particular grammatical features in Turkish and English languages within the context of the Universal Grammar?

2. Based on the parametric variations identified in the study, to what extent does English grammar require grammatical or lexical learning with reference to Turkish grammar?

3. Can we describe syntactical derivations in phrasal and clausal structures in English and Turkish languages comparatively and contrastively through Principles and Parameters Theory and the Minimalist Program?

4. Can we explain certain problematic structures which cannot be solved through traditional grammar approaches in both languages through the Minimalist Program?

1.6. LIMITATIONS OF THE STUDY

The limitations of this study which aims to analyze English and Turkish languages in terms of universal principles and set parametric variations between these languages in order to benefit from the latter's grammatical competence in explaining the former's grammar are listed below:

1. The study is limited to analyzing universal principles and parametric variations between English and Turkish languages.

2. Grammatical structures to be analyzed in the study are limited to the basic phrase structure modules headed by overt lexical categories (i.e. nouns, verbs, adjectives, adverbs and adpositions) in English and their related functional categories (i.e. determiners, pronouns, auxiliaries, infinitival to and complementisers). Therefore, the study may not involve every grammatical item or feature described in traditional grammar modules in both languages.

3. The UG principles will also be limited to the fundamental principles suggested or revised by the MP which we describe in the theoretical framework of the study. Therefore, the study may not involve every universal principle described in UG modules.

4. In addition, parameters are limited to the parametric variations identified between English and Turkish languages during contrastive analyses. Therefore, the parameters set in this study are only binding on these languages but they may not be on others.

5. Turkish grammar contents used in analyzing universal principles and parametric variations in this study are limited to the English structures described in 2. Therefore, the study may not also involve every grammatical item or feature of Turkish grammar.

1.7. STATEMENT OF THE HYPOTHESIS

In line with the purpose of the study and the research questions mentioned above, we hypothesize that we can explain syntactical derivations in phrasal and clausal structures in English and Turkish languages through Principles and Parameters Theory and the Minimalist Program appropriately. We also hypothesize that parametric variations set appropriately for two languages can be used to determine the extent of the grammatical and lexical learning in English with reference to Turkish grammar.

1.8. RELATED STUDIES

This part of the study covers a number of previous studies ranging from the 'Universal Grammar' (UG) to 'accessibility to UG', 'grammatical competence' and 'markedness' carried out on different languages, all of which are directly or indirectly related to the scope of our study. We reviewed traditional and contemporary 'linguistic' studies focusing on 'parameter setting studies between Turkish and English' and 'analysing specific grammatical functions' or 'suggesting solutions to the problems in terms of 'Principles and Parameters Theory' (P&P theory) or the Minimalist Program (MP) for both languages'. However, during our

review of literature, we have not come across sufficient studies on Turkish grammar based on the MP. Most of these studies were found studying on English. Since the resulst of the 'linguistic' studies focusing on specific grammatical structures are related to the data analysis where we will refer to them during our analyses, we find it unnecessary to reintroduce these studies in this part of the study in order to avoid repetition. Therefore, in this part of the study, we particularly focus on studies revealing the significance of grammatical competence (i.e. L1 grammatical knowledge) in determining what is to be grammatically or lexically learned. Furthermore, although various studies are cited or referred in terms of integrated studies including 'linguistics' and 'grammatical learning', we could not come across studies exactly setting 'parametric variations between English and Turkish' through the MP for a satisfactory number of structures in order to identify their level of learning at least for Turkish speaking English learners). Most of the previous studies which we have reviewed in this field are only right-handed (i.e. pure linguistic) studies looking into specific principles or parameters among different languages with different linguistic purposes or left-handed (i.e. acquisitional) studies looking into the relation between Universal Grammar and 'language learning' or 'language acquisition'.

While reviewing the literature, first of all, we looked into the minimalist studies on analysing grammar. In this context, we reached some significant referential studies by Hornstein and et al and Radford. Hornstein (2005) and et al's 'Understanding Minimalism'[1] and Radford's (2004) 'Minimalist Syntax'[2] and (2009) 'Analysing English Sentences'[3] guided us to analyze English and Turkish reference grammatical structures in a 'Minimalist Approach'. In these analyses, we followed and modelled their minimalist illustrations, referring frequently to these works. However, it was found out that the field lacks minimalist analyses on Turkish grammar, except for Ince (2005) who studied on "Island sensitive sluicing in

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[1] Norbert Hornstein-Jairo Nunes-Kleanthes K. Grohmann, *Understanding Minimalism,* New York, 2005.
[2] Andrew Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, 2004.
[3] Andrew Radford, *Analysing English sentences: A minimalist approach*, Cambridge, 2009.

Turkish."[1] Secondly, we looked into the studies on analysing 'principles' and 'parameters' in both languages. For these analyses, Ouhalla's (2003) 'Functional Categories and Parametric Variation'[2] guided us to set parametric variations between English and Turkish languages. Uzun's (2000) 'Universal Grammar and Turkish'[3] was found a significant reference work in that it analyses Turkish grammatical structures in terms of the earlier UG, later GB and P&P modules and sets parameters in Turkish grammar, to which we also frequently refer during our analyses of Turkish grammar although the analyses are not based on minimalist suggestions. Furthermore, we frequently refer to some significant reliable works on traditional grammar which guided us to categorize grammatical structures and define them appropriately in both languages. For English, we frequently refer to 'Understanding and Using English Grammar' by Azar (1999), 'Essentials of English' by Jespersen (1993) and 'A Practical English Grammar' by Thomson and et al (1986). As for Turkish, we not only refer to works such as 'Türkçenin Grameri' by Banguoğlu (1974), 'Türk Dil Bilgisi' by Ergin (1962) written in Turkish language but also studies written in English such as 'Turkish grammar' by Lewis (1967), 'Turkic Languages' by Csató and Johanson (1998) and 'Turkish: A comprehensive grammar' by Göksel-Kerslake (2005). Next, we reviewed the literature for the relation between 'parametric variations' and 'grammatical learning'. However, it was found that in this field, studies overwhelmingly treat the subject as the relation between 'UG' and 'second language acquisition'. Among these, White's (2003) 'Second Language Acquisition and Universal Grammar'[4] and Cook and Newson's (1996) 'Chomsky's Universal Grammar'[5] helped us to associate 'parametric variations' with 'grammatical learning', shedding light on language acquisition processes and grammatical learning proposed by the UG. In this context, we also found out that there were a number of studies focusing on UG and accessibility to UG or L1 during L2 acquisition, through which we can make inferences for our hypotheses in this

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[1] Atakan İnce, "Island-sensitive sluicing in Turkish", *Proceedings-NELS*, 35, 1, 2005.
[2] Jamal Ouhalla, *Functional categories and parametric variation*, Routledge, London, 2003.
[3] Nadir E. Uzun, *Ana çizgileriyle Evrensel Dilbilgisi ve Türkçe*, İstanbul, 2000.
[4] Lydia White, *Second Language Acquisition and Universal Grammar*, Cambridge, 2003.
[5] Vivian J.Cook-Mark Newson, *Chomsky's Universal Grammar*, Oxford, 1996.

thesis. Next, we also found some studies focusing on 'L1 transfer to L2', which is not directly related to our subject but indirectly interested us in terms of 'the relation between native language grammayical competence and grammatical learning in L2'. Finally, the studies on 'markedness' and 'parameter setting' studies on the relation between L1 Turkish and L2 English, limited to certain 'principles' or 'parameters' were also seen significant for our hypotheses in our study. Initially, we summarized the cross-lingual studies focusing on 'UG', 'L1 transfer', 'accessibility' and 'competence', then Turkish and English oriented studies, particularly Turkish as L1 and English as target language, on aforementioned fields which are mentioned above.

In one of those studies on accessibility to UG, Kayama conducted a study on whether the Universal grammar is accessed or not and how it is accessed in constructing the grammar of L2.[1] In her study, she tested the Full Transfer/Full Access (FTFA) Hypothesis (Schwartz and Sprouse 1994, 1996), which claims that "adult L2 learners initially transfer their L1 parameter values into their inter language grammar and thus having full access to UG, enabling them to acquire abstract grammatical knowledge of the target grammar."[2] Subjects were high-intermediate and advanced learners of Japanese whose first language was either English or Korean. Most of them were university students learning Japanese. Twenty Korean-speaking subjects and 10 English-speaking subjects were tested in Japan. Three English-speaking subjects were tested in Hawaii. In addition, 20 native speakers of Japanese served as controls. The study investigated the 'L2 acquisition' of 'non-movement of Japanese wh-phrases' and of the 'differentiation of wh-adjuncts'. The results demonstrated that while the Korean speaking Japanese learners behaved very similar to Japanese native controls, the English speaking group's behaviour was different from that of the other groups', which shows evidence for positive L1 transfer, thus effect of grammatical competence in learning a new grammar.

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[1] Yuhko Kayama, "Acquisition of wh-in-situ: The case of L2 Japanese", in Alejna Brugos, Manuella R. Clark-Cotton & Seungwan Ha, eds., *The 29 th Annual Boston University Conference on Language Development (BUCLD 29) Proceedings Online Supplement,* http://www.bu.edu/linguistics/APPLIED/BUCLD/supp29.html .
[2] Schwartz-Sprouse, "L2 cognitive states and the full transfer/full access model", op. cit., p. 48.

In addition, Nicol and Greth (2003) tested 'English-Spanish late bilinguals' subject-verb agreement' performance.[1] They studied the distributive effects in the 'subject-verb number agreement' performance of English-Spanish bilinguals both in their L1 and L2. Similar patterns were found in both cases, suggesting that "bilinguals implement L2 agreement in the same way as they do in their L1." In other words, these results suggest that "L1 syntax affects the way L2 is processed."[2] In a similar study on the effect of L1 syntax on L2 performance, Santesteban and Costa looked at the 'effects of syntactic properties of L1 on L2 speech performance in highly-proficient early bilinguals'.[3] They asked 'Basque-Spanish' and 'Catalan-Spanish' bilinguals to name pictures with 'singular or plural determiner phrase structures in L2 Spanish', noting that the head-parameter of determiners in phrase structures in these languages is different: while Basque determiners are of 'head-last parameter', Spanish and Catalan determiners are constructed in 'head-first' fashion. In the study, the bilinguals' performance was contrasted to that of Spanish Native speakers. Differences were observed between Basque-Spanish bilinguals and Spanish native speakers, but not between Catalan-Spanish bilinguals and Spanish native speakers. However, these differences only were observed when L1 and L2 syntax differed, but not when they were similar. These results indicate that "L1 syntax has an effect upon L2 performance."[4] Santesteban and Costa also established a similarity between these results and those reported by Nicol and Greth (2003) mentioned above in that "late Spanish-English bilinguals follow L1 processing strategies while performing in L2 English,"[5] which shows us that parametric variations determine to what extent any target grammar requires grammatical learning.

In another study on 'L2 learners' collocational competence and development', Henriksen cited the studies by Yamashita and Jiang (2010) and Wolter and Gyllstad (2011) on the role of the L1 for collocational development and

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[1] Janet Nicol-Delia Greth, "Production of subject-verb agreement in Spanish as a second language", *Experimental Psychology, 50:3*, 2003, p. 200.
[2] Ibid.
[3] Mikel Santesteban-Albert Costa, "Does L1 syntax affect L2 processing? A study with highly proficient early bilinguals", UPV/ EHU , 2006, p. 824.
[4] Santesteban- Costa, "Does L1 syntax affect L2 processing? A study with highly proficient early bilinguals", op. cit, p. 824.
[5] Ibid.

use.[1] He states that Yamashita and Jiang used an acceptability judgement task to investigate L1 influence on 'collocational development' for both 'second' and 'foreign' language learners. Accordingly, he reports that they compared and contrasted both error rate scores and reaction time scores for collocations with L1 equivalents and without L1 equivalents and found that "the foreign language learners did better on both scores, whereas the second language learners only did significantly better on the error rate scores for the collocations with L1 equivalents."[2] Henriksen concluded from these results that both the L1 and the amount of exposure influence L2 collocational development. He also quotes that Wolter and Gyllstad (2011) studied on the influence of L1 intralexical knowledge on the creation of collocational links in the L2 mental lexicon. Via priming tasks and a receptive test of collocational knowledge, it was found that "collocations with L1-L2 equivalents were processed much faster than collocations without L1-L2 equivalents." According to these results, Henriksen assumes that "links in the mental lexicon between the L1 and L2 play an important role in L2 collocational development and use."[3] These results are in parallel with our study ranging 'congruent collocations' in early stages of 'foreign language learning', hoping them to be accessed easily through L1 collocational knowledge, requiring only 'lexical learning'. This conclusion is also in parallel with our hypothesis in this study which suggests that L1 grammatical knowledge is a determining factor in identifying what is to be lexically learned. Cummins et al assessed the Japanese and English reading skills of Japanese students attending 'the School of Supplementary Japanese Studies' in Canada. Strong relations between performance on measures of Japanese proficiency and performance on measures of English proficiency were found. From the results of the study, they concluded that "children who arrived in Canada at an older age and with better competence of their native language were among the highest performers on the measures of English

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[1] Birgit Henriksen, "Research on L2 learners' collocational competence and development –a progress report", *EUROSLA, 2013, p. 39.*

[2] Birgit Henriksen, "Research on L2 learners' collocational competence and development –a progress report", op. cit., p. 39.

[3] Henriksen, "Research on L2 learners' collocational competence and development –a progress report", op. cit., p.39.

academic achievement."[1] In another similar study carried out by Jiang and Kuehn, the issue of transfer for low-intermediate ESL students enrolled in an academic English development course at the community college level was examined. These scientists focused on the role of transfer in the development of English academic language proficiency among early and late immigrant students. Twenty-two volunteers were selected from two ESL courses for the study. From the comparison of mean scores of the pre and post-test prepared for each group, it was understood that "late adult immigrants had higher LI cognitive and academic language proficiency and they made significant progress on their development of English academic language skills such as reading and writing."[2] The results provided indirect quantitative and qualitative evidence on significance of prior linguistic knowledge in learning a new language.

In a study carried out on the role of the L1 in child L2 acquisition of articles, Zdorenko and Paradis found out that "speakers of null-article languages did not consider articles as an option in either definite or indefinite contexts." The non null-article group, on the other hand, transferred the grammatical knowledge of articles from their L1, with very few article omissions. The difference in the error patterns between the non null-article and the null-article groups reveals a grammatical competence effect in parallel with the other studies having been mentioned in this study so far. The researchers revealed that "the learners' underlying grammatical competence is L1-influenced, in part, at the earliest stages of learning target grammar, since L1 transfer is likely to be the reason for the significant difference between the article omission rates in non null-article and null-article groups." [3] In another two studies, cited by Zdorenko and Paradis in this study, Huebner (1985) and Parrish (1987) found that "initially, L2 learners extended the use of 'the' to 'nouns mentioned in the discourse for the first time'. Both studies arrived at a conclusion

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[1] Jim Cummins et al, "Linguistic interdependence among Japanese and Vietnamese immigrant students", in C. Rivera , *Communicative Competence Approaches to Language Proficiency Assessment: Research and Application*, Clevedon, 1984, p. 60-81.

[2] Binbin Jiang-Phyllis Kuehn, "Transfer in the academic language development of post-secondary ESL students", *Bilingual Research Journal*, 25. 4, 2001, p. 417-436.

[3] Tatiana Zdorenko-Johanne Paradis, "The acquisition of articles in child second language English: fluctuation, transfer or both?", *Second Language Research,* 24.2, 2008, p. 227-250.

that "beginner L2 learners mistakenly relate 'the' to specific nouns and overuse it in the contexts where the noun is known to the speaker but unknown to the hearer." [1]

Eng and Muftah studied the acquisition of English verb 'movement', a UG parameter, by L1 Arabic speakers of L2 English.[2] The study investigates two adversary hypotheses: the 'failed functional features hypothesis' by Hawkins and Chan (1997), suggesting that post-childhood L2 adult learners are unable to reset parameters from their L1 values to the L2 settings and the full transfer full access hypothesis by Schwartz and Sprouse (1994; 1996), claiming that post-childhood L2 adult learners start out with the parameter settings referring to their L1 grammars and that L2 adult learners can reset parameters to the L2 settings. L1 Arabic speakers of L2 English learners divided into the proficiency levels of lower-intermediate, upper-intermediate and advanced participated in the study. The findings of the study indicate that "the adult L1 Arabic speakers of L2 English have difficulty in acquiring the functional features different from those found in the L1, which provides evidence for the suggestions of the 'failed functional features hypothesis' and the assumptions on grammatical and lexical learning levels in learning a new grammar.

The aforementioned studies carried on 'competence and performance' relations and 'full access', 'partial' or 'no access' theories all demonstrate that parametric differences between two languages play an important role in determining learning levels of a target grammar, which constitutes the fundamental reason why we analyze English and Turkish grammatical structures in order to set parametric variations to find out to what extent English grammar requires grammatical or lexical learning in this thesis.

Some studies as we had expected associated the L1-L2 relationship, L1 competence or L1 transfer with the 'markedness' theory, which is also indirrrectly related to the concepts of 'grammatical and lexical' learning. In one of these studies conducted by Rasier and Hiligsmann on the L2 acquisition of prosody, L1 and L2

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[1] Zdorenko- Paradis, "The acquisition of articles in child second language English: fluctuation, transfer or both?", op. cit., p. 242.
[2] Wong B. Eng-Muneera Y. A. Muftah, "English Verb Movement Parameter in the Interlanguage of L1 Arabic Speakers", *The Linguistics Journal*, 5(1), 2011, p. 125-168.

data from 20 French speaking learners of Dutch and 20 Dutch speaking learners of French were analyzed in order to question whether there is a relationship between the typological distance between the learners' L1 and L2 in terms of the markedness relationship between the two languages and the occurrence of transfer in their use of prosody. Remarkable differences between native and non-native speakers and between the two groups of L2 learners were observed. According to the results of the study, "the researchers acknowledged 'markedness' as an important factor in predicting and explaining learning difficulties in the cases of prosodic transfer." [1] In another study on markedness and L2 acquisition, Lingxia Jin undertook a study to explain the difficulties suffered by L1 English speakers of L2 Chinese learners and how they are related to the markedness theory. The results showed that "subjects performed a similar pattern of error with higher rates of learning difficulty in topic-comment and pro-drop sentences, but lower rates of difficulty in locative inversion and canonical SVO sentences", [2] which supports the hypothesis and suggests the importance of realizing the typological markedness relations interms of parametric variations between grammatical competence and target grammar. The relation of the results of this study with our hypothesis in our study is that 'markedness' is an important factor to explain learning levels since marked aspects of grammar are less directly related to the principles of UG but parametric variations. In our study, we use 'markedness' criterion depending on the frequency of 'parametric variations and language particular grammatical features' requiring 'grammatical learning' in any given structure.

Now, we will report the studies carried out on Turkish as L1 and L2. These studies cover examples and results ranging from L1 transfer by different L1 speaking Turkish learners and common FL performance errors by Turkish speaking English learners to the studies on specific English or Turkish grammatical functions in terms of 'accessibility'. In one of those studies conducted on common mistakes and problems of 'Center of Turkish Language Teaching as a Foreign Language'

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[1] Laurent Rasier-Philippe Hiligsmann, "Prosodic transfer from L1 to L2; Theoretical and methodological issues", *Nouveaux cahiers de linguistique française,* 28, 2007, p. 41-66.
[2] Lingxia Jin, "Markedness and second language acquisition of word order in Mandarin Chinese", *Proceedings of The 20th North American Conference on Chinese Linguistics*, 1, 2008.

(TÖMER) students which they faced while learning Turkish as FL, Kara classified the students from different foreign countries into the groups as to their L1 and observed their mistakes during the learning process. He reported that "the mistakes performed by the FL learners from different groups were of different properties during the learning process."[1] While Iraqi and Azerbaijani origin Turkmens had difficulty in morphemes, African and European origin learners had difficulty in syntax as in the following examples:[2]

i)   a. gel-*e-bil-mi*-yorum   (Azerbaijani students)
          come-*NOM-AUX-NEG-PROG-1SGP*
          gel-*e-mi*-yorum   (Turkey Turkish)
          come-*NOM-NEG-PROG-1SGP*

      b. al-*a-bil-me*-m   (Azerbaijani students)
          buy-*NOM-AUX-NEG-1SGP*
          al-*a-ma*-m   (Turkey Turkish)
          buy-*NOM-NEG-1SGP*

In this illustration, the misuse of inability modal affix *-AmA* consisting of the nominalizer affix *–A* and the negation affix *–mA* is added the ability auxiliary verb *bIl*, which is only used to express affirmative ability *in* Turkey Turkish, by the Azerbaijani students, forming the structure *-AbIlmA*, since the underlying grammatical competence of the performers commands this suffix to express inability in Azerbaijani language.

ii)   a. *bir* iyi kahvaltı   (African-European students)
          a good breakfast
          iyi bir kahvaltı   (grammatical Turkish word order)
          good *a* breakfast

      b. bir iyi film   (African-European students)
          a good film
          iyi bir film   (grammatical Turkish word order)
          good *a* film

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[1] Mehmet Kara, "Gazi Üniversitesi TÖMER öğrencilerinin Türkçe öğrenirken karşılaştıkları sorunlar ve bunların çözümüne yönelik öneriler", *Gazi Üniversitesi Türk Eğitim Bilimleri Dergisi,* Yaz, 2010, p. 3.
[2] Ibid.

For the examples above (ii a/b),[1] the misuse of Turkish indefinite numeral quantifier *bir* is used at the beginning of a noun phrase with an adjective modifier as seen in English indefinite article *a* although it is expected to precede the noun but follow the adjective, the reason of which supports the idea that the embedded grammatical competence of the performers commands this word order since they are English speaking learners of Turkish.

iii)   a. ben git-ti   (African-European students)
           I go-PAST
           (ben) git-ti-m   (grammatical Turkish usage)
           I go-PAST-1SgP

         b. Ali ve ben git-ti   (African-European students)
           Ali and I go-PAST
           Ali ve ben git-ti-k   (grammatical Turkish usage)
           Ali and I go-PAST-3PlP

In the examples (iii a) and (iii b),[2] the first person singular affix *-m* (iii a) and the first person plural affix *–k* (iii b) which are expected to be suffixed onto the verb *gitti (go-PAST)* are omitted as occurs in English (e.g. *I / We went)* although the verb *gitti (go-PAST)* is expected to be *gitti-m (go-PAST-1SgP)* for (iii a) and *gitti-k (go-PAST-1PlP)* for (iii b), resulting from the embedded grammatical competence of the performers, lacking agreement markers in person and number for past structures resulted from the covert movement of 'V' to 'T' after 'spellout'. It appears as L1 English grammatical knowledge transference into FL Turkish. In all these mistakes, different L1 speaking learners of Turkish as FL try to perform utterances transferred from their native language, which reveals the role of L1 grammatical competence in level of learning a target grammar.

In another study carried out by Erk-Emeksiz on L1 Turkish speaking learners of L2 who knew relative clauses but who had never acquainted with the interrogative form of these sentences before, the subjects were requested to produce interrogative sentences. At the end of the study, 15 subjects successfully completed the test. Only one of the total subjects failed to perform the task. These findings show that "the

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[1] Kara, "Gazi Üniversitesi TÖMER öğrencilerinin Türkçe öğrenirken karşılaştıkları sorunlar ve bunların çözümüne yönelik öneriler", op. cit., p. 3.
[2] Ibid.

subjects had already known that it was the auxiliary of the independent clause not of the dependent clause what makes the interrogative form of any sentence containing a relative clause thanks to their embedded knowledge of the principle of structure dependency." [1] These findings are in parallel with the hypothesis that there is no need to give introduce unnecessary explanations of grammar rules when embedded L1 grammatical competence or target L2 grammar operate universal principles or common parameters but parametric variations. That is, grammatical learning is related to parametric variations, the rest is lexical learning.

According to Ellidokuzoğlu, "since Turkish is a 'head-last' language but Russian and English are 'head-first' languages, these parameters provided the adult learners whose native languages are Russian or Turkish with clues for the accessibility during their acquisition of English as a foreign language."[2] According to the results of the study, the reason why native Russian speakers were more successful than native Turkish speakers is due to the fact that the head-first parameter in Russian is similar to that of English but unlike that of Turkish which is a head-last language, which shows that common parameters between L1 and FL makes the learning of the former easier.

Can looked into the 'head-parameter' also for different phrase or clause structures such as noun clauses among adult Turkish speaking English learners during their FL acquisition process.[3] The results showed that during their head-parameter performance, the learners initially transfer the L1 value to L2 but later, as their language level increase, they substituted the L1 value with an appropriate L2 value, which reveals evidence for the hypothesis of 'indirect accessibility'.

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[1] Zeynep Erk-Emeksiz, "Do adult second language learners have Access to UG?" in Özgür Aydın, "İkinci Dil Ediniminde Evrensel Dilbilgisine Erişim", *Dilbilim ve Uygulamaları Dergisi,* 2, 2001, p. 11-30.

[2] Hasanbey Ellidokuzoğlu, *Parameter setting in second language syntax: The case of Turkish learners of English,* Published Doctorate Dissertation, Istanbul,1994.

[3] Cem Can, "Türk yetişkinlerin İngilizceyi ikinci dil olarak edinimlerinde sözdizimi: ED'ye erişim savlarının sınanması", *XIV. Dilbilim Kurultayı Bildirileri*, 27-28 Nisan, 2000, p. 171-80.

As a final study to be quoted in this part of our thesis, Bulut also carried out a study on the 'null-subject parameter' performances of adult Turkish speaking English learners (TSL).[1]

iv)   a. Rain*ing*   (English performance of TSL)
        (Yağmur) yağıyor   (underlying Turkish)
        Rain-*PROG-(3SgP)*
        It is raining   (grammatical English usage)

        b. Visit*ed*   (English performance of TSL)
        Ziyaret *ettim*   (underlying Turkish)
        Visit *HV-PAST-1SgP*
        I visited   (grammatical English usage)

        c. lived   (English performance of TSL)
        yaşadı   (underlying Turkish)
        live-*PAST-(3SgP)*
        he lived   (grammatical English usage)

In the examples (iv a), (iv b) and (iv c), personal pronouns are omitted, resulting from the embedded grammatical competence of the performers, transferring null-PRO subject Turkish parameter into English performance. The findings of the study show that the appearance of the Turkish null-subject pronoun parameter transference even among the intermediate level of learners reveals the fact that grammatical learning is related to parametric variaitons.

In conclusion, we can say that the previous related studies and the theories presented in this paper demonstrate the effect of the L1 grammatical competence in levels of learning a new target grammar. Universal principles and language particular parameters or grammatical features are of significant importance for constructing the structures in the target language. When learners have gaps in the knowledge of their native language, they cannot grasp the corresponding structures in the target language either if these gaps are not explicitly explained to the foreign language learners.

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[1] Türkay Bulut, *The availability of Universal Grammar to adult Turkish learners of English: Parameter resetting,* published PhD thesis, Adana,1996.

CHAPTER 2: METHODOLOGY

In this part of the thesis, we describe the plan of our study. The research design and methodology including research domain, sampling, data collection and data analysis procedures in accordance with the purpose of our study are described in detail.

2.1. RESEARCH DESIGN

This study is a 'basic', or 'theoretical', research since the study is based on the implication of the Minimalist Program in order to analyze the grammatical structures of English and Turkish languages to set parametric variations between these languages.[1] In accordance with the purpose of the study, it is a 'comparative and contrastive' study, categories of 'descriptive' research, since Turkish and English grammatical structures are both 'compared' and 'contrasted' in terms of the analysis of universal principles and parametric variations to specify and "describe naturally occurring phenomena without experimental manipulation."[2] Thus, it is not only concerned with 'likenesses' but also interested in 'differences' between two languages under study.[3]

2.2. RESEARCH DOMAIN AND SAMPLING

The research domain of this linguistic study covers English and Turkish languages. However, since there are numerous grammatical modules to be tested in terms of UG principles and English is the target language of our study as to which we identify parametric variations, this broad field will be limited to the basic phrase structure modules headed by overt lexical categories (i.e. nouns, verbs, adjectives, adverbs and adpositions) described in English and their related functional categories (i.e. determiners, pronouns, auxiliaries, infinitival to and complementisers). However, we may also have to analyze or cite some new categories which is not familiar from traditional grammar to explain the related grammatical properties (i.e. case, definiteness, tense, aspect, voice, negation, question, conjunction).

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[1] Herbert W. Seliger- Elena Shohamy, *Second Language Research Methods,* Hong Kong, 1989, 17.
[2] Ibid, p. 124.
[3] Carl James, *Contrastive Analysis*, Longman, Singapore, 1980, p.2.

Furthermore, since the UG (or GB and P&P theory) covers various modules including universal principles, conditions, constraints or hypotheses and parameters describing cross-linguistic variations varying from one language to another, the UG principles will be limited to the fundamental principles suggested or revised by the MP which we describe in the theoretical framework of the study. The parameters, on the other hand, will be limited to the parametric variations to be identified between English and Turkish languages during contrastive analyses in compatible with the purpose of the study. Therefore, we prefer 'a purposive, or theoretical, sampling' method which is used "for limited events or processes" in the study.[1]

2. 3. DATA COLLECTION

In this study, we use 'qualitative' and 'descriptive' research tools. 'Content analyses', 'exemplification' and 'sentence analyses' are applied as 'data collection' techniques. Since the 'sampling' of our study is limited to the basic phrase structure modules headed by lexical categories and related functional categories, we require referring to grammar reference books to test the reliability and validity of the sampling structures to be analyzed in both languages. To test the target structures in English grammar, we frequently refer to grammar reference works including 'Understanding and Using English Grammar' by Azar (1999), 'Essentials of English' by Jespersen (1993) and 'A Practical English Grammar' by Thomson and et al (1986). In addition, since traditional grammar modules may vary from one language to another and may have a special terminology describing its language particular properties, it is necessary to refer grammar books using common terminology for both languages. In order to confirm the corresponding structures, we refer particularly to the Turkish grammar studies such as 'Turkish grammar' by Lewis (1967), 'Turkic Languages' by Csató and Johanson (1998) and 'Turkish: A comprehensive grammar' by Göksel-Kerslake (2005) written in the target language, i.e. English. Since English is regarded as the target language in this study in terms of identifying levels of learning for Turkish speaking English learners, we frequently refer to reliable Turkish grammar studies written in English so as to determine the

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[1] Zoltan, *Research Methods in Applied Linguistics*, op. cit., p. 126.

corresponding Turkish structures appropriately. Then, Turkish grammatical structures corresponding to the reference English structures are analyzed in order to reveal the accessible 'L1 grammatical competence'. Next, sampling phrases or clauses for each of these grammatical structures are purposively chosen from both languages particularly among the grammar reference books, either by direct citation or modified examples by our side, being faithful to the structure. That is, during for each structural analysis, we may refer to the sample structures in the reference grammar books or sometimes we may provide original examples on condition that we stick to the structure. Sample phrase structures and their Turkish counterparts constitute the data to be analyzed in the study. Since frequently used simple phrasal structures (e.g. to go, go to school etc.) are not of citational but structural value, we did not feel necessity to cite them. For these structures, instead of referring to the sample 'phrase' or 'sentence', we preferred referring to the traditional grammar modules of the contents in the reference books. However, as for the clauses or sentences, we not only cite from the reference books but also from other sources such as poems from Turkish and English literature or ancient literary references (e.g. Orkhon Scripts) to find corresponding examples for the target grammatical structures to be analyzed appropriately.

2.4. DATA ANALYSIS

Finally, in terms of the data analysis, this study is a 'qualitative' study and uses 'qualitative data' containing sample target structures collected from reference books to analyze the phrase structure modules in terms of universal principles and set parametric variations between English and Turkish languages.[1] Initially, words in English and Turkish lexicon are defined in terms of their grammatical categories through 'taxonomic approach'. Successively, the phrasal and clausal structures will be analyzed through 'labelled tree diagrams' and 'unlabelled bilingual M-diagrams' comparatively and contrastively under the terms of the UG principles suggested by the Minimalist Program. These minimalist UG principles, or modules, to which we refer for the analyses of the phrase structure modules are limited to the 'labelled and

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[1] Dörnyei Zoltan, *Research Methods in Applied Linguistics*, Madrid, 2007, p. 124-125.

unlabelled phrase structures', 'projection levels', 'merge', 'feature valuation', 'case checking', 'feature checking', 'feature matching', 'attraction', 'copy', 'copy deletion', 'feature deletion', 'Predicate Internal Subject Hypothesis' (PISH), 'light verb phrase' (*v*P-Shell), 'spellout', 'Phonetic Form' (PF), 'Logical Form' (LF), 'movement', 'overt movement' and 'covert movement', all of which will be explained in detail in the theoretical framework of the study.

Although the analysis of the linguistic system needs to be as economical as possible in terms of representation and generation of the structures and representations as to the MP, syntactic structures are illustrated with their PF and LF components (i.e. labels such as V do) in monolingual diagram trees in order to avoid confusion, which is regarded as unnecessary representation by the minimalist 'bare phrase structure'.[1] However, through the 'unlabelled bilingual M-diagrams' which we developed from the 'traditional monolingual tree diagram model' particularly for 'comparative bilingual analysis' of languages having different head parameters (i.e. head-first English and head-last Turkish) in order to illustrate the symmetry of the derivations comparatively, we will be able to lay out the derivational similarities and differences of the target structures clearly. Grammatical features such as 'tense', 'person', 'number', 'case' etc. will be given in brackets under the related category. Finally, clausal structures with their internal and external structures will be analyzed through tree diagrams based on the minimalist suggestions. For the interpretation of universal principles and illustrations of the minimalist analyses on a tree diagram, we predominantly follow Radford (2004; 2009) and Hornstein (2005). For setting parametric variations between English and Turkish structures, on the other hand, we model Ouhalla (1991). During all these linguistic analyses, respected theories, opinions and suggestions reviewed for specific structures by other linguists will also be cited. The drawings used to illustrate descriptive contents are cited online through 'Microsoft Office Online Program'. At the end of the study, the results of the comparative and contrastive bilingual analyses will be interpreted and reported in

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[1] Vivian Cook-Mark Newson, *Chomsky's Universal Grammar*, Oxford, 1996, p. 317.

'tables' or 'M-diagrams'. The diagrams, charts and tables used in this study are constructed by using Microsoft Word 2007.

CHAPTER 3: THEORETICAL FRAMEWORK

In this part, the fundamental concepts and theories which constitute the theoretical grounds for our dissertation are described and explained as they are referred during the study.

3.1. TERMINOLOGY OF THE STUDY

In this section, some critical concepts and terms used in the study are briefly defined in an alphabetical order. We also enclosed a detailed glossary at the end of the study since it has a wide range of terminology.

Grammatical Competence: "It is the cognitive state that encompasses all those aspects of form and meaning and their relation, including underlying structures that enter into that relation, which are properly assigned to the specific subsystem of the human mind that relates representations of form and meaning."[1] So we use this term particularly to refer to Turkish speaking learners' cognitive state for their grammatical knowledge of Turkish.

Grammatical Learning: It is the level of the act of acquiring knowledge of any language, requiring the learner to learn about the grammar of sentences.[2]

Grammatical Features: "They are features which play a role in grammatical operations (e.g. person, number, case, gender etc.)."[3]

Language Particulars: "Linguistic characteristics of a particular language, which are to be learnt as part of the task of acquiring native language."[4]

Lexical Learning: It is the level of the act of acquiring knowledge of any language, requiring the learner to learn nothing about the grammar but lexical items/words.[5]

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[1] Noam Chomsky, "Rules and representations", *Behavioural and Brain Sciences*, 3.1, 1980, p. 59-60.
[2] Andrew Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, 2004, p. 455.
[3] Ibid, p. 16.
[4] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 16.
[5] Andrew Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, 2004, p. 455.

Parameters: Linguistic characteristics, conditions and rules that vary from one language to another. By 'common parameters', we mean common linguistic characteristics set for limited number of languages but they still vary for the others. For this study, we refer to the parameters valid both for Turkish and English languages.

Parametric Variations: The differences in the language particular parameters between languages.

Principles: "Universal linguistic characteristics of all languages, which determine the conditions and rules that are properties of all human languages."[1]

The Minimalist Program (MP): "It refers to a program under the Principles and Parameters Theory, which started in 1993 with a paper by Noam Chomsky, in linguistics. The principle of economy leads to minimalism. It suggests that if the linguistic system needs to be as economical as possible in terms of representation and generating structures, then the smallest possible set of devices to account for language should be used, which means that representation of syntactic structure contain no more than the required elements."[2]

Traditional Grammar: "It is a label applied loosely to the entire body of grammatical description in Europe and America during the whole period before the rise of modern linguistics in the twentieth century, but particularly to the descriptions presented in school textbooks in the nineteenth and early twentieth centuries."[3]

Universal Grammar (UG): "The system of principles, conditions, and rules that are elements or properties of all human languages, or the essence of human language."[4]

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[1] Chomsky, *Reflections on Language*, op. cit., p. 29.
[2] Cook-Newson*, Chomsky's Universal Grammar*, Oxford, 1996, p.313.
[3] Robert Lawrence Trask, *A dictionary of grammatical terms in linguistics*, Routledge, 1993, p.281.
[4] Noam Chomsky, *Reflections on Language*, London, 1976, p. 29.

3.2. THEORETICAL DISCUSSION

In this section of the study, we discuss on the theories to which we refer during our study and on which we establish our hypothesis of the dissertation. We discuss the ideas on grammar within the context of traditional grammar, Universal Grammar and Minimalist Grammar. Under these headings, we look into traditional view of grammar as well as 'the Principles and Parameters Theory' and 'the Minimalist Program'. We also explain some controversial concepts such as 'grammatical learning', 'lexical learning', 'accessibility' and 'markedness', which are closely related to the relation between UG and language learning.

3.2.1. TRADITIONAL GRAMMAR

Grammar is described as "a system by which the words and morphemes of a language are organized into larger units, particularly into sentences, perceived as existing independently of any attempt at describing it."[1] Traditional grammar, on the other hand, as we also mentioned in the terminology of the study, is attributed to "the entire body of grammatical description in Europe and America during the whole period before the rise of modern linguistics in the twentieth century, but particularly to the descriptions presented in school textbooks in the nineteenth and early twentieth centuries."[2] The concept of traditional grammar in this study, however, covers grammatical descriptions such as 'taxonomic', 'descriptive', 'prescriptive' or 'structuralist' grammars before the rise of Universal Grammar in the twentieth century. However, In this section of the study, we introduce the outlines of traditional grammar approaches including 'descriptive', 'prescriptive', 'taxonomic', 'structural' and 'dependency' grammars.

In terms of linguistics, then, a **'**prescriptive grammar' lays out rules about the structure of a language. It is "an approach to grammatical characterization, one of whose primary objects is to identify the forms and usages which are considered by the analyst to be 'correct' and 'proscribe' the forms and usages felt to be incorrect."[3]

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[1] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p. 121.
[2] Ibid, p. 281.
[3] Ibid, p. 215.

A 'descriptive grammar', on the other hand, is described as "an approach to grammar, in which linguists study, observe or explain how a particular language exists and is used. It holds that linguistic facts should be described as they are observed to exist. Most of the linguistic approaches to grammar by the emergence of Universal Grammar in the twentieth century have had descriptive approach to linguistic facts, describing them as they are observed to exist."[1] According to Chomsky (1986), "descriptive linguistics held the idea that each language must be studied in its own terms"[2], which contrasts with the notion of universality of grammatical properties as suggested by the Universal Grammar which we will discuss in the next section of the study (see 2.2.2). He also describes conventional grammar as "a description or theory of a language, an object constructed by a linguist"[3].

As for structural grammar approach, Saussure's structuralism introduces systematic relationships between a signifier, a sign and a signified form the 'meaning'. Its underlying theory is that language can be analyzed as "a formal system of differential elements, apart from the messy dialectics of real-time production and comprehension."[4] According to Saussure, "the sign is the organizing concept for linguistic structure it is used to express the conventional nature of language."[5] As another structuralist approach, Bloomfield's behoviourist approach to linguistics was characterized by its emphasis on the scientific basis of linguistics, based on behaviourism for the analysis of linguistic data.[6] Bloomfield grounded his work, especially his approach to meaning, in the principles of behaviourism (i.e. stimuli and reaction). As a traditional approach, 'structural grammar' is regarded, by Chomsky (1986), to concern with analytic procedures for deriving aspects of grammar from data particularly in the areas of phonology and morphology. Accordingly, "structural and descriptive linguistics, behavioural psychology, and

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[1] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p. 80.
[2] Noam Chomsky, *Knowledge of language: Its nature, origin, and use,* New York, 1986a, p. 38.
[3] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 19.
[4] Ferdinand de Saussure, *Course in General Linguistics,* trans. by Roy Harris, London, 1983, p.121.
[5] Michael A. K. Halliday, "Ideas about Language", Reprinted in Volume 3 of MAK Halliday's Collected Works, edited by J.J. Webster, Continuum, London, 1977, p.113.
[6] Leonard Bloomfield, *Language,* New York, 1965, p. 32.

other contemporary approaches tended to view a language as a collection of actions, or utterances, or linguistic forms (words, sentences) paired with meanings, or as a system of linguistic forms or events."[1]

Traditional grammar also involves 'taxonomic approach', in which a language is described in terms of a 'taxonomy' which is regarded as a "classificatory list of the range of different types of syntactic structures found in a language."[2] Accordingly, the purpose of syntactic analysis in traditional grammar is to identify the 'constituents' (i.e. syntactic units) in a sentence and specify their 'grammatical categories' (e.g. noun, verb, adjective etc.) and 'grammatical functions' (e.g. subject, predicate, complement etc.).[3] Every language definitely has words. In traditional grammar, these words are categorized into 'parts of speech' as to their 'semantic' (i.e. meaning), 'morphological' (i.e. derivational, inflectional and affixal forms) and 'syntactic' (i.e. word order as to the positions they occupy within a sentence) properties.[4] Five essential grammatical categories of words on the basis of their semantic criteria are 'adjectives', 'adverbs', 'nouns', 'verbs' and 'prepositions'. These categories have lexical properties since the words belong to these categories have substantive descriptive content.[5] An English noun like "cat" has an individual obvious meaning or descriptive content which means an animal with four legs, paws and a tail, meowing around, chasing a mouse and drinking milk. However, in addition to those lexical categories, there are also function words which have functional properties since words belong to these categories have an essentially grammatical function.[6] These words have grammatical features such as person, gender, number and case within a sentence but are not meaningful as individual or separate entries. An English pronoun "it", for example, unlike the English noun "cat", has no descriptive content but a set of grammatical features such as person, number and case, successively corresponding to a third-person-singular nominative pronoun. Via grammatical features, we describe person (first, second or third),

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[1] Bloomfield, *Language,* New York, 1965op. Cit., p. 32., p.19.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, op. cit., p. 1.
[3] Ibid, p. 1.
[4] Ibid, p.2.
[5] Ibid, 41.
[6] Ibid.

number (singular or plural), gender (masculine, feminine or neuter) and case (nominative, accusative or genitive). As to the morphological criteria, words have inflectional and derivational properties by adding affixes to the root of the words.[1] Inflectional properties maintain different grammatical feature forms of the same word. For example, the third person singular present form of an English verb like "speak" is maintained by adding suffix "–s" to get the form "speaks", which indicates person, number and tense. Derivational properties, on the other hand, generate different kinds of the same word by addition of an affix. For example, an English adverb like "slowly" is derived from an adjective simply by adding a suffix "–ly", which only comes after adjectives and makes them an adverb. Another criteria used to categorize words is syntactic criteria, as to which we can identify where each category of words locates within phrases or sentences. For instance, an English verb "break" can only be followed by a noun but not an adjective. 'Taxonomy' is used to analyze the properties of the categories of words in our study.

As for representational linguistics, 'dependency grammar' introduces syntactic theories which are all based on the dependency relation regarding the verb as the structural center of all the clause structure. Developed by Tesnière (1959), it proposes a sophisticated formalization of syntactic structures.[2] 'Structure' is determined by the relation between the word head and its dependents. 'Dependency' is a one-to-one correspondence between lexical or morphological constituents and nodes: for every constituent (e.g. lexeme or morpheme) in the sentence, there is only one node in the syntactical order, corresponding to that constituent. In consequence of this one-to-one correspondence, dependency grammars are word and morpheme grammars. Constituents and the dependencies connect the constituents into a structure.[3] To illustrate dependency structure in more concrete terms, we can give the English sentence 'I speak English fluently' as an example:

[S [PRN I] V speak [N English][ADV fluently]]

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, op. cit., p. 33.
[2] Lucien Tesnière, *Éléments de syntaxe structurale*, Paris, 1959.
[3] Zeynel Kıran-Ayşe E. Kıran, Dilbilime Giriş, Ankara, 2010, p. 142-146.

In the structure above, the noun (N) 'English', the adverb (ADV) 'fluently' and the pronoun (PRN) 'I' are the lexical constituents which are the dependents of the verb 'speak' as the structural center of the entire sentence (S). For every constituent (i.e. lexeme) in the sentence, there is exactly one node (i.e. N, ADV etc.) in the syntactical order. Each constituent is the dependent of the center constituent (i.e. the verb) without constructing a phrase structure (i.e. NP, VP etc.). In addition, the example above maps naturally onto the left-to-right phrase order used in English. For the Turkish sentence 'Ben her sabah çay içerim', however, the dependency structure can be shown as in the following illustration:

> Ben her sabah çay içerim
> I every morning tea drink-PRE-1SgP
>
> [[Ben PRN] [[her Q] sabah N] [çay N] içerim V] S]

Note that the Turkish structure above is of the right-to-left order and the morphological constituents such as tense and agreement (iç-er-im /drink-PRE-1SgP) are neglected in the analysis. The pronoun 'Ben' (I), the noun 'sabah' (morning) which also contains the dependent quantifier (Q) 'her' (every) and the noun 'çay' (tea) are the lexical constituents which are the dependents of the verb 'içerim' (drink-PRE-1SgP) as the structural center of the entire sentence. For every constituent (i.e. lexeme) in the sentence, there is exactly one node (i.e. N, V etc.) in the syntactical order. Each lexical constituent is the dependent of the center constituent (i.e. the verb) without constructing a phrase structure (i.e. NP, VP etc.), while each functional constituent is the dependent of the relational head word (e.g. the functional quantifier 'her' (every) as the dependent of the noun 'sabah' (morning)). For the representation of the structural order shown in brackets above, "Tesnière uses a graphical representation named as 'stemma', which serves to visualize the vertical and horizontal relations within syntactic constructions. In this representation the predicate is the highest element of the hierarchical level."[1] The examples given in brackets above can be shown through 'stemma' as the following illustrations:

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[1] İlker Aydın-Gülşen Torusdağ, "Dependency Grammar of Luciene Tesniere in the Perspective of Turkish, English and French", *Electronic Turkish Studies*, 8.8, 2013, p.191.

[S [PRN I] V speak [N English][ADV fluently]]

```
                    speak
            _____|_____
           /        |         \
          I      English    fluently
```

[[Ben PRN] [[her Q] sabah N] [çay N] içerim V] S]

```
                    içerim
            _____|_____
           /        |         \
         Ben      sabah       çay
                    |
                   her
```
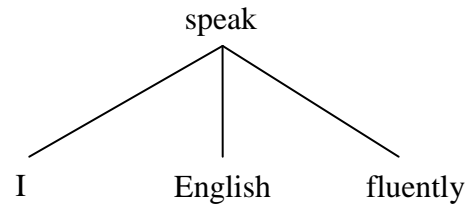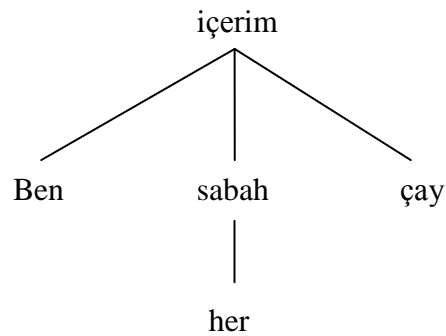
From these relatively traditional approaches to grammar outlined above, it is understood as a common property of all that each language must be studied in its own terms, which is also critized by Chomsky (1986), stating "It is important to bear in mind that the study of one language may provide crucial evidence concerning the structure of some other language." Hence, "if we are interested in discovering the real properties of the language faculty, this ideology must be abandoned, and we must regard a theory of one language as subject to change on the basis of evidence concerning other languages."[1]

As another common property, it is understood that traditional approaches try to describe the 'surface' or, also in Chomsky's words, 'external language'. This property of traditional grammar approach is expressed by Chomsky who criticizes structuralist grammar being "a collection of descriptive statements concerning the E-Language, the actual or potential speech events." Indeed, he adds "sometimes,

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[1] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 38.

grammar has been regarded as a property of E-Language, as in Bloomfield (1933)'s remark that a grammar is 'the meaningful arrangement of forms in a language'."[1]

3.2.2. UNIVERSAL GRAMMAR

The theory of Universal Grammar (UG) is a general concept involving Chomsky's overall developmental ideas on language beginning from 1950s to the present date. The development has taken a course at two levels which cover general concepts about 'language and language acquisition' and ideas about the 'description of syntax'.[2] The acquisitional ideas such as 'competence and performance', 'innateness', 'language faculty' and 'language acquisition device' can be traced back to the late fifties or mid-sixties.[3] The syntactical ideas, on the other hand, are originated from his works including various books and essays which have been published since1957. The initial stage of these ideas is known as 'Transformational and Generative Grammar' since "Chomsky (1957) argued for the separation between phrase structures rules which generated the basic structure and transformations which altered these in various ways."[4] This syntactic theory later developed into the 'Standard Theory'. In this stage, "Chomsky (1965) introduced the distinctions between 'deep' and 'surface' structures as well as 'competence'and 'performance'."[5] Next, it was accompanied by the 'Extended Standard Theory' (1972-1976) in which he revised the rules that were employed in deep and surface structures.[6] This in turn led to the 'Government and Binding Model', in which Chomsky (1981-1986) introduced the concepts of principles and parameters. This model of syntax was later labelled as 'Principles and Parameters Theory' by Chomsky (1987) in that "it has come to be seen as closer to its essence"[7], which constitutes an important part of the theoretical framework of our study and discussed in details under a separate heading. The development of the ideas arrived at maturity with the 'Minimalist Program',

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[1] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 20.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 40.
[3] Ibid, 41.
[4] Ibid.
[5] Ibid.
[6] Ibid.
[7] Ibid.

through which Chomsky (1993-1995) made another major revision of the 'Principles and Parameters Theory', the outlines of which constitute our approach to the analyses of the universal principles, setting the parametric variations and identifying language particular grammatical features for English and Turkish languages in this study. This final stage of the UG is presented in detail in the progressing parts of the study (see 3.2.3).

In contrast to the traditional grammar adopting taxonomic approach, UG takes a cognitive approach to the study of grammar.[1] That is, according to Chomsky, UG is described as "what native speakers know about their native language enabling them to speak and understand the language."[2] Therefore, it can be said that while traditional grammar identifies and describes what exists in the surface of the language, UG questions the underlying knowledge which makes up that surface structure. As stated in Chomsky's words, "however valuable as they obviously are, traditional grammars are deficient in that they leave unexpressed many of the basic regularities of the language with which they are concerned."[3] Chomsky (1965) criticises traditional grammar particularly on the level of syntax in that "no traditional or structuralist grammar goes beyond classification of particular examples to the stage of formulation of generative rules on any significant scale."[4] He puts the emphasis on the inadequacy of traditional grammars in explaining technical devices for expressing a system of recursive processes in natural languages.[5] According to him, "although such grammars may contain full and explicit lists of exceptions and irregularities, they provide only examples and hints concerning the regular and productive syntactic processes."[6] Having the concerns stated above, he came up with "the 'Generative Grammar' which attempts to specify what the speaker actually knows, not what he may report about his knowledge."[7] The notion of generative grammar is explained by him as "a system of rules that assigns structural descriptions

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, op. cit., p. 6.
[2] Ibid.
[3] Noam Chomsky, *Aspects of the theory of syntax,* Cambridge, 1965, p.5.
[4] Ibid.
[5] Ibid, p. 8.
[6] Ibid, p. 5.
[7] Ibid, p. 9.

to sentences." Accordingly, "every speaker of a language has an internalized generative grammar that expresses his knowledge of his language."[1] This innate knowledge of grammar is described as 'competence', one of the fundamental concepts of our thesis. He clearly underlines the distinction between 'competence' and 'performance' particularly in order to explain the difference in the approach between traditional grammars and the generative grammar. While, as he describes, the study of 'performance' through traditional approaches achieves 'descriptive adequacy' which is limited to "classification and organization of data, to extracting patterns from a corpus of observed speech and to describing speech habits or habit structures", generative grammar achieves 'explanatory adequacy' providing "some insight into performance and studies performance in favour of the study of underlying competence."[2] In other words, "it represents what the speaker knows in the abstract."[3] 'Performance', on the other hand, consists of the comprehension and production of language. The fundamental difference between 'competence' and 'performance' occurs when the former is described as the speaker's knowledge of the language whereas the latter is the speaker's use of this knowledge or actual use of language in concrete situations.[4] Concerning with the relation between these two notions, Chomsky also emphasized that 'performance' occurs only if understanding of the underlying competence permits.[5] In parallel to this suggestion, Ivan A. Sag and Thomas Wasow also think that compatibility with performance models should bear on the design of competence grammars,[6] which is the main purpose of our study. Chomsky also defines two different concepts of 'competence'. He makes the distinction between 'grammatical competence' and 'pragmatic competence'. By 'grammatical competence', he means, "the cognitive state that encompasses all the aspects of form and meaning as well as their relation, which are properly assigned to

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[1]Chomsky, *Aspects of the theory of syntax,* op. cit., p.9.
[2] Ibid, p.15.
[3] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 23.
[4] Chomsky, *Aspects of the Theory of Syntax,* op. cit., p. 4.
[5] Ibid, p. 10.
[6] Ivan A. Sag- Wasow Thomas, "Performance-Compatible Competence Grammar", in Robert D. Borsley and Kersti Börjars, *Non-Transformational Syntax: Formal and Explicit Models of Grammar*, 2011, p. 359-377.

the specific subsystem of the human mind."[1] Accordingly, it is the part of the competence of all speakers of Turkish that heads come last in word phrases and that the verb 'sleep' does not have a complement object. Upon the objection of Hymes to Chomsky's notion of competence by suggesting the concept of communicative competence dealing with how language is used,[2] Chomsky in his later studies proposed the term 'pragmatic competence'.[3] According to Cook and Newson, "Chomsky claims that language is used purposefully and pragmatic competence is the knowledge of how language is related to the situation in which it is used."[4] Johnson grounds Chomsky's distinction on the fact that there is great variability in the way pragmatics play out from person to person.[5] Chomsky's 'pragmatic competence' is different from Hymes's 'communicative competence' in that there are many uses of languages other than communication. According to Díaz-Rico and Weed, "communicative competence is a feature of a language user's knowledge of the language that allows the user to know when, where and how to use language appropriately."[6] From these explanations, by 'linguistic competence', or 'grammatical competence', we understand the knowledge, form and meaning of a particular language which we acquired. It constitutes 'knowledge of lexicon', 'principles' and 'parameters' of a particular language. By 'pragmatic' or 'communicative' competence, we understand using a language in an appropriate situation or context. Equipped with this two-way competence, we perform the language.

In 1965, Chomsky also came up with the idea that each sentence in a language has two levels of representation in terms of the syntactic components of grammar: a a 'deep structure' and a 'surface structure'.[7] Accordingly, "a generative grammar must be a system of rules that can iterate to generate an indefinitely large

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[1] Chomsky, "Rules and representations", *Behavioural and Brain Sciences*, 3.1, 1980, p. 59.
[2] Dell Hymes, *Competence and Performance in Linguistic theory,* in Cook and Newson, *Chomsky's Universal Grammar*, Oxford, 1972, p. 277-278.
[3] Chomsky, "Rules and representations", op. cit., p. 225.
[4] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 23.
[5] Marysia Johnson, *A Philosophy of Second Language Acquisition*, London, 2004, p. 30-32.
[6] Lynne Díaz-Rico- Kathryn Weed Z., *The cross-cultural, language, and academic development handbook: A complete K-12 reference guide* (4th ed.), Boston, 2010, p. 58.
[7] Chomsky, *Aspects of the theory of syntax,* op. cit., p. 16, 64-80.

number of structures which can be analyzed into the three major components of a generative grammar: 'phonological', 'semantic' and 'syntactic' components."[1] The surface structure of a language is interpreted by "the phonological component of a grammar which determines the phonetic form of a sentence generated by the syntactic rules", whereas the deep structure is interpreted by "the semantic component which determines the semantic interpretation of a sentence, relating a structure generated by the syntactic component to a certain semantic representation."[2] Therefore, the syntactic component of a grammar (i.e. a sentence, a clause or a phrase) is composed of a 'deep structure' which determines its semantic interpretation and a 'surface' structure which determines its phonetic interpretation.[3] The deep structure is represented at surface structure through a set of operations called 'transformations', which constitutes the basic idea of the 'transformational grammar' as suggested in the 'Standard Theory'. The central idea of the 'transformational grammar' is explained by Chomsky (1965), suggesting "deep and surface structures are distinct and the surface structure is determined by the repeated application of certain formal operations called 'grammatical transformations'."[4] In brief, we can say that universal properties common to all languages occur in the deep structures of languages, while language particular variations appear in the surface structure.

In terms of structural analysis of languages, UG proposes the formulation of the operations that construct the combinations of constituents forming grammatical structures. It tries to reveal the 'innate' mechanism of the competence unlike the taxonomic approach of traditional grammar. In 'Transformational Generative Grammar' (TGG) under the 'Standard Theory', deep structures are analyzed by a set of phrase structure rules. These rules are a way of explaining the syntax of a given language. They are used to analyze a natural language into its constituents, or lexical categories. As described by Carnie (2002), a 'phrase' is a syntactic unit headed by a lexical category such as 'noun' (N), 'verb' (V), 'preposition' (P), 'adjective' (A) or

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[1] Chomsky, *Aspects of the theory of syntax,* op. cit., p.15.
[2] Ibid, p.16.
[3] Ibid.
[4] Ibid, p.17.

'adverb' (ADV). Since phrases are named for their heads, it can be said that if 'V' is a lexical category of 'verb', then VP is a phrase headed by the category 'V'.[1] The phrase structure can be illustrated as the following:

VP → V NP (ADVP)

Accordingly, if 'V', 'N' and 'ADV' are variables representing any lexical category (i.e. verb, noun and adverb), then the following structure 'VP → V NP (ADVP)' is interpreted as a phrase structure headed by the lexical constituent 'V'. This 'VP' consists of an obligatory constituent of 'V' and 'NP' which is also a phrase headed by the constituent 'N'. It also consists of an optional constituent of 'ADV' (e.g. speak English (fluently)). This representation also tells us that the elements inside the VP structure are in a 'hierarchical order' from the 'right to the left' or in a 'top-down' fashion. Phrase structures are also 'recursive' since language is infinite, which means we can produce sentences which have never been heard before (i.e. [NP [N] [PP [P] [NP [N] [PP [P] [NP] ...etc.).[2] It should also be noted that phrase structure is of a constituency structure feature which means it is a one-to-one correspondence between constituents and nodes. For every constituent in the sentence, there is more than one node in the syntactical order (i.e. N → NP), corresponding to that constituent. This is different from the dependency structure which we mentioned for Tesnière's 'dependency grammar' before (see 2.2.1.) in that for every constituent in the sentence, there is only one node in the syntactical order (i.e. N, V etc.), corresponding to that constituent without construction of a phrase structure labelled for the same node (i.e. NP, VP etc.). Therefore, we can say that 'constituency', 'hierarchical structure' and 'recursion' are principle properties of phrase structures.

In early 1970s, phrase structure rules in TGG were extended by syntactic constraints and generalized phrase structures known as 'X-bar theory', which in turn came out as 'Extended Standard Theory'. According to 'X-bar theory', "all languages share certain structural similarities in terms of their phrasal categories

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[1] Andrew Carnie, *Syntax: A Generative Introduction*, Oxford, 2002, p. 52.
[2] Ibid, p. 54.

known as the 'X-bar'."[1] In structural analyses, some structures are represented by X with a bar over it (X'). The term 'X-bar' is derived from this structure. 'X' in this representation stands for any given lexical category. There are three principles distinguishing 'X-bar theory' from the previous phrase structure rules:[2]

XP (X") → specifier X'

In this structure, a two-bar category consists of a single-bar 'head' and a 'specifier' position.

X' → X complements

This structure tells us that a single-bar category consists of a head without bars and possible 'complements'. In Chomsky's (1986) definition, "phrases typically consist of a 'head' and an array of 'complements' determined by the lexical properties of the head"[3] and "complements are always complete phrases in themselves"[4] (e.g. 'English' enters into the syntax as a noun (N) which in turn appears as (NP) in the syntax), as shown for the English verb phrase (VP) 'speak English' below:

V' → V speak NP English

X-bar theory suggests "all phrases in all languages share this two level-structure described above, including one X" consisting of the head and possible specifiers and the other X' consisting of the head and possible complements"[5], which is known as 'projection principle' suggesting:

"Representations at each syntactic level are projected from the lexicon in that they observe the subcategorisation properties of lexical items."[6]

As well as these basic categories, a phrase structure may also contain optional elements called adjuncts:

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[1] Noam Chomsky, "Remarks on nominalization", in Roderick Jacobs and Peter Rosenbaum (eds.), *Reading in English Transformational Grammar*, Waltham, 1970, p. 184-221.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 349.
[3] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 81.
[4] Cook-Newson, op. cit., p. 141.
[5] Ibid, p. 144.
[6] Noam Chomsky, *Lectures on Government and Binding*, op. cit.,1981a, p.29.

X' → X' adjunct

Accordingly, a single-bar category may also contain another single-bar category and an adjunct. It should be noted that an X' containing a complement is distinguished from an X' containing an adjunct in that the complement has an X head as a sibling, while an adjunct has an X-bar as a sibling. It should also be noted that grammatical functions such as 'subject', 'object' and 'predicate' in traditional descriptive grammar are defined as "particular configurations in the structure of the sentence rather than as having an independent status."[1] In X-bar theory, the 'subject' of the sentence is the 'specifier' of the VP, the predicate of the sentence is the VP and the 'object' of the predicate is the 'complement' of the VP. These rules can be combined as the following phrase structure shown in brackets:

[XP (X″) [specifier] [X′ [X′ [X] [complement]] [adjunct]]]

To illustrate this structure in more concrete terms, we can give the English sentence 'I speak English fluently' as an example:

[VP (V″) [PRN I] [V′ [V′ [V speak] [NP English]] [ADV fluently]]]

In the structure above, the functional category of Inflection Phrase (IP) which includes the features of tense and agreement in the 'X-bar theory' is neglected. The 'NP English' is complement of the verb head 'V speak' which is in turn extended by the adjunct 'ADV fluently', forming the V-bar 'speak English fluently'. The resulting V-bar is then specified by the first person singular specifier pronoun 'I', forming the VP (or two-bar verb phrase) 'I speak English fluently'. In addition, the example above maps naturally onto the left-to-right phrase order used in English. For the Turkish sentence 'Ben her sabah çay içerim', however, the structure can be shown as in the following illustration:

Ben her sabah çay içerim
I every morning tea drink-PRE-1SgP

[[Ben PRN] [[her sabah ADV] [[çay NP][içerim V] V′] V′] VP (V″)]

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 173.

The Turkish structure above is of the right-to-left phrase order. The functional category of Inflection Phrase (INFLP) which includes the features of tense and agreement is neglected. The 'NP çay' (tea) is the complement of the verb head 'V içerim' (drink-PRE-1SgP) which is in turn extended by the adjunct 'ADV her sabah', forming the V-bar 'her sabah çay içerim'. The resulting V-bar is then specified by the first person singular specifier pronoun 'Ben', forming the VP (or two-bar verb phrase) 'Ben her sabah çay içerim'.

From the theories we have mentioned so far, it is understood that UG has a cognitive approach to language, which aims to formulate the creative aspect of language use and the common mechanisms which construct the syntactic components of grammar which have semantic and phonetic interpretations. In the simplest terms, Chomsky explains the generative grammar (or UG) as "a shift of focus from behaviour or the products of behaviour to states of the mind/brain that enter into behaviour." He goes on his statement, "if one chooses to focus attention on this latter topic, the central concern becomes knowledge of language: its nature, origins, and use." Accordingly, generative grammar looks for the answer of the three basic questions that arise:[1]

(i) What constitutes knowledge of language?
(ii) How is knowledge of language acquired?
(iii) How is knowledge of language put to use?

The answers to these questions are given by Chomsky's own self. Accordingly, the answer of the first question is "a particular generative grammar, a theory concerned with the state of the mind/brain of the person who knows a particular language." The answer to the second question, moreover, is given by a specification of UG as "a theory of the 'initial state' of the language faculty, prior to any linguistic experience."[2] In this context, we are particularly interested in the extent of knowledge of language requiring grammatical and lexical learning in this study. For the third question, the answer is "a theory of how the knowledge of

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[1] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 3.
[2] Ibid.

language acquired enters into the expression of thought and, derivatively, into communication and other special uses of language."[1] In this study, we are particularly interested in the first two questions.

From these theoretical assumptions, it is understood that UG and its progressive developmental theories focus on "the study of the system of knowledge of language attained and internally represented in the mind/brain" in contrast to the previous traditional view seeing "grammatical constructions independent from the properties of the mind/brain."[2] Chomsky (1986a) explains the difference between the traditional grammar and UG in terms of 'external' and 'internal' language concepts. The former is "the study of language regarded as an externalized object in scope of most traditional or structuralist grammar or behavioural psychology", while the latter is "study of the system of knowledge of language attained and internally represented in the mind/brain"[3].

Although Chomsky (1986) criticizes and rejects traditional grammar approaches, accusing them of not "examining the question of how the knowledge of language is used to form and interpret new expressions, or the question of the nature and elements of this knowledge in contrast to the generative grammar concerned primarily with the principles and procedures brought to bear to attain full knowledge of a language", he states "the concerns of traditional and generative grammar are, in a certain sense, complementary."[4] He puts an emphasis on the contribution of "a good traditional grammar providing a full list of exceptions (irregular verbs, etc.), paradigms and examples of regular constructions and observations at various levels of detail and generality about the form and meaning of expressions"[5] to understanding of language. The grammar of a particular language, then, in Chomsky's own words, "should be supplemented by a universal grammar that accommodates the creative aspect of language use and expresses the deep-seated regularities which, being universal, are omitted from the grammar itself. Therefore it

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[1] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 4.
[2] Ibid, p. 20.
[3] Ibid, p. 24.
[4] Ibid, p. 7.
[5] Ibid.

is quite proper for a grammar to discuss only exceptions and irregularities in any detail."[1]

3.2.2.1. UNIVERSAL PRINCIPLES

By the early 1980s, the 'Extended Standard Theory' which revised the phrase structure rules in the 'Standard Theory' in turn developed into the Government and Binding (GB) model which introduced the concepts of principles and parameters.[2] This label was later substituted by 'Principles and Parameters Theory' by Chomsky (1987) who finds the former label misleading since 'government' and 'binding' were only the two of the new concepts which entered into the theoretical discussion under the UG.[3] This section of the study introduces an outline of the 'Principles and Parameters Theory' with their underlying theoretical basis which makes up the core of this dissertation.

GB is a theory of syntax, following TGG and developed by Noam Chomsky in the 1980s. It is a phrase structure grammar in contrast to the one-noded 'dependency grammar', the outlines of which was introduced with the traditional grammar approaches in the previous parts (see 2.2.1).[4] This theory is revision of his previous theories. GB is distinguished from previous theories as to its 'principles and parameters' model of language.

The components of a language have been described in different titles but in similar forms by various linguists. Initially, Saussure was interested in the systematic relationships between a signifier, a sign and a signified.[5] He suggested that meaning arises from the *differences* between signifiers and divided these differences into two kinds: *syntagmatic* (linear positioning) and *paradigmatic* (serial substitutions) relations, which he called *associative* relations.[6] Accordingly, any speaker chooses

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[1] Chomsky, *Aspects of the theory of syntax,* op. cit., p. 6.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 41.
[3] Ibid.
[4] Noam Chomsky, *Lectures on Government and Binding*, Dordrecht,1981a; Chomsky, *Some Concepts and Consequences of the Theory of Government and Binding,* Cambridge,1982; Chomsky, *Barriers,* Massachusetts, 1986b.
[5] Kaja Silverman, *The Subject of Semiotics*, New York,1983, p.10.
[6] Saussure, *Course in General Linguistics,* op. cit., p.121.

appropriate signs among the other lexemes in his mind and puts them in a certain order and then produces meaning.

Sign

"Tree"
Signifier

Signified
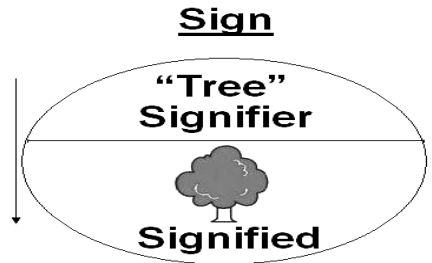
Figure 1: Saussure's model of sign[1]

Successively, Jakobson developed this model of Saussure into vertical and horizontal axes, the former of which is called 'the axis of combination' and the former of which is called 'the axis of selection'.[2]

Combination axis

Selection axis
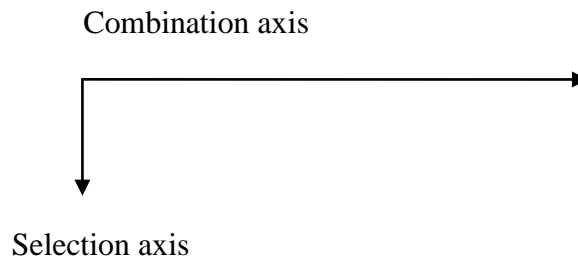
Figure 2: Jakobson's two axis of language

Via this modelling, Jakobson aimed to describe language for communication. In any message conveyed in a language, the speaker chooses words purposefully and organizes them in an order. This modelling led to a paradigmatic and syntagmatic analysis of texts in semiotics or text linguistics. In 1970s, Chomsky modified the definition of language as "a particular relationship between 'sounds' and 'meaning'." He described actual sounds as 'phonetic representation', 'meaning' as 'semantic representation' and the 'syntactic structure' that connects them as a 'syntactic level of representation'.[3]

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[1]http://3.bp.blogspot.com/_hPaSqNya9QI/SvMexsU_y3I/AAAAAAAABIs/jCL_skwOnKg/s400/sign 2.png
[2] Roman Jakobson, *Essais de linguistique générale,* Paris, 1963, p. 45-48.
[3] Noam Chomsky, *Language and Mind,* New York*,* 1972, p. 137.

Syntax

Phonetic Representation   Semantic Representation
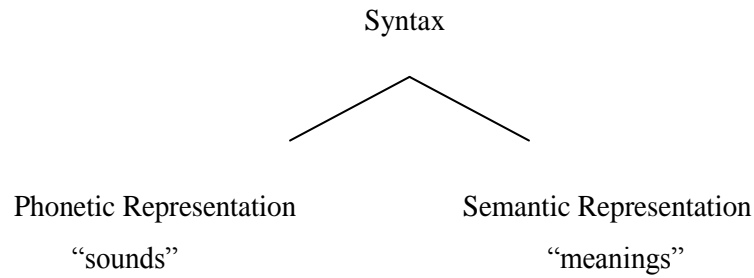
"sounds"   "meanings"

Figure 3: The sound and meaning bridge[1]

In his principles and parameters theory, however, Chomsky updated this bridge between 'sound' and 'meaning' to 'Phonetic Form' (PF) as sound sequences and 'Logical Form' (LF), as representations of 'meaning'.

Syntax

Phonetic Form (PF)   Logical Form (LF)
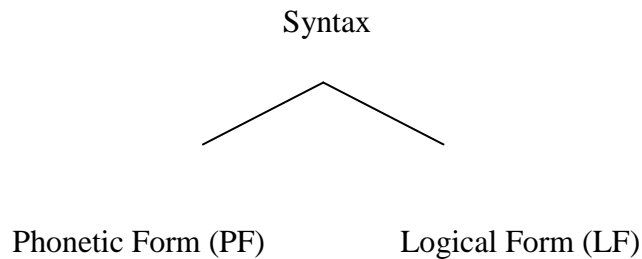
Figure 4: The bridge between Phonetic Form and Logical Form[2]

According to this model, PF and LF form the contact between grammar, 'sound' and 'meaning', and 'syntax' is a bridge between physical sounds and cognitive systems such as meaning. In GB theory, Chomsky described linguistic system using two external interface levels: one is "'surface structure' (S-structure) composed of semantic and phonetic components"[3], and the other is 'deep structure (D-structure)' an internal level representing basic lexical information."[4] However, the bridge between 'sounds' and 'meaning' still requires another level, which represents some syntactic operations between 'D-structure' and 'S-structure'. The need for this assumption is resulted from the observations of some structures where some elements in the sentence are not in their original location but moved (e.g. Your name is what?/What is your name?). Therefore, "S-structure is related to the D-

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 43.
[2] Ibid, p. 43.
[3] Noam Chomsky, *Lectures on Government and Binding,* Dordrecht, 1981a, p. 11.
[4] Cook-Newson, op. cit., p. 313.

structure by 'movement' which expresses the key structural relationships in the sentence."[1] Accordingly, "D-structure appears as the underlying form of the sentence where all constituents are in their original locations, while S-structure appears as the form of the sentence after 'movement', including 'traces' (*t*) of the original positions of the moved items."[2]

Your name is what?   (D-structure)

$What_1$ is_2 your name t_2 t_1?   (S-structure)

What is your name?   (surface structure)

In the example above, 't_1' marks the original location from which 'what' has moved and 't_2' marks that of 'is'. The subscript numbers show the items to which the traces are linked. "The 'S-structure' is not just the 'surface structure' of the sentence since it carries the traces of the movement, marking the original positions of the moved items."[3] Then, 'movement' was integrated with the bridge between PF and LF, as shown in the T-Model (its called T-Model for its upside-down T shape)below:

D-structure

|

movement

|

S-structure

Phonetic Component   Semantic Component

"sounds" (PF)   "meanings" (LF)
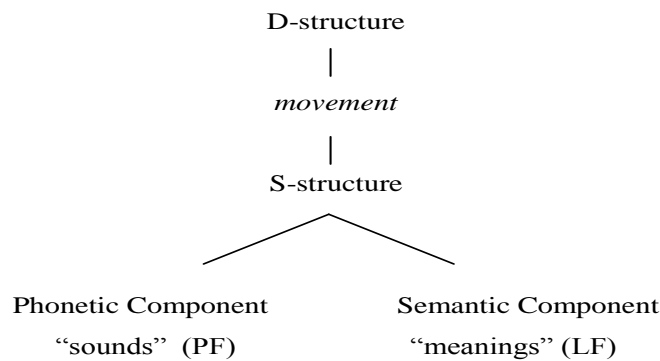
Figure 5: Chomsky's T-Model in GB[4]

Accordingly, the bridge between 'sounds' and 'meaning' is represented by the link between PF and LF. The S-structure is the form of D-structure after the necessary movement operations. Initially, it was regarded as a general principle

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 45.
[2] Ibid, p.46.
[3] Ibid.
[4] Ibid, p. 47.

which posits that "any part of the sentence could move anywhere in the syntax."[1] This notion was then subjected to restrictions and revised as the principle called 'move α' suggesting "a category can be moved to a target position"[2], which means "movement occurs when human languages actually have places for movement."[3] For example, any head constituent can only move to the next highest head position (head movement), any subject moves to the specifier position within tense phrase (A-movement) and any wh-expression like 'what' or 'who' moves into the specifier position within complementiser phrase (Wh-movement).[4]

As another innovation brought by the GB to the syntax, we should mention about the semantic relations called 'thematic roles' (θ-roles) between the parts of the sentence, which explains "who is doing what to whom."[5] This is closely related to the syntactic meaning of the arguments at LF. The English sentence such as 'I broke the window in the kitchen', for example, contains three θ-roles: 'I' is the person who carried out the action (the 'Agent' role), 'the window' is the object affected by the action (the 'Patient', or 'theme', role) and the phrase 'in the kitchen' is the place where the action took place (the 'Locative' role). For the Turkish sentence such as 'Ali kütüphanede İngilizce çalıştı' (Ali studied English in the library), likewise, three θ-roles can be defined: 'Ali' is the person who carried out the action (the 'Agent' role), 'İngilizce' (English) is the object affected by the action (the 'Patient', or 'theme' role) and the phrase 'kütüphanede' (in the library) is the place where the action took place (the 'Locative' role). Other θ-roles can be listed as 'experiencer' experiencing some psychological state, 'goal' representing the destination of some other entity, 'source' from which something moves and 'instrument' used to perform some action.[6] Chomsky (1981) suggests these thematic roles as universal properties of human languages (or a principle of UG) as 'θ-criterion', according to which:

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 189.
[2] Noam Chomsky-Howard Lasnik, "Principles and Parameters Theory", in *Syntax: An International Handbook of Contemporary Research*, de Gruyter, Berlin, 1993b, p.522.
[3] Cook-Newson, op. cit., p. 189.
[4] Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p. 151,188, 241.
[5] Cook-Newson, op. cit., p. 49.
[6] Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p. 251.

- *Each argument bears one and only one θ-role and each θ-role is assigned to one and only one argument.*[1]

As for 'government' which is one of the principle theories giving its name to the GB due to its dominant effect in the syntax, we can refer to "a syntactic relationship between a 'governor' and a constituent it governs."[2] 'Government' is based on the structural relationship of 'c-command' (constituent command). This condition is formulated by Chomsky (1986) as a formal and general principle as the following:

- *α c-commands β iff α does not dominate β and every γ that dominates α dominates β.*[3]

That is, in a phrase structure like the one illustrated below:

[XP (X″) [AP] [X′ [X] [YP [BP] [Y′ [Y][CP]]]]]

Accordingly, the constituent X c-commands AP, YP and the others inside the YP (i.e. BP, CP) since all of them are inside the XP. The c-command domain for X will be as shown below:

[XP (X″) [AP] [X′ [X] [YP [BP] [Y′ [Y][CP]]]]]

Constituents c-commanded by X

The constituent Y, however, c-commands only BP and CP but AP and X since these are not inside the YP. Accordingly, the c-command domain for Y will be as shown below:

[XP (X″) [AP] [X′ [X] [YP [BP] [Y′ [Y][CP]]]]]

Constituents c-commanded by Y

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[1] Chomsky, *Lectures on Government and Binding,* op. cit., p. 36.
[2] Cook-Newson, op. cit., p. 51.
[3] Chomsky, *Barriers,* Cambridge, 1986b, p. 8.

To illustrate the formulations above, let's see the following English example:

'I think John is at school'
[VP (V") [PRN I][V' [V think][IP [DP John][I' [I is][PP at school]]]]]
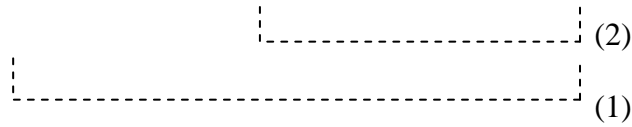
In the illustration above, the functional category of IP (or INFLP) which includes the features of tense and agreement for the finite verb constituent 'think' is neglected and taken as V. Accordingly, the constituent V 'think' c-commands PRN, IP and the others inside the IP (i.e. DP, PP) since all of them are inside the VP. The c-command domain for V is illustrated as (1). The constituent I (or INFL), however, c-commands only DP and PP but PRN and V since these are not inside the IP, the c-command domain of which is illustrated as (2). Now, let's see the following Turkish example:

'Ali Murat'ın evde olduğunu biliyor'
Ali Murat-GEN home-LOC be-NOM-AGR-ACC know-PRE-AGR/3SgP

[[Ali DP] [[[Murat'ın DP][[evde PP] olduğunu V'] VP] biliyor I'] IP]
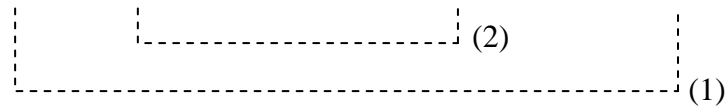
In the illustration above, the functional category of embedded IP which includes the features of infinite tense (i.e. nominalization) and agreement for the infinite verb constituent 'olduğunu' (be-NOM-AGR-ACC) is neglected and taken as V. Accordingly, the constituent I 'biliyor' (know-PRE-AGR/3SgP) c-commands the subject DP 'Ali', VP and the others inside the VP (i.e. DP, PP) since all of them are inside the IP. The c-command domain for I is illustrated as (1). The constituent V, however, c-commands only the DP 'Murat'ın' and PP but the DP 'Ali' and V since these are not inside the VP, the c-command domain of which is illustrated as (2).

'Government' is another version of 'c-command' and distinguished from the 'c-command' as to two types of restrictions.[1] As for the first one, 'government' is limited to the lexical heads as governors (i.e. N, V, A and P). For the other, a head can only govern its complements, whereas it c-commands those elements inside the whole projection. Accordingly, "since the relationship of government is between two elements in the sentence, there is one-way flow of influence from the 'governor' to the 'governed'."[2] In more concrete terms, in an English prepositional phrase like 'for us', the preposition 'for' is the governor and governs the object 3PlP pronoun 'we', due to which the object pronun appears as the 'accusative' case 'us' rather than the 'nominative' case 'we'. Likewise, in a Turkish prepositional phrase like 'bizim için' (for us), the preposition 'için' is the governor and governs the object 3PlP pronoun 'biz', due to which the object pronun appears as the 'genitive' case 'bizim' rather than the 'nominative' case 'biz'. Therefore, all lexical heads of the phrases are regarded as the possible governors.[3] The 'government' theory explains case assignments of object NPs or pronouns in adpositional phrases and verb phrases, which in turn results in universal principles such as 'Case Assignment' principle which suggests:

- *Case is assigned under government*[4]

'Case Adjacency' principle suggesting,

- *Some languages require case asigners to be adjacent to the NP*[5]

and 'Case Filter' suggesting:

- *Every phonetically realised NP must be assigned abstract case.*[6]

Moreover, subject-verb agreement is also explained by 'government' in relation with the Inflectional head (I, or INFL) which represent 'Tense' (T/TNS) and agreement (AGR) features. Accordingly, "sentences with T and AGR are called

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 240.
[2] Ibid, p. 51.
[3] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 51.
[4] Chomsky, *Lectures on Government and Binding,* op. cit., p. 49.
[5] Ibid.
[6] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 74.

'finite clauses' and only finite INFL governs the subject of the sentence and determines its case as 'nominative'."[1] For an English example, the sentence 'I want him to go' contains both a finite (i.e. I want) and an infinite clause (i.e. him to go). While the finite INFL with T (i.e. present) and AGR (i.e. 1SgP) governs the subject of the sentence and determines its case as 'nominative' (i.e. *I* want), the infinite INFL without T (i.e. to go) and AGR (i.e. [3SgP] to go) does not govern the subject of the infinite clause. Subsequently, its case is determined as 'accusative' (i.e. *him* to go) by the higher governor verb 'want'. For a Turkish example, on the other hand, the corresponding sentence 'Ben onun gitmesini istiyorum' (I want him to go) similarly contains both a finite (i.e. Ben isti-*yor-um*) and an infinite clause (i.e. onun git-*me*-sini). Just as the finite INFL with T (i.e. -yor) and AGR (i.e. -*um*) governs the subject of the sentence and determines its case as 'nominative' (i.e. *Ben* isti-*yor-um*), the infinite INFL without T (i.e. git-*me*) but with AGR (i.e. git-me-*si*) governs the subject of the infinite clause and determines its case as 'genitive' (i.e. *onun* gitme-*si*). Subsequently, this infinite structure is assigned 'accusative' case by the higher governor verb 'iste' (want) (i.e. onun gitmesi-*ni* iste).

In order to explain the gaps such as 'NP-traces', 'Wh-traces' resulted from 'movement' the concept of 'empty category' is defined as "an element which has grammatical and semantic features but lacks phonetic features."[2] This notion appears as a further type of category apart from lexical categories such as 'nouns' and 'verbs' and 'non-lexical' categories such as INFL which is described above. Although empty categories such as 'NP' and 'Wh-' traces are only generated as a result of movement operations, there are also empty 'pro' and 'PRO' categories which are not the results of 'movement' but base-generated (i.e. they appear in the D-structure).[3] As for 'pro' and 'PRO', the GB theory regards finite clauses with phonologically absent but semantically overt subjects as clauses having a 'pro' subject (e.g. Öğrenciyim/ *pro* student-PRE-1SgP). This sort of clauses can only be seen in 'pro-drop' languages (e.g. Turkish) which licence finite sentences having an empty category in the subject

[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 54.
[2] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 106.
[3] Diego Gabriel Krivochen-Peter Kosta, *Eliminating Empty Categories,* New York, 2013, p.17-18.

position. However, there are also 'non-pro-drop' languages which do not licence 'pro' (or null-subject). In a structure like 'seems to rain tomorrow', a subject is required for the sentence to be the grammatical "It seems to rain tomorrow" although the subject 'it' does not have an expletive content and it is meaningless. This suggestion follows from the 'Extended Projection Principle' (EPP), proposing:

- *A clause must have a subject position independent of whether it is semantically needed or not.*[1]

The notion of 'empty category' is also closely related with the 'government' theory mentioned above. The theory of 'government' was extended by the principle of 'Proper Government' suggesting:

- *Lexical categories govern properly but non-lexical categories do not.*[2]

Accordingly, while categories such as 'N', 'V' and 'P' are proper governors, non-lexical categories such as 'INFL' are not proper governors, leading to the 'Empty Category Principle':

- *An empty category must be properly governed.*[3]

According to this principle, empty categories, whether they are of 't' or 'pro' or any other sort of origin, must be under the government of a 'proper governor'.[4] Whether any language is described a 'pro-drop' or a 'non-pro-drop' language depends on whether the finite INFL in this language is a proper governor or not. The big 'PRO', on the other hand, is regarded as a phonologically absent but semantically overt subject in non-finite clauses which can also be seen in non-pro-drop languages such as English. Non-finite structures (e.g. ENG I want *to see* you, or TR Seni *görmek* istiyorum) require empty subject 'PRO', which is known as the 'control structure' (e.g. ENG I$_i$ want *PRO$_i$* to drink tea, or TR pro$_i$ Seni PRO$_i$ görmek istiyor-*um$_i$*). This condition is explained and restricted by the 'Control Principle':

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[1] Noam Chomsky, *Some Concepts and Consequences of the Theory of Government and Binding,* Cambridge, 1982, p. 17.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 59.
[3] Chomsky, *Lectures on Government and Binding,* op. cit., p. 250.
[4] Cook-Newson, loc. cit.

- *PRO is ungoverned.*[1]

In this condition, "PRO can only appear in the subject of a non-finite clause since there is no governor for this position"[2] and null 'PRO' subject is controlled by the subject of the matrix clause, called 'controller' or 'antecedent' of PRO, which may also appear as 'pro', controlled by the AGR of the finite INFL in Turkish (e.g. ENG I_i want PRO_i to drink tea, or TR pro_i Seni PRO_i görmek istiyor-um_i).

As for 'binding' which is also one of the principle theories giving its name to the GB due to its effect on the syntactical operations, we can refer to referential properties of constituents such as 'pronouns'. The principle terms in 'Binding Theory' are 'reference' and 'coreference' (or co-indexation). The reference is described as "the entity to which an expression refers in the external world", while the coreference is regarded as "the same entity to which two expressions refer in the external world."[3] In brief, 'binding' is explained through three principles known as 'Binding Theory' by Chomsky (1986a):[4]

(i) "An anaphor (i.e. reflexive pronoun) is bound (i.e. c-commanded and coreferential) in a local domain (i.e. in the smallest clause containing the pronoun)"

(ii) "A pronominal is free (i.e. not c-commanded and coreferential) in a local domain"

(iii) "A referring expression (i.e. a referential noun or noun phrase) is free"

Accordingly, in bilingual sentences like ENG 'It is there' and TR 'O oradadır', while 'it' refers to a non-human thing (i.e. an object, plant or animal etc.), 'O' refers to a human or non-human thing (i.e. an object, plant, animal or man etc.). In both languages, 'there' and 'orada' refer to a place which can be paraphrased as 'in that place'. In addition, in sentences like ENG 'John$_i$ knows himself$_i$' and TR 'Ali$_i$ kendisini$_i$ bilir', the English proper name 'John' and the reflexive pronoun 'himself', and the Turkish proper name 'Ali' and the reflexive pronoun 'kendisini' are 'coreferential' since they refer to the same entity (i.e. ENG John and TR Ali as

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[1] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 183.
[2] Cook-Newson, op. cit., p. 249.
[3] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 445, 471.
[4] Chomsky, *Knowledge of language: Its nature, origin, and use,* op. cit., p. 166.

persons). However, in sentences like ENG 'John$_i$ knows him$_j$' and TR 'Ali$_i$ onu$_j$ tanır', the English proper name 'John' and the objective pronoun 'him', and the Turkish proper name 'Ali' and the objective pronoun 'onu' are not 'coreferential' since they refer to different entities (i.e. ENG 'him' and TR 'onu' refer to a person other than 'John' and 'Ali').

As for the 'bounding' module, it is understood that movement is limited. That is, "it requires a principle to limit movement operations."[1] As mentioned before, 'movement' is subjected to some restrictions, one of which restricts the movement of 'head' constituents, positing "any head constituent can only move to the next highest head position"[2], which can be illustrated by the English sentence below:

'The student has finished it'

[TP The student [T' has$_j$ [AuxP t$_j$ [AspP finished$_i$ [VP t$_i$ it]]]]]

(2)   (1)

In the English example above, there are two head movement operations. Initially, the verb 'finish' as the head constituent of the the VP 'finish it' moves to the empty head position of the perfective aspectual phrase (AspP), moving from the lower to the next highest head position, leaving its trace behind and inflected for participle form (1). Then, the perfect auxiliary 'have' as the head constituent of the the AuxP 'have finished' moves to the empty head position of the inflectional T-bar (T'), moving from the lower to the next highest head position, leaving its trace behind and inflected for present tense (2). As for Turkish, let's see the example below:

'Ben o saatte uyuyor olacağım'

I that time-LOC sleep-PROG be-FUT-AGR/1SgP

[[Ben PRN] [[[[[o saatte PP] t$_i$ VP] uyuyor$_i$ AspP] t$_j$ AuxP] olacağım$_j$ T']

TP]

(1)   (2)

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 258.
[2] Radford, op. cit., p. 151.

In the example above, there are two head movement operations. First, the verb 'uyu' (sleep) as the head constituent of the VP 'o saatte uyu' (sleep at that time) moves to the empty affixal head position of the progressive AspP, moving from the lower to the next highest head position, leaving its trace behind and suffixed by the progressive affix '-yor' (1). Then, the auxiliary 'ol' (be) as the head constituent of the AuxP 'uyuyor ol' (be sleep-PROG) moves to the empty head position of the affixal T-bar (T'), moving from the lower to the next highest head position, leaving its trace behind and suffixed by '–acağım' carrying future tense and 1SgP features (2).

Apart from the head movement, 'wh-movement' from the complement clause of a verb is, in a similar way, restricted to one bounding node at a time as suggested in the 'Principle of Subjacency' which posits:

- *No movement can move an element over more than one bounding node at a time.*[1]

Accordingly, there are certain bounding nodes (e.g. DP, TP etc.) which are described as 'hurdles' to be jumped over in a phrase structure by the moving item,[2] which can be illustrated by the sentence 'What do you think the student will do?', as shown below:

What$_i$ do [TP you think [CP t$_i$ [TP the student will do t$_i$]]]

In the structure above, the wh-expression (i.e. what) uses the empty specifier position of the lower CP as a stepping-stone, splitting the movement into two parts, either of which is leaps over only one hurdle (i.e.TP). Now let's see the example below:

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[1] Chomsky, *Lectures on Government and Binding,* op. cit., p. 81.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 258.

*'Have the student will finished it'

Have$_i$ [TP the student [T′ will [AuxP t$_i$ [VP finished it]]]]

In the example above, on the other hand, although the movement operation satisfies the 'Subjacency Principle' since the perfect auxiliary 'have' moves over only one bounding node (i.e. TP), it is still ungrammatical since it violates another restriction known as 'Head Movement Constraint' which posits:

- *Movement between one head position and another is only possible between the head of a given structure and the head of its complement.*[1]

Accordingly, the ungrammatical head movement illustrated above is restricted to the 'Head Movement Constraint', resulting in the following structure:

'Will the student have finished it'

Will$_i$ [TP the student [T′ t$_i$ [AuxP have [VP finished it]]]]

As for the argument, or subject, movement (A-movement), let's see the following illustration:

'The student will have finished it'

[TP The student$_i$ [T′ will [AuxP t$_i$ [Aux′ have [VP t$_i$ [V′ finished it]]]]]]

In the example above, the subject DP 'the student' is initially reflected as a specifier in the internal structure of the VP 'finish it'. Then, "in a successive-cyclic fashion"[2], it moves to the external specifier position of the TP (2), moving from the lower to the next highest head position until it arrives at the related position of the maximal projection, leaving its trace (or traces) behind (1). For the example above, AspP is neglected and the participle form is taken as V (i.e. finish-ed). As for Turkish, the corresponding structure will be illustrated as the following:

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 163.
[2] Ibid, p. 171.

'Bu öğrenci onu bitirmiş olacak'

This student it finish-PER be-FUT-AGR/3SgP

[[Bu öğrenci$_i$ DP] [[[[[onu bitir V'] t$_i$ VP] –miş Asp'] t$_i$ AspP] olacak T']
TP]

(1)

(2)
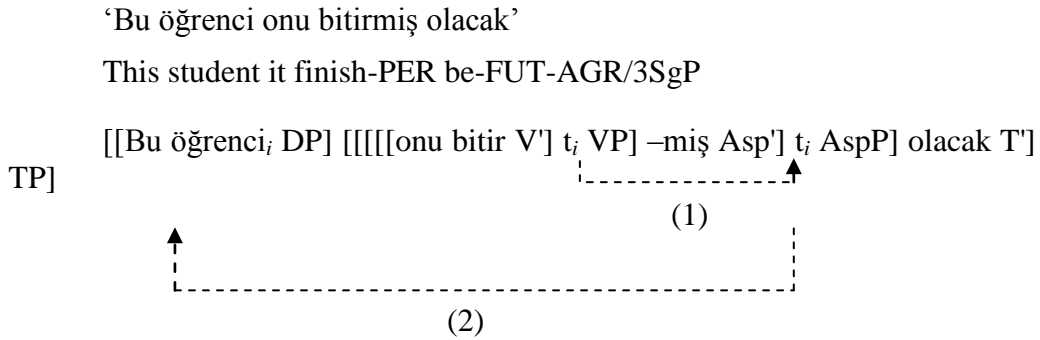
In the Turkish example above, the subject DP 'Bu öğrenci' (This student) is initially reflected as a specifier in the internal structure of the VP 'onu bitir' (finish it). Then, in a successive-cyclic fashion, it moves to the either of the two-sided external specifier positions (i.e. either specifier-first or specifier-last) of the TP (2), moving from the lower to the next head position (i.e. bottom-up) until it arrives at the related highest position of the projection, leaving its trace (or traces) behind (1). For the example above, AuxP is neglected and the suffixed form is taken as T (i.e. ol-acak).

Chomsky (1986b), on the other hand, came out with the notion of a 'barrier', unifying the bounding theory and the 'empty category principle'.[1] In his definition of 'barrier', α and β are two positions, one of which is linked to the other by movement (i.e. α is moved constituent and β is its trace) in a given syntax like:

.....α.....[γ.....β]

Then, this structure is ungrammatical since γ is a barrier between them.[2] In an ungrammatical sentence like '*Whom$_i$ do you wonder the book that I suggested t$_i$', 'that' is a barrier for the movement of wh-expression since it is not a complement clause of a lexical element but an adjunct (i.e. the book that ...). Barriers are described as structures which are complements of functional categories (i.e. blocking categories) and which are not INFLPs,[3] which can be formalized as the following:

[1] Chomsky, *Barriers,* Cambridge, 1986b, p. 14.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 264.
[3] Chomsky, *Barriers,* op. cit, p. 14.

- *γ is a barrier for β if and only if γ is a blocking category for β, and γ≠INFLP.*[1]

In a grammatical sentence like 'Whom$_i$ do think that I suggested t$_i$ the book', 'that' is not a barrier for the movement of the wh-expression 'whom' since it is the complement of a lexical element (i.e. ... think that ...). These universal principles make up the common structural properties to which we refer for the comparative analyses of phrasal structures in English and Turkish languages in this study. It should be noted that the purpose of our study is not to test whether these theories work for both languages or not but to find out parametric variations contrastively.

3.2.2.2. PARAMETERS

The sub-theories such as 'X-bar', 'movement', 'move α', 'θ-Criterion', 'government', 'c-command', 'case adjacency', 'case filter', 'binding', 'projection', 'extended projection', 'subject-head agreement', proper government, 'empty category', 'control', 'subjacency', 'head movement constraint' and 'barriers' which we have outlined so far constitute the modules of UG, each of which is related to different levels of linguistic knowledge such as lexicon, d-structure, s-structure, PF or LF and highlights a universal principle of human languages. Parameters, on the other hand, also constitute the modules of UG, each of which determines the crosslingual syntactic variations between languages. That is to say, "although there are universal principles determining the outlines of the grammar of natural languages, there are also language particular aspects of grammar, varying from one language to another."[2] In more concrete terms, if any grammatical operation is observed in a particular human language but not in the other, then this operation is regarded as a parametric variation. Particular grammar of any human language is limited to those language particular variations. These particular variations found in the grammars of different natural languages are called 'parametric variations'.[3] To illustrate a parametric variation between English and Turkish languages, we can give the English sentence 'He speaks English' and 'O İngilizce konuşur' as its counterpart

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[1] Chomsky, *Barriers,* op. cit, p. 14.
[2] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 16.
[3] Ibid, 17.

in Turkish. In both languages the verbs take an overt subject pronoun ('He' and 'O'). However, while we can say 'İngilizce konuşur' in Turkish, we cannot say 'Speaks English' in English. That is, whereas, in Turkish, the verb can be used without an overt subject pronoun thanks to its morphological agreement in person and number, in English the verb *speaks* cannot be used without an overt subject pronoun. So, any sentence like 'Speaks English' in English is ungrammatical. This condition results in a general 'binary parameter-setting model', distinguishing between languages which require an overt subject pronoun and languages which do not require it. As Radford points out, "a p*arameter* is a binary one; it only has two possible settings for a particular language." As in the case of two languages in this study, "any language either allows or does not allow finite verbs in a language to have null-subject pronouns."[1] These illustrations can be multiplied by whether any particular language requires an overt determiner or not, whether any particular language requires auxiliaries or not, whether any particular language operates movement in forming questions or not or whether the head of any phrase positions after or before the complement word. Now, let's explain how parametric variations work for some principles we have mentioned in the study so far.

For the 'X-bar principle', while it suggests a binary phrase structure which contains a 'head' of the same type and a 'complement' not only for English but also for Turkish, it also accommodates a 'binary choice' as to whether this head comes 'first' or 'last', which is known as 'head parameter' suggesting:

- *Head Parameter:*
  (i)A head comes before its complement
  (ii) A head comes after its complement

Accordingly, since English sets its head parameter before its complement, it is regarded as a 'head-first language', whereas Turkish sets the same parameter after its complement, which results in a 'head-last language'.

As for empty subject position in framework of the 'Empty Category Principle', languages differ in their 'Pro-drop' parameter, or a 'Null-Subject'

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 17.

parameter, which determines "whether any language allows a null-subject conventionally known as small 'pro', a silent or phonologically invisible counterpart of pronouns"[1]:

- *Null-Subject Parameter :*
  (i)Null- Subject (Pro) is allowed
  (ii)Null- Subject (Pro) is not allowed

This null-subject tolerance depends on whether INFL is a proper governor, morphological uniformity and whether affixes are generated in the syntax or in the lexicon.[2] Accordingly, whereas finite verbs in a language like English are weak in terms of their morphology of agreement, as a result of which AGR is not a proper governor for finite verbs (e.g. I/we/they/you speak English), finite verbs in a language like Turkish are strong in terms of their morphology of agreement and AGR is a proper governor, as illustrated in the example below:

İngilizce konuşur-um/-sun/-uz/-lar
Pro English speak-PRE-1Sgp/-2SgP/-1PlP/-3PlP

Therefore, the null-subject parameter can be set for English and Turkish languages: English is a 'non-null-subject', or 'non-pro-drop' language, while Turkish is a 'null-subject', or 'pro-drop' language.

Another aspect of grammar which requires parameterization is related to the principle of 'movement'. While, in English, 'wh-expressions' move to the beginning of the sentence (e.g. what$_j$ is$_i$ your name t$_i$ t$_j$), 'wh-expressions' do not move to the front of the sentence but remain 'in-situ' (i.e. in their original place) in Turkish (e.g. Adınız nedir/ your name is what). Hence, another parametric variation between languages can be formalized as the 'wh-movement' parameter, determining whether wh-expressions can be fronted or not:

- *Wh-Movement parameter:[3]*
  (i) Wh-movement is allowed

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 18.
[2] Cook-Newson, op. cit., p. 348.
[3] Radford, *Minimalist Syntax: Exploring the Structure of English*, loc. cit.

(ii) Wh-movement is not allowed

According to this parameter, while English operates 'wh-movement', Turkish does not.

As for the 'Case Theory', languages differ in their 'case paradigms' and their assignment conditions. The differences in case paradigms arise from lexical differences (i.e. whether they are affixal or adpositional. In terms of case assignment, however, languages may demonstrate parametric variations. For instance, as to the case adjacency principle which we mentioned before, English and Turkish differ in their case assignment properties. While English require case assigners to be adjacent to the NP (e.g. I *love her* very much/ *I *love* very much *her*), Turkish does not have such requirement (e.g. *Onu* çok *seviyorum/ Her* very *love-PRE-1SgP*). Then, the parameterization will be as the following:

- *Case Adjacency Parameter:[1]*
  (i) Case is assigned by the adjacent assigner
  (ii) Case is assigned either by a separated or an adjacent assigner

Accordingly, whereas English is of the parameter (*i*), Turkish sets the parameter (*ii*).

From the examples above, it is understood that parametric variations are set during the universal operations (i.e. principles) between the languages under study, as in the case of those values set for English and Turkish in this study. That is, "languages vary in the ways they use the principles but not in the principles themselves."[2] As stated by Chomsky (1982), "the grammar of a language can be regarded as a particular set of values for the parameters, while the overall system of rules, principles and parameters is UG."[3] This set of values for the parameters regarded as the grammar of a particular language, some of which are illustrated above, are largely linked to functional categories rather than lexical ones. Accordingly, while words such as nouns (Ns), verbs (Vs), adjectives (As), adverbs

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 18.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 69.
[3] Chomsky, *Some Concepts and Consequences of the Theory of Government and Binding,* op.cit., p. 7.

(ADVs) and prepositions (Ps) have lexical properties, particles such as auxiliaries (Aux), determiners (Ds), pronouns (PRN) and complementisers (Cs) have functional properties.[1] These functional words have grammatical features such as person, gender, number and case within a sentence but are not meaningful as individual or separate entries. An English pronoun "it", for example, unlike the English noun "cat", has no descriptive content but a set of grammatical features such as person, number and case, successively corresponding to a third-person-singular nominative pronoun. Via grammatical features, we describe person (first, second or third), number (singular or plural), gender (masculine, feminine or neuter) and case (nominative, accusative or genitive). Some of these grammatical features may be categorized as parametric variations depending on the natural languages studied. For example, while German or French have nouns, pronouns and adjectives inflected in terms of gender, English language has almost none except for third person singular pronouns "she" and "he." In fact, on this point, Ouhalla (1991) suggests that functional categories demonstrate parametric variations,[2] which means "languages differ only in the properties they select for their functional categories."[3] However, lexical categories are "universal and demonstrate similar properties across all languages."[4] This notion then leads to the theory known as 'Functional Parameterization Hypothesis', suggesting:

- *Only functional categories have grammatical features such as number, person etc., and only functional categories have parameters.*[5]

According to this hypothesis, parameters are not linked to the lexical categories such as Ns, Vs, As or Ps but to the functional categories such as INFLP, TP, AGRP or AUXP etc. For example, the lexical V 'break' with all its corresponding phonological forms in different languages (e.g. 'kır' in Turkish) is transitive and requires an NP complement (e.g. ENG break the window or TR pencereyi kır). However, while the category of INFL is a proper governor due to its

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., 41.
[2] Jamal Ouhalla, *Functional categories and parametric variation*, Routledge, London, 2003, p. 14.
[3] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 186.
[4] Ibid.
[5] Ibid, p. 347.

agreement morphology in Turkish, this category is not a proper governor for its subject due to its weak agreement properties in English, resulting in 'pro-drop' and 'non-pro-drop' parameterization. Moreover, functional categories may also vary in the lexicon. For instance, while the category of 'infinitival to' is lexically exists in English (e.g. to do), this functional constituent appears as an infinitival morpheme in Turkish (e.g. git-mek), leading to the lexical and non-lexical (or morphological) entries in functional categories. Indeed, some functional categories may not exist in a given language. For example, as cited by Cook and Newson (1996), "Van Gelderen (1993) argues that English did not have the category of T or AGR until 1380 and that Dutch still does not have them."[1] Then, there seems to be parametric variations between languages as to whether a functional category actually exists in a given language, if exists, whether this functional category appears as lexical or non-lexical (or morphological) entry in the syntax of a given language, or whether any functional category exists as a null constituent with its grammatical and semantic features (i.e. empty category) but lacks phonetic features (i.e. silent).

Holmberg and Roberts summarize the fundamental characteristics of parameters, compare and conrast them with the traditional grammar rules. Initially, they state that parameters are descriptively simple, whereas rules are (generally) not.[2] Newmeyer who argues that setting parameters has no role in accounting for cross-linguistic differences in syntax suggests a rule-based alternative to language-particular parameters.[3] He suggests rules which are equivalent to parameter settings. For example, he handles head-position parameter by language-particular rules of the form instead of using binary choices like head-first or head-last language concepts. Instead, he prefers setting rules like "In English language, complements occupy the right of the head whereas in Turkish language complements occupy the left of the head", but this suggestion seems traditional and makes no difference. As a second characteristic of parameters, Holmberg and Roberts state that parameters have binary

[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 187.
[2] Anders Holmberg-Ian Roberts, *Null Subjects: the structure of parametric variation,* Cambridge, 2007, 443.
[3] Frederick J. Newmeyer, "Against a parameter-setting approach to language variation", *Language Variation Yearbook, 4,* Amsterdam, 2004, 183-185.

settings, having two possible settings for a particular language.[1] Binary settings are still under operation in setting parameters just as the binary settings about the idea of language which we mentioned at the beginning of this part of the study. Clark and his colleagues, in addition, state that it may be useful to formulate parameters as binary options, since this creates the possibility of seeing a set of parameter values.[2] Next, it is stated that parameters are small in number, but the number of rules is open-ended.[3] Newmeyer questions the number of parameters.[4] He argues that there may be hundreds or thousands of parameters considering the different grammars of the world's languages, dialects and idiolects. Holmberg and Roberts claim that no one has ever suggested that there are millions of parameters and that there may be millions of possible grammatical systems, but only twenty independent binary parameters are necessary to produce the order of grammatical systems.[5] However, Holmberg and Roberts, Lightfoot, Kayne and Roberts and Roussou all agree on the opinion of the number of parameters in the literature to be about 50-100.[6] Finally, it is added that parameter settings are easily learned, while rules are learned with greater difficulty.[7] Nonetheless, rather than limiting the number of parameters or describe all possible parameters identified between any two languages so far, we prefer to introduce some setting criteria which we will use in our descriptions of parametric variations between English and Turkish languages in the following parts of the study (see chapter 5 and 6).

The parameter setting criteria which we will use in our descriptions of parametric variations between English and Turkish languages cover the following settings; whether any particular language has an overt head constituent or not (i.e. null or non-null), whether any particular language has affixal or lexical complements (i.e. c-selectional or m-selectional), whether any particular category in a particular language operates movement in forming questions or not (i.e. having [WH] feature

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[1] Holmberg-Roberts, loc. cit.
[2] Robin Clark-Ian Roberts, "A computational approach to language learnability and language change", *Linguistic Inquiry* 24, 1993, 299-345.
[3] Holmberg-Roberts, loc. cit.
[4] Newmeyer, op. cit., 196.
[5] Holmberg-Roberts, loc. cit.
[6] Ibid.
[7] Ibid.

or not), whether the head of any phrase positions after or before the complement word (i.e. head-last or head-first), whether any particular category in a particular language c-selects nominal categories or verbal categories (i.e. nominal or verbal category selection), whether any particular category in a particular language can attract its complement to a higher node (i.e. strong or weak), whether any particular category in a particular language undergoes agreement with another constituent or has binding relations (i.e. free or bound) and whether any particular category in a particular language is assigned grammatical features such as 'case', 'tense' or 'agreement' by another constituent at PF or LF (i.e. overt or covert).[1] While principles constitute the theoretical basis for the comparative analyses in our study, setting parameters between English and Turkish languages contrastively is the purpose of our study.

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[1] These parameter setting models are adapted from: Norbert Hornstein-Jairo Nunes-Kleanthes K. Grohmann, *Understanding Minimalism,* New York, 2005; Jamal Ouhalla, *Functional categories and parametric variation*, Routledge, London, 2003; Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, 2004.

3.2.3. MINIMALIST GRAMMAR

The theory of Principles and Parameters took a new route with Chomsky's works in 1991, 1993, 1995 and onwards. In these publications, he came out with the notion of 'economy' in 'derivations' and 'representations', leading to a 'minimalist program' for linguistic theory. This idea of 'economy', however, was not a new concept. The theory of 'economy' in nature leading the 'theory of evolution', for example, also revealed in the notion that "species evolve in nature with their necessary equipment and atrophy the unnecessary ones."[1] This notion of economy can also be observed among other scientists. Galileo's suggestion "nature is perfect and simple and creates nothing in vain", Leonardo da Vinci's statement "nature is economical", Kepler's notion "nature loves simplicity", Newton's reasoning "nature is pleased with simplicity but not with the pomp of superfluous causes" and Einstein's belief that "nature is the realization of the simplest conceivable mathematical ideas" all demonstrate that 'simplicity', or 'economy', constitutes a significant methodological principle in science.[2] Therefore, the 20th and 21st centuries are predominantly effected by the sense of economy in different technological and scientific areas in order to minimize the cost but maximize the productivity, eliminating the unnecessary components. This sense of economy manifests itself in minimalism, the most obvious reflections of which are seen in architecture, literature, education, music and art, as the elimination of all non-essential forms, features or concepts and nanotechnology as the manipulation of matter on an atomic and molecular scale to develop devices with minimal scale but maximal efficiency.

Minimalism is described as a trend in any design or style in which the simplest and fewest elements are used to create the maximum effect. In architecture, it is regarded as the design where the subject is reduced to its necessary elements. 'Doing more with less', 'simpler is better' or 'less but better' are widely known

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[1] Charles Darwin, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, modern reprint Charles Darwin, Julian Huxley, *On The Origin of Species*, London, 2003.
[2] Cedric Boeckx, *Linguistic Minimalism; Origins, Concepts, Methods and Aims,* Oxford, 2006, p.111-113.

slogans among minimalist designers. The concept of minimalist architecture is to reduce everything to its essential quality and achieve simplicity.[1] The structure uses relatively simple elegant designs; quality rather than quantity is given priority for ornamentations. The structure's beauty is also determined by playing with lighting, using the basic geometric shapes as outlines, using only a single shape or a small number of shapes for design unity, usually natural textures and colours. Literary minimalism, on the other hand, is characterized by an economy with words and a focus on surface description. Minimalist authors avoid using unnecessary adverbs and prefer allowing context to dictate meaning. In education, minimalism manifests itself as "less is more." Loading students more than they need causes confusion and boredom. The English biologist Thomas Henry Huxley's famous word "try to learn something about everything and everything about something"[2] summarizes the approach of the minimalist educationalists. The proponents of this approach think that the curriculum tends to be too full for a student to achieve. Minimalism appears in linguistics as the economy of derivation and representation, abolishing superfluous elements in order to represent languages more universally but simpler,[3] which is known as the Minimalist Program which makes up the theoretical approach in our linguistic analyses of grammatical structures. It is important to point out that, "as emphasized by Chomsky, it is just a 'program', a mode of investigation, not a 'theory'."[4] That is, "the minimalist program asks questions and follows guidelines that are broad enough to be pursued in a great many directions."[5] Boeckx (2006) underlines the properties of the research to be done in the MP and points out that "it is open-ended and may take a long time to mature, allowing researchers to make maximal use of their creativity as they try to move from minimalist guidelines to concrete principles, it makes room for multiple, not necessarily mutually consistent, perspectives and it cannot be evaluated in terms of 'true' or 'false' but in terms of 'fertile' and 'sterile'." Therefore, "programs are not disproved or falsified but give

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[1] Franco Bertoni, *Minimalist Architecture*, Berlin, 2002.
[2] Thomas Henry Huxley, on his memorial at Ealing, quoted in *Nature* XLVI, 1902, p. 658.
[3] Chomsky, *Some Notes on Economy of Derivation and Representation*, Cambridge, 1991; Chomsky, *The Minimalist Program*, Cambridge, 1995.
[4] Cedric Boeckx, *Linguistic Minimalism; Origins, Concepts, Methods and Aims,* op. cit., p.5.
[5] Ibid.

new insights to the field."[1] Furthermore, "programs generate new sets of questions, create new problems and conflicts which they may not solve, but which, otherwise, might have gone unnoticed." It may also be added that "they create new coherence and simpler views on the issues that are of the interest of the scientists and may take decades before they take off and become empirically progressive."[2] It should be noted that "programs provide a conceptual framework which leads to the development of a given theory." That is, "a program merely outlines a number of research goals which guides the development of a given theory", which is why "there are minimalist questions, but not minimalist answers" as stated by Chomsky (2000)."[3]

The Minimalist Program (MP) refers to a program under the Principles and Parameters (P&P) Theory.[4] Following the theory's success in solving the logical problem of language acquisition, more methodological criteria giving simplicity and elegance priority become prominent.[5] Being a more comprehensive topic, P&P covers both the GB theory as the earlier P&P theory and the MP as a more recent version of the P&P. "The majority of the innovations in the MP do not depart from the basic concept of GB but a particular version of these proposed by Chomsky (1981) and its subsequent development. It is a progression rather than a complete U-turn."[6] In another view, the purpose of the program is described by the question "granted that the language faculty has a P&P character, which of the many possible P&P models is the 'simplest' or the 'most economic' one. What the MP does is to answer this question."[7] It is based on the assumption that Universal Grammar constitutes "a perfect design in the sense that it contains only what is necessary to meet the logical and phonological needs."[8] Therefore, the program underlines the principle of economy in establishing the necessary elements for universal grammar in

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[1] Cedric Boeckx, *Linguistic Minimalism; Origins, Concepts, Methods and Aims,* op. cit., p.6.
[2] Ibid, p. 90-91.
[3] Ibid, p.84.
[4] Noam Chomsky-Howard Lasnik, "Principles and Parameters Theory", *Syntax: An International Handbook of Contemporary Research*, Berlin, 1993b.
[5] Boeckx, op. cit., p.61.
[6] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p.312.
[7] Boeckx, op.cit., p.59.
[8] Ibid, p. 8-12.

which all representations and processes used to drive them are to be as economical as possible.

In identifying what is necessary and what is not, the MP rests on three basic criteria: 'economy', 'virtual conceptual necessity' and 'symmetry'.[1] The notion of 'economy' targets the superfluous steps in derivations and superfluous elements in representations, trying to get rid of them. It requires 'simplicity' which is also a notion of Chomsky's (1951) work. Cited by Boeckx (2006), Chomsky states "the shorter grammar is the simpler and among equally short grammars, the simplest is that in which the average length of derivation of sentences is least." In another saying, "more is worse and fewer is better (e.g. shorter movement is better than the longer one)."[2] Indeed, Hornstein (2005) et al. states that "the most economical derivation will always be the one where nothing happens."[3] As for 'virtual conceptual necessity', on the other hand, levels of representation (i.e. deep structure, surface structure, phonetic form and logical form) are targeted. It refers to "what appears to be necessary at the present stage of understanding and questions whether all these stages are essential and unavoidable features of human languages."[4] As for the third criterion, "'symmetry' underlines the fact that the more symmetry one finds in a system, the fewer distinct processes will be needed to generate a given structure (i.e. the more economical the system is)."[5] All these criteria make up the distinctive programmatic character of the minimalist grammar.[6] Another character of the minimalist grammar lies in its inquisitorial 'why-questions', which makes it "an attempt to explore the questions, asking what the properties of language are and why they exist."[7] The minimalist questions such as why natural languages have movement, why we have linear order properties in natural languages, why not every lexical item has phonological features, whether 'traces' are really necessary, whether

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[1] Cedric Boeckx, *Linguistic Minimalism; Origins, Concepts, Methods and Aims,* op. cit., p. 83.
[2] Norbert Hornstein-Jairo Nunes-Kleanthes K. Grohmann, *Understanding Minimalism,* New York, 2005, p. 8.
[3] Ibid, p. 70.
[4] Boeckx, op. cit., p. 70-73.
[5] Ibid, p. 83.
[6] Ibid.
[7] Noam Chomsky-Collins Chris, "Beyond explanatory adequacy", *MIT Occasional Papers in Linguistics*, 20, 2001, p.2-3.

'deep and surface structure' levels, 'X-bar', 'government' or 'binding' principles are indispensible and, in fact, if yes for the questions above, why this is so all demonstrate us the methodological approach of the MP to grammar, or linguistics. The answers to these deeper questions are provided by the methodological principle of simplicity which is attributed to Galileo's intuition of perfection of nature" by Chomsky (2001).[1] According to this Galilean view, "nature always complies with the easiest and simplest rules" and "nature does not do those which may be done by few by many things."[2] However, we should note that these questions are not in scope of our study since we are only interested in identifying the parametric variations between English and Turkish languages through analyses depending on principles of UG revised by the minimalist answers to these questions rather than questioning the universal principles of languages. For this purpose, we provide a range of previously mentioned principles which are revised, replaced or abandoned for the sake of minimalist concerns (i.e. the MP). That is, what we are interested in this part is to bring out what have changed in GB, or P&P, theory and how previously mentioned principles have been affected by the MP since we carry out a minimalist approach to the analyses of the reference grammatical structures in the study.

In terms of the departures, Chomsky (1995) states that "concepts and principles regarded as fundamental in earlier works are challenged and eliminated in those that follow, including the basic ideas of the Extended Standard Theory that were adopted in the 'Principles and Parameters' approaches: 'deep structure', 'surface structure', 'government', the 'projection principle' and the 'θ-criterion'; and other conditions held to apply at 'deep and surface structure'; the 'empty category' principle; 'X-bar' theory, the operation 'Move α'; the 'split-IP' hypothesis and others. They all are discarded as 'conceptually unnecessary and empirically inadequate' derivations or representations."[3] Hornstein (2005) points out that the fundamental UG principles suggest "a variety of minimalist projects when coupled with two types of economy conditions." One is "'methodological economy' that

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[1] Chomsky-Chris, "Beyond explanatory adequacy", op. cit., p.3.
[2] Galileo Galilei, Dialogue concerning the Two Chief World Systems. In C. Boeckx, *Linguistic Minimalism; Origins, Concepts, Methods and Aims,* Oxford, 2006, p. 111.
[3] Chomsky, *The Minimalist Program,* op. cit., p. 375.

relates to theoretical parsimony and simplicity: all things being equal, two primitive relations are worse than one, three theoretical entities are better than four." The other is "'substantive economy' that relates to least effort, locality conditions and well-formedness filters: short steps are preferred to long strides (i.e. Shortest Move), fewer rules are preferred to more."[1] Now, let's see how these concepts, modules or principles in each derivational step have changed along with the MP.

(i) The earlier GB assumption that 'D-structure' is a starting point in a syntactic derivation where lexical insertion takes place is discarded and replaced by the minimalist assumption that the derivation starts with 'numeration' and followed by 'select' and 'merge' operations. Accordingly, from a minimalist perspective, the 'starting point' also seems to be necessary for economy reasons. Chomsky (1995) suggests that such a starting point is a numeration, consisting a set of lexical items ($N = L_n, L_n, ...$), where 'N' is numeration, 'L' is a lexical item and 'n' indicates the number of that lexical item entering the computation.

TR   Bu çocuk bu etkinliği yapabilir.
        This boy this activity-ACC do-INFL (ABIL-PRE)

ENG   This boy can do this activity

N_{TR}= {bu_2, $çocuk_1$, $etkinlik_1$, yap_1}

N_{ENG}= {$this_2$, boy_1, $activity_1$, do_1, can_1}

In order to derive the structure above, "the language faculty is assumed to comprise a 'lexicon' and a 'computational system', the former of which specifies the items and their particular properties depending on the language in question (e.g. English and Turkish languages for this example) that enter into the computational system, whereas the latter arrange these items in a way to form a pair (π, λ), where π is a PF object and λ is an LF object."[2] Accordingly, the computational system initially selects (i.e. the operation 'Select') the necessary lexical items from the lexicon, forming the numeration 'N'. Then, 'select' pulls out an element and then another from the numeration (e.g. etkinlik, bu etc.) in a bottom-up fashion where

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 8.
[2] Ibid, p.15.

complements are merged with their heads and occupy a lower position in the derivation, reducing their numbers to 'n-1' (i.e. L_{n-1}).

N_{TR} = {bu_2, çocuk$_1$, etkinlik$_0$, yap$_1$}
etkinlik

N_{ENG}= {this$_2$, boy$_1$, activity$_0$, do$_1$, can$_1$}
activity

N_{TR} = {bu_1, çocuk$_1$, etkinlik$_0$, yap$_1$}
bu

N_{ENG}= {this$_1$, boy$_1$, activity$_0$, do$_1$, can$_1$}

this

Next, the two lexical items 'merge', forming a DP, as shown below:

N_{TR} = {bu_1, çocuk$_1$, etkinlik$_0$, yap$_1$}
etkinlik + bu (merge)
[DP bu etkinlik]

N_{ENG}= {this$_1$, boy$_1$, activity$_0$, do$_1$, can$_1$}
activity + this (merge)
[DP this activity]

As understood from the illustrations above, 'D-Structure' as a level of representation within GB is replaced by other operations or concepts such as 'numeration', 'select' and 'merge', which makes the former application (i.e. D-Structure as a starting level of representation for generativity) superfluous.

(ii) Instead of the X-bar principle in GB theory suggesting that every head projects a phrase, the MP suggests a 'Strong Endocentricity Projection' principle, suggesting:

- *Heads projects a structure via the complement, modifier and specifier relations.*[1]

In addition, the 'AGR$_S$' and 'AGR$_O$' of the earlier X-bar theory in GB is abandoned and a 'Spec-head' configuration determining θ-relations is suggested instead:

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 198.

- *all θ-roles associated with a head H are assigned within projections of H.[1]*

Accordingly, the derivation in (i) will follow a route where 'select' pulls out another element from the numeration (e.g. TR yap or ENG do etc.), reducing its number to 'L_{n-1}'.

N_{TR} = {bu_1, $çocuk_1$, $etkinlik_0$, yap_0}
yap

N_{ENG}= {$this_1$, boy_1, $activity_0$, do_0, can_1}
do

When the two lexical items merge, one being a verb, θ-relations occur as suggested by the GB theory. The verb initially takes the complement DP as an internal argument as shown below:

N_{TR} = {bu_1, $çocuk_1$, $etkinlik_0$, yap_0}
[DP bu etkinlik] + yap (merge)
[VP yap [DP bu etkinlik]]

N_{ENG}= {$this_1$, boy_1, $activity_0$, do_0, can_1}
[DP this activity] + do (merge)
[VP do [DP this activity]]

The resulting VP also requires an external argument under the 'Predicate-Internal Subject Hypothesis'. Then, the external argument is generated in the specifier of the lexical head with which it is in θ-relation. According to the 'Strong Endocentricity Projection', a 'minimal projection' (X_0) is a lexical item selected from the numeration (e.g. V yap/ do). An 'intermediate projection' (X′) is a syntactic object that is neither an X_0 nor an XP (e.g. V′ yap bu etkinlik/ do this activity). A 'maximal projection' (XP) is a syntactic object that doesn't project further (e.g. VP)."[2] Therefore, the computational system selects another element from the numeration in order to satisfy the maximal VP projection (e.g. TR çocuk or ENG boy etc.), previously merging with its modifier or determiner (e.g. TR bu çocuk or ENG this boy etc.) resulting from the 'Extension Condition', suggesting:

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 81.
[2] Ibid, p. 197.

- *Applications of merge can only target root syntactic objects.[1]*

The 'Extension Condition' forces 'bu' (this) and 'çocuk' (boy) to merge before they end up being part of the VP and to enter the derivation as 'bu çocuk' (this boy).

N_{TR} = {bu_0, $çocuk_0$, $etkinlik_0$, yap_1}
çocuk + bu (merge)
[DP bu çocuk]

N_{ENG} = {$this_0$, boy_0, $activity_0$, do_1, can_1}
boy + this (merge)
[DP this boy]

N_{TR} = {bu_0, $çocuk_0$, $etkinlik_0$, yap_0}
[VP yap [DP bu etkinlik]] + bu çocuk (merge)
[VP [DP bu çocuk] [V' yap [DP bu etkinlik]]]

N_{ENG} = {$this_0$, boy_0, $activity_0$, do_0, can_1}
[VP do [DP this activity]] + this boy (merge)
[VP [DP this boy] [V' do [DP this activity]]]

Note that the VP projections of both languages are still in SVO order compatible with Kayne's (1994) proposal that "all languages are underlying SVO."[2]

(iii) As for another level of representation postulated by GB as "the point where the derivation splits, sending off one copy to PF for phonetic interpretation and one copy to LF for semantic interpretation", S-structure is assumed as a place where 'case' is assigned under 'government', 'null operators' are identified, 'traces' are marked, 'binding' rules, and 'subjacency' apply.[3] Instead of the 'Case Theory', 'government' and 'binding' rules regulating case assignment and movement conditions which apply at S-structure in GB and suggests that case is assigned under government, the MP suggests that "nominal elements enter the derivation with their grammatical features (φ-features) already specified (e.g. biz/ we: 3-Per, Pl-Num, biz/we, bizi/us, bize/us etc) and are forced to check the appropriateness of their case-

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 63.
[2] Richard S. Kayne, *The antisymmetry of syntax*, Cambridge, 1994, p. 47.
[3] Hornstein-Nunes-Grohmann, op. cit., p. 25.

features with the case features of a local head."[1] They enter the syntax with their person and number features already 'valued' (e.g. biz/we: Pl-Num, 1-Per), but their case feature as 'unvalued' (e.g. u-Case: biz/we, bizi/us, bize/us etc.).[2] The difference between 'valued' and 'unvalued' grammatical features is closely related with their roles in semantic interpretation. In terms of 'Feature Value Correlation', this condition is described as:

- *Interpretable features enter the derivation already valued.*
- *Features which enter the derivation unvalued are uninterpretable.[3]*

This means that phonological features (e.g. biz/we, bizi/us, bize/us etc.) are only readable (or interpretable) at phonetic component (PF) of languages, but not at semantic component (LF). They are language particular grammatical features. In contrast, semantic features (e.g. Pl-Num, 1-Per etc.) are readable at LF, but not at PF. In other words, while the φ-features [1-Per] and [Pl-Num] are interpretable as 'first person' and 'plural in number' respectively at LF, they appear as 'biz/we, biz-i/us, biz-e/us' at PF.

Accordingly, when we turn back to the example structure in (ii), the derivation with the grammatical features can be interpreted as the following:

[VP [DP bu çocuk$_{\{3\text{-Per, Sg-Num, u-Case}\}}$] [V′ yap$_{\{u\text{-Tns}\}}$ [DP bu etkinlik$_{\{3\text{-Per, Sg-Num, u-Case}\}}$]]]

[VP [DP this boy$_{\{3\text{-Per, Sg-Num, u-Case}\}}$] [V′ do$_{\{u\text{-Tns}\}}$ [DP this activity$_{\{3\text{-Per, Sg-Num, u-Case}\}}$]]]

Now, the grammatical features are divided into 'interpretable' (e.g. 3-Per, Sg-Num etc.) and uninterpretable (e.g. u-Case, u-Per, u-Num, u-Tns etc.) features. It should be noted that the Turkish verb 'yap' and the English verb 'do' enter the derivation with their unvalued tense features (i.e. TR yap-abilir/do-ABIL.PRE, yaptı, yap-abilirdi/do-ABIL.PAST and ENG do, does, did etc.) in consistent with the

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 294.
[2] Radford, *Minimalist Syntax: Exploring the Structure of English*, op.cit., p.284-285.
[3] Ibid, p. 288.

'Inclusiveness Condition' which does not allow "the introduction of new elements (features) in the course of a derivation."[1]

Inclusiveness Condition

- *The LF object λ must be built only from the features of the lexical items of N.*[2]

At this derivational stage, "the computational system has the information that uninterpretable features must be deleted upon 'checking'."[3] This operation is known as 'Feature-Deletion':

- *α deletes any uninterpretable feature carried by β if α is φ-complete and if the values of any φ-feature carried by β match those of the corresponding φ-features of α.*[4]

Accordingly, "feature checking is actually triggered by the need to eliminate uninterpretable features from the computation."[5] These features have to be deleted since they may cause the derivation to crash at semantic component (LF). For example, the nominal element (i.e. pronoun) in *'çağır biz' (call we) is only interpretable as [1-Per, Pl-Num] at LF and cannot be distinguished from the grammatical 'çağır bizi' (call us), causing the derivation to crash. Therefore, since uninterpretable features are phonological differences and can only be readable at PF, the phonological features correlated with formal features (e.g. 'bizi (us)' is correlated with the formal feature [ACC]) can receive an interpretation at PF and their formal feature must be eliminated (e.g. [u-Case]) before they reach LF. Hence, the nominal elements need a φ-complete matching probe in respect of their person and number features to check their uninterpretable case features. At this point, as a minimalist solution, the computational system is assumed to operate a case checking 'vP' structure (i.e. 'VP-Shell Hypothesis') in which "every type of structural case is checked in a Spec-head configuration, analyzing transitive constructions in terms of

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[1] Vivian Cook-Mark Newson, *Chomsky's Universal Grammar*, op. cit., p. 457.
[2] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 367.
[3] Ibid, p. 297.
[4] Radford, *Minimalist Syntax: Exploring the Structure of English*, op.cit., p.289.
[5] Hornstein-Nunes-Grohmann, op. cit., p. 286.

two verbal shells, containing a light verb '*v*' responsible for the external θ-role assignment and 'accusative case checking' and a main verb V responsible for θ-marking the internal argument. In this structure, the light verb '*v*' is assumed to be affixal in nature and has a 'strong V-feature' ([STRONG]), unvalued person and unvalued number features."[1] Accordingly, the light verb licences the internal object to check its case under a Spec-head relation.

[[VP yap bu etkinlik $_{\{3\text{-Per, Sg-Num, u-Case}\}}$] $v_{\{u\text{-Per, u-Num, STRONG}\}}$ v ']

[*v* ' $v_{\{u\text{-Per, u-Num, STRONG}\}}$ [VP do this activity $_{\{3\text{-Per, Sg-Num, u-Case}\}}$]]

It should be noted that head of the phrase structure in Turkish shifted to the head-last direction since the light verb '*v*' is a functional category and 'parameterization' starts with functional categories in consistent with the 'Functional Parameterization Hypothesis' suggesting:

- *Only functional categories have parameters.*[2]

Then, the uninterpretable features of the nominal elements in the derivation require 'checking' as early as possible upon Pesetsky's (1996) 'Earliness Principle', suggesting:

- *Operations apply as early in a derivation as possible.*[3]

The null light verb identifies 'bu etkinlik', or 'this activity', as the only matching goal which carries an uninterpretable case feature. The goal 'bu etkinlik' in Turkish, or 'this activity' in English, values the 'u-Per' and 'u-Num' features of the light verb probe and the light verb values the 'u-Case' feature of 'bu etkinlik', or 'this activity', as accusative as explained above. Then, 'bu etkinlik' is spelled out as 'bu etkinliği' (this activity-ACC) at PF of Turkish, while 'this activity' with its valued accusative case bears no any phonological changes at PF of English.

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 122.
[2] Vivian Cook-Mark Newson, *Chomsky's Universal Grammar*, op. cit., p.347.
[3] David Pesetsky, *Zero syntax: Experiencers and cascades,* Cambridge, 1996, p. 172.

[[VP yap bu etkinliği {3-Per, Sg-Num, ~~ACC-Case~~}] v_{3-Per, Sg-Num, STRONG} v']

[$_{v'}$ v_{~~3-Per, Sg-Num~~, STRONG} [VP do this activity {3-Per, Sg-Num, ~~ACC-Case~~}]]

(iv) As another innovation brought by the MP, the 'movement' operations in GB is assumed to be caused by the 'deletion' of the uninterpretable features licenses the movement which is regarded as a 'Copy and Delete' operation in the minimalist perspective. That is, 'movement' can be regarded "just as a response to eliminate the uninterpretable features", which complies with the 'Last Resort Condition':

- *A movement operation is licensed only if it allows the elimination of uninterpretable formal features.* [1]

The GB assumption of the co-indexed 'traces' left behind by the moved elements is replaced by the Minimalist assumption that 'traces' are actually a 'copy' of the moved elements.[2] In this view, the copy of the moved element is deleted in the PF component unlike the deletion of uninterpretable φ-features which are deleted in the LF component. That is, while 'Copy-Deletion' is "an operation which makes traces of moved elements invisible to the PF but leaving them visible in the LF, 'Future-Deletion' is an operation which makes the uninterpretable grammatical features invisible to the LF but leaving them visible to the PF component."[3]

Accordingly, for the derivation in (iii), the null light verb is affixal and so it has a strong V-feature, triggering the movement of the verb 'yap', or 'do', from 'V' to 'v'. The transitive light verb 'v' projects an 'AGENT' external argument and since the only relevant external argument is 'bu çocuk', or 'this boy', it enters the derivation with interpretable '3-Per' and 'Sg-Num' features but an unvalued case feature, forming the resulting 'vP' below:

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 293.
[2] Ibid, p. 257.
[3] Radford, *Minimalist Syntax: Exploring the Structure of English*, op.cit., p. 290.

[bu çocuk $_{\{3\text{-Per, Sg-Num, u-Case}\}}$ [[VP ~~yap~~ bu etkinliği $_{\{3\text{-Per, Sg-Num, }\sout{\text{ACC-Case}}\}}$] yap + $v_{\{3\text{-Per, Sg-Num, }\sout{\text{STRONG}}\}}$ v'] vP]

[vP this boy $_{\{3\text{-Per, Sg-Num, u-Case}\}}$ [v' ~~do~~ + $v_{\{3\text{-Per, Sg-Num, }\sout{\text{STRONG}}\}}$ [VP do this activity $_{\{3\text{-Per, Sg-Num, }\sout{\text{ACC-Case}}\}}$]]]

In the derivation above, we can see that interpretable and uninterpretable φ-features of the light verb generated in 'v' (i.e. {STRONG} and {ACC-Case}) enter into a checking relation with the matching interpretable and uninterpretable features of the related elements (i.e. the verb and the nominal integral argument) and delete them. Then, the derivation above will be the one as shown below:

[bu çocuk $_{\{3\text{-Per, Sg-Num, u-Case}\}}$ [[VP ~~yap~~ bu etkinliği $_{\{3\text{-Per, Sg-Num, }\sout{\text{ACC-Case}}\}}$] yap + $v_{\{3\text{-Per, Sg-Num, }\sout{\text{STRONG}}\}}$ v'] vP]

[vP this boy $_{\{3\text{-Per, Sg-Num, u-Case}\}}$ [v' do + $v_{\{3\text{-Per, Sg-Num, }\sout{\text{STRONG}}\}}$ [VP ~~do~~ this activity $_{\{3\text{-Per, Sg-Num, }\sout{\text{ACC-Case}}\}}$]]]

However, the derivation is still not completed since the uninterpretable grammatical features and lexical elements in the numeration of both languages have not been exhausted yet.

(v) The MP also eliminates representational categories such as 'I/INFL', 'AGR$_S$' and 'AGR$_O$' categories which are responsible for the government of tense and case assignment in GB and replace them with 'T' category having an interpretable 'tense' (i.e. Pre-Tns), 'nominal case' (i.e. [Nom-Case]) and an uninterpretable 'extended projection' (i.e. [EPP]) feature which posits that "any X constituent requires a specifier in order to project an XP."[1]

In the derivation above, the verb 'yap' in Turkish enters the derivation with its uninterpretable tense (i.e. [u-Tns]) feature. It should also be remembered that the modal auxiliary 'can' in English with its interpretable tense feature (i.e. [PRE-Tns]) and affixal T (-abilir [PRE-Tns]) also has not entered the derivation yet.

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 450.

$N_{TR} = \{$bu$_0$, çocuk$_0$, etkinlik$_0$, yap$_0$ $_{\{u\text{-}Tns\}}$, $\}$

$N_{ENG} = \{$this$_0$, boy$_0$, activity$_0$, do$_{0\{u\text{-}Tns\}}$, can$_1$ $_{\{PRE\text{-}Tns\}}\}$

Turning back to the bilingual derivations again, we remember that the resulting '*v*Ps' formed above should merge with a finite T which has an interpretable present tense feature, uninterpretable φ-features (i.e. u-Per and u-Num) and an uninterpretable 'EPP' feature. The uninterpretable tense feature of the Turkish verb 'yap', or the English verb 'do', enters into a checking relation with the matching interpretable 'Pre-Tns' feature of the T which is filled by the modal auxiliary 'can' in English and the affixal modal auxiliary '-Abilir' in Turkish as the closest and the only active goal which carries an uninterpretable tense feature. The T checks the uninterpretable tense feature of the matching goal, marking it as present. Then the uninterpretable feature is deleted and the derivation will be as the following:

[Bu çocuk $_{\{3\text{-Per, Sg-Num, }\text{Nom-Case}\}}$ [[bu çocuk [[bu çocuk [[yap bu etkinliği $_{\{3\text{-Per, Sg-Num, }\text{ACC-Case}\}}$ V'] VP] yap $_{\{Pre\text{-Tns}\}}$ + *v* $_{\{3\text{-Per, Sg-Num, }\text{STRONG}\}}$ *v*'] *v*P] T yapabilir $_{\{Pre\text{-Tns, }3\text{-Per, Sg-Num, EPP}\}}$ T'] TP]

[TP This boy $_{\{3\text{-Per, Sg-Num, }\text{Nom-Case}\}}$ [T' T can $_{\{Pre\text{-Tns, }3\text{-Per, Sg-Num, EPP}\}}$ [*v*P this boy [*v*' do + *v* $_{\{3\text{-Per, Sg-Num, }\text{STRONG}\}}$ [VP this boy [V'do this activity $_{\{3\text{-Per, Sg-Num, }\text{ACC-Case}\}}$]]]]]]]

The null category of T values the 'u-TNS' feature of the verbal predicate 'yap' in Turkish, or 'do' in English, as 'Pre-TNS'. Then, 'yap' is attracted by the affixal T and spelled out as 'yapabilir' (do-ABIL-PRE) at PF of Turkish, while 'do' is merged with its lexical T head carrying PRE feature T nd spelled out as 'can do' at PF of English. This is assumed to be caused by the condition 'Procrastinate', suggesting:

- *Grammars do not check features unless they must.*[1]

(vi) The 'S-structure' in GB, moreover, is replaced by the 'spellout' assumption which is different from the former in that "it is not a level of representation since no any conditions or principles are applied at that point." Accordingly, "since the sentences are finite in length, at some arbitrary point the syntactic computation must split to PF and LF in the minimalist model. This arbitrary point of transfer is called 'Spellout'."[2] Grammatical features are assumed to have 'strong' or 'weak' features, resulting in 'overt' or 'covert' feature checking or movement before or after spellout. "Strong features are phonologically indigestible and so are checked overtly before the grammar splits (i.e. spellout), whereas the weak ones are phonologically acceptable and are only checked covertly by LF after the spellout."[3] This condition leads to parametric variations between languages in terms of 'overt' or 'covert' feature checking or movement. The 'EPP' which requires that all clauses must have a subject at S-Structure in GB, for example, is revised by the MP positing that "Infl has a strong D- or N-feature; thus, some element bearing a D/N feature must occupy [Spec,IP] before the computation splits, so that the strong feature is appropriately checked."[4]

Accordingly, the null T, in the derivation (v) above, then identifies the DP 'bu çocuk', or 'this boy' as the only active goal with an unvalued case feature which it c-commands. The DP values and deletes the φ-features (i.e. person and number features) of T and conversely T values the case feature of the DP as nominative (Nom-Case) and deletes it, resulting in the spellout as 'Bu çocuk', or 'This boy' at PF. The 'EPP' feature of T triggers raising of the DP from 'Spec-vP' to the 'Spec-TP' position. Deletion of the uninterpretable and unvalued features between matching elements results in a 'Last Resort' movement which is regarded as a 'Copy, Merge and Delete' operation in the MP. The successive 'select' and 'merge', 'copy, merge and delete' operations are applied by the computational system until all the

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 39.
[2] Cedric Boeckx, *Linguistic Minimalism; Origins, Concepts, Methods and Aims,* op. cit., p. 79.
[3] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 39.
[4] Ibid, p. 295.

lexical items in the numeration have been exhausted and all the uninterpretable features have been deleted, resulting in a complete derivation. "A computation is taken to be a derivation only if the numeration has been exhausted, that is, a derivation must use up all the lexical items of its numeration."[1] Finally, the derivation ends up with a pair (PF, LF) in the computational system, where 'Bu çocuk bu etkinliği yapabilir' in Turkish constitutes the PF object of this pair, while '[DP $_{\text{3-Per, Sg-Num, }\cancel{\text{Nom-Case}}}$ [[DP [[DP [[$_{\text{3-Per, Sg-Num, }\cancel{\text{ACC-Case}}}$ V′] VP] $_{\cancel{\text{Pre-Tns}}}$ + v $_{\text{3-Per, Sg-Num, }\cancel{\text{STRONG}}}$ $v′$] vP] T $_{\text{Pre-Tns, }\cancel{\text{3-Per, Sg-Num,}}\text{ EPP}}$ T′] TP]' constitutes the LF object of this pair, which demonstrates that "language is a combination of sounds and meanings, so only representations of sounds or phonetic form and representations of meaning or logical form are really indispensable,"[2] therefore 'D-structure' and 'S-structure' are regarded as unnecessary operations. Lexicon is still indispensible. So, the minimalist design is illustrated like Fig.6 below.

Lexicon

PF   LF

[Phonetic Component]   [Semantic Component]

Figure 6: Chomsky's minimalist model in the MP[3]

Accordingly, the derivation we have illustrated above so far can be shown as below:

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[1] Ibid, p. 70.
[2] Chomsky, *The Minimalist Program,* op. cit., p. 4.
[3] Vivian Cook-Mark Newson, *Chomsky's Universal Grammar*, op. cit., p. 314.

LEXICON

|

Select & Merge & Move

|

SPELLOUT ———————— PF

|

LF

Figure 7: Derivation Model in the MP[1]

To make the discussion rather concrete, we can summarize the whole bilingual derivation we have illustrated so far on the minimalist derivation model as shown in Fig. 8 below.

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[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 73.

Lexicon

$\}$ Select

$N_{TR}=$ {bu$_2$, çocuk$_1$, etkinlik$_1$, yap$_1$}

$N_{ENG}=$ {this$_2$, boy$_1$, activity$_1$, do$_1$, can$_1$} $\}$ Numeration

[VP yap [DP bu etkinlik]]

[VP do [DP this activity]] $\}$ Select&Merge

[[VP ~~yap~~ [DP bu etkinlik]] yap vP]

[vP do [VP ~~do~~ [DP this activity]]] $\}$ Copy&Delete&Move

[Bu çocuk $_{\{3\text{-Per, Sg-Num, \sout{Nom-Case}}\}}$ [[~~bu çocuk~~ [[~~bu çocuk~~ [[yap bu etkinliği $_{\{3\text{-Per, Sg-Num, \sout{ACC-Case}}\}}$ V'] VP] ~~yap~~ $_{\{\text{\sout{Pre-Tns}}\}}$ + v $_{\{3\text{-Per, Sg-Num, \sout{STRONG}}\}}$ v'] vP] T yapabilir $_{\{\text{Pre-Tns, \sout{3-Per, Sg-Num, EPP}}\}}$ T'] TP]

[TP This boy $_{\{3\text{-Per, Sg-Num, \sout{Nom-Case}}\}}$ [T' T can $_{\{\text{Pre-Tns, \sout{3-Per, Sg-Num, EPP}}\}}$ [vP ~~this boy~~ [v' do + v $_{\{3\text{-Per, Sg-Num, \sout{STRONG}}\}}$ [VP ~~this boy~~ [V' ~~do~~ this activity $_{\{3\text{-Per, Sg-Num, \sout{ACC-Case}}\}}$]]]]]]

Spellout

PF   LF

'Bu çocuk bu etkinliği yapabilir'
'This boy can do this activity'

[DP$_{\{3\text{-Per, Sg-Num}\}}$ DP$_{\{3\text{-Per, Sg-Num}\}}$ V+T$_{\{\text{Pre-Tns}\}}$ TP]

[TP DP$_{\{3\text{-Per, Sg-Num}\}}$ T$_{\{\text{Pre-Tns}\}}$ V DP $_{\{3\text{-Per, Sg-Num}\}}$]

Figure 8: A Sample Minimalist Derivation in the MP

From the illustration, it is understood that "all languages are identical at LF"[1] and that the parametric variations (i.e. head-parameter and attracting affixal or lexical T constituents) tell us what all languages look like at LF. In the illustration, "the link between 'sound' and 'meaning' is described as a derivation, taking a single array of lexical elements as its input (the numeration), and the two interface representations PF and LF as its output."[2] The point where the computation splits into PF and LF is called 'Spellout'.[3] In the derivation, the elements in the 'Numeration' are linked up in a phrase structure in relation with their relevant thematic (i.e. θ-role assignment) and syntactic relations (i.e. feature checking) by the operation 'Merge'.[4] Government and binding play no role in the derivation. The 'head-complement' and 'spec-head' relations are sufficient and there is no need to apply government. 'D-Structure' is eliminated and replaced by a 'select and merge' fashion which selects and then combines elements drawn from the lexicon. 'S-Structure' is eliminated and replaced by 'feature checking', 'copy' and 'delete' operations in order to explain certain features that are visible but not interpretable at PF. "At some point in the derivation, the system employs the operation Spell-Out, which splits the computation in two parts, leading to PF and LF. The mapping that leads to LF is referred to as the 'covert' component and the one that leads to PF as the 'phonological' component; the computation that precedes Spell-Out is referred to as 'overt syntax' and the one that follows Spell-Out is referred to as 'covert syntax'."[5]

(vii) Furthermore, the labelled 'X-bar Phrase Structure' is replaced by the 'Bare Phrase Structure' which suggests that since lexical entries (i.e. a verb like 'write') already include the information which categorical labels convey (i.e. V), lexical items may be enough to represent derivational structures taking place before 'spellout' (i.e. [write]) and categorical nodes may not be required.[6]

Accordingly, it is more economical to illustrate the phrase 'write a book' as unlabelled [write [a book] instead of illustrating it as labelled [VP write [DP a book].

[1] Hornstein-Nunes-Grohmann, *Understanding Minimalism,* op. cit., p. 38.
[2] Chomsky, *The Minimalist Program,* op. cit., p. 229.
[3] Ibid, p.220.
[4] Ibid, p.222.
[5] Hornstein-Nunes-Grohmann, op. cit., p. 73.
[6] Ibid, p.200.

However, in our analyses in this study, we will still keep traditional labelled representations in order to avoid confusion.

In conclusion, we understand that 'government', 'binding', 'X-bar' principles, 'DS' and 'SS' levels, 'movement', 'case assignment', 'verb raising', 'affix lowering', 'AGR$_O$P' and 'AGR$_S$P' or 'INFL' levels in 'GB Theory' are either abandoned or revised in favour of minimalist concerns such as 'simplicity', 'economy' and 'least effort'. In the derivational representations, while the universal principles such as 'merge', 'spellout', 'PF' or 'LF' and language particular parameters such as 'head-first' or 'head-last' which are the characteristic of many languages of the world are categorized and represented in syntactic levels, the language particular grammatical features such as 'case-marking', 'tense' and 'agreement' are illustrated as explanatory details.[1] The innovations brought by the MP and their contrastive modules in GB are shown in Table 1:

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[1] Peter W. Culicover, *Syntactic nuts: hard cases, syntactic theory, and language acquisition*, New York, 1999, p. 137-138.

Table 1: The GB and The MP

GB	MP
D-Structure (DS)	Numeration, Select & Merge
S-Structure (SS)	Spell-out
Phonetic Form (PF)	PF
Logical Form (LF)	LF
Case assignment or	Case checking or
Case is assigned	Case is checked
Movement	Attraction of Features,
	Copy & Merge & Delete
Traces (t)	Deleted Copies (~~xyz~~)
X-bar Principles	Projection Levels, Bare Phrase Structure,
Labelled Categorial Nodes	Unlabelled nodes
Binding	PISH, vP-Shell, feature interpretability,
	feature matching, feature checking
AGR$_O$P,	vP
AGR$_S$P and INFL	TP
Binding	PISH, vP-Shell, feature interpretability,
	feature matching, feature checking
Government	No government but sisterhood,
	Feature interpretability, Feature matching,
	Feature checking

When it comes to how we will make use of 'minimalist grammar' within this study, the sense of economy in analyzing language particular grammatical features and parametric variations come to the fore. Thus, we hypothesize that by getting rid of those superfluous operations in the derivation of grammatical structures, we can identify the parametric variations between English and Turkish languages better and easier. In order to identify parametric variations between English and Turkish in the most appropriate and economical way, we should initially identify what makes the target English grammar distinct from the Turkish one in the minimalist sense. In other words, we try to find out which underlying minimalist grammatical features and parametric variations lead to differences in the logical forms (LF) of these

languages. If we can achieve this purpose, we suggest that we can appropriately set what English grammar is for a Turkish speaking learner since we believe there is no need to present those structures which are accessible through Turkish competence as 'new knowledge', or as an English Grammar. Those parts which belong to UG principles or have the same parameters and grammatical features should be extracted from the target grammar. The rest will only require 'lexical learning'.

3.2.4. GRAMMATICAL LEARNING

After reviewing the theories of 'grammar' in 'traditional', 'cognitive' (i.e. the UG) and 'minimalist' (i.e. the MP) perspectives, we approach 'grammar' in terms of 'learning' in this section of the theoretical framework where we will handle many crucial concepts of our dissertation. To start with, it is important to point out that by 'grammatical learning', we mean the quality of the act of achieving 'knowledge of language' as used by Radford (2004), stating "if all natural language grammars were the same, there would be no 'grammatical learning' involved in language acquisition."[1] Accordingly, the act of achieving 'knowledge of language' occurs in two ways: either by 'grammatical learning' or by 'lexical learning'. The former requires "learning about the grammar of structures in the language", whereas the latter requires "no need for learners to learn anything about the grammar but the lexical items (i.e. words) in the language and their properties)."[2] Another important concept, on the other hand, is 'learning grammar' by which we mean the act of achieving 'knowledge of language' itself. Then, 'learning grammar' of a language is a 'methodological' issue, related to 'language learning' or 'language teaching' approaches, methods, strategies or models. However, rather than discussing 'learning grammar' as to how grammar should be taught, we try to explain what we understand by 'grammatical learning' in 'Universal Grammar' and 'Minimalist Grammar' in consistent with the purpose of our study. In this part of the study, we will also try to explain some fundamental concepts such as 'first language', 'grammatical

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p.16.
[2] Ibid.

competence', 'markedness' and their relation with 'grammatical or lexical learning', to which we frequently refer in the overall evaluation of the results in the study.

In the terminology of the UG, 'grammatical learning' is taken under the concepts of 'principles' and 'parameters' which are, together, regarded as a model of 'language acquisition'. Chomsky maintains that "there is a system of principles, conditions and rules that are elements or properties of all human languages, which means that a native speaker of any language knows a set of principles that work in all languages and parameters that vary from one language to another."[1] In the early phases of UG, an innate Language Acquisition Device (LAD) was thought to process the linguistic data as input and form the grammar as output. This grammar is not composed of ready-made rules but 'parameters' set according to the input which a child receives. These rules are called 'the core grammar' or 'core rules'. Later, Chomsky replaced the LAD model of acquisition by the 'parameter-setting' model. Based on these assumptions, according to this improved model of language acquisition, UG is encoded in the child's mind as a system of 'principles' and 'parameters'. On the basis of Chomsky's UG theory, Carnie maintains a similar fact "all the languages in the world share certain properties which are called universals of language."[2] He adds, "all speakers of human languages share the same basic innate materials for building their language's grammar." In terms of 'language acquisition' and UG concepts, Radford, on the other hand, asserts "the uniformity in the types of grammars developed by different speakers of the same language reveals that children have genetic guidance in constructing their L1grammar."[3] Chomsky summarises 'principles' and 'parameters' and states "what we know innately are the core grammar principles and the parameters associated with them but what we have to learn are the values of the parameters"[4], to which we refer as 'lexical learning' and 'grammatical learning' in our study. Influenced by the surrounding environment, children create a core grammar that sets values to all the parameters of a certain language which they speak as native. Similarly, Cook comments "Universal

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[1] Noam Chomsky, *Reflections on Language*, London,1976b, p. 29.
[2] Andrew Carnie, *Syntax: a generative introduction,* Oxford, 2002, p.13.
[3] Radford, *Minimalist Syntax: Exploring the Structure of English*, op.cit., p.10
[4] Noam Chomsky, *Principles and parameters in syntactic theory,* London,1981b, p.118.

Grammar (UG) sees the knowledge of a grammar in the mind as made up of two components: 'principles' that all languages have in common and 'parameters' on which they vary. All human minds are believed to honour the common principles that are forced on them by the nature of the human minds that all their speakers share. They differ over the settings for their parameters for particular languages."[1]

Another 'language acquisition' model of UG is the theory of the language faculty with the 'initial' and 'final' state concepts. According to Cook and Newson, in the beginning, the mind of a new born baby who knows no language is defined as the 'initial zero state' (S_0) and at the end, the adult native speaker with full knowledge of the language is defined as the 'final state', in which the speaker becomes efficient at using language, may add or lose some vocabulary items but competence is complete and unchanging.[2] This state of knowledge, thus, is termed as the 'steady state' (S_S). The UG principles are regarded as 'principles of the initial state', which means a newborn baby has no grammatical knowledge of any language but the UG.[3] This state is defined as having a set of finite discrete principles available at any language specific event. Accordingly, language acquisition means improving from having no language state (S_0) to having full competence (S_S). According to Chomsky, "children hear sentences in their surrounding which are called 'the primary linguistic data'; they process this knowledge within their black box called the 'Language Acquisition Device (LAD)' and finally they achieve competence in the language, which is defined as 'grammatical competence' in 'generative grammar'."[4]

Input (primary linguistic data)	→	Language Acquisition Device	→	Output (a generative grammar)

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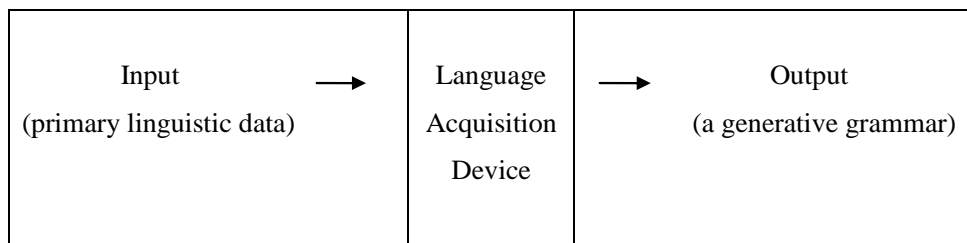
[1] Vivian Cook, *Second Language Learning and Second Language,* London, 2001, p. 34.
[2] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 78.
[3] Ibid.
[4] Chomsky, "Current Issues in Linguistic Theory", in Cook and Newson, op. cit., p.79.

Figure 9: The LAD model of L1 acquisition [1]

1964 LAD model was then rephrased by 'principles and parameters theory' as illustrated in Fig.10 below:

Input (primary linguistic data)	→	Universal Grammar	→	Output (principles, parameters and lexicon)
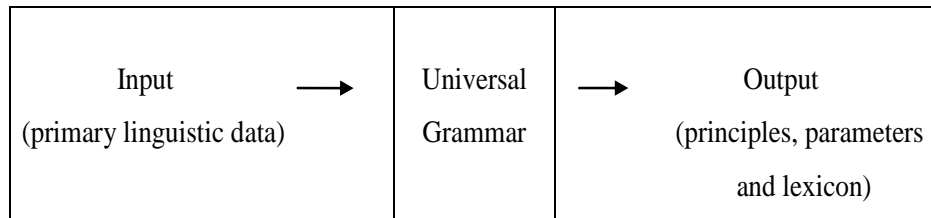
Figure 10: The Universal Grammar model of L1 acquisition [2]

In 1980s, second language acquisition (SLA) studies started to be interested in P&P theory and thus the relation between L1 and L2 has been the focal point of the discussions. Cook and Newson adapted the LAD model to L2 learning and illustrated the model as shown in Fig.11:

L1 Input →	principles	→	L1 grammar (principles and parameter settings and vocabulary)
L2 Input →	UG parameters	→	L2 grammar (principles and parameter settings and vocabulary)
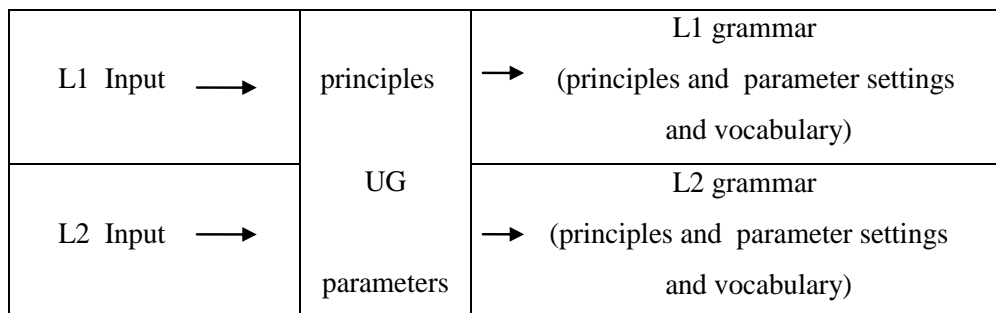
Figure 11: LAD extended to L2 Acquisition [3]

Accordingly, L2 acquisition differs from L1 acquisition in that there is already available L1 in the mind. That is, L2 learners already know a first language when they start to learn a second language. If the UG is the initial grammatical knowledge state for a new born baby, then what is the initial state of L2 learners? At this point, Schwartz and Sprouse suggest that "L2 acquisition is fundamentally different from F1 acquisition since L1 grammar is the initial state for L2."[4] Epstein, Flynn and Martohardjono, on the other hand, assert that "UG is the initial state for

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[1] Cook-Newson, *Chomsky's Universal Grammar*, op. cit., p. 80.
[2] Ibid, p.81.
[3] Ibid, p.125.
[4] Bonnie Schwartz-Rex Sprouse, "L2 cognitive states and the full transfer/full access model", *Second Language Research,* 12, 1996, p. 40.

L2."[1] Initial state discussions lead to two different models of language acquisition. The first one proposes that UG becomes language specific grammar over time. UG and L1 are inseparable from each other. According to this view, UG is only fully available until L1 is fully acquired. The other view posits that UG is distinct from the language specific grammar and remains constant over time and is available continuously even in case of L2 learning. In this framework, there are four differing views relating to the availability of UG to SLA. Johnson and Ellis listed them as the 'complete access' (or direct access) view, 'no access' view, 'partial access' (or indirect access) view and 'dual access' view.[2] In complete access, as supported by Flynn, "the essential language evidence in L1 acquisition is also critically involved in L2 acquisition." According to Flynn's hypothesis, "where the L1 and L2 have very similar parameter settings, the pattern of acquisition of complex structures resembles later stages of L1 acquisition." On the other hand, "where the parameter settings differ between the two languages, the pattern of acquisition resembles the early stages of L1 acquisition."[3] Cook also notes that "in direct access paradigm, L2 learners learn exactly the same way as L1 learners; they set values for parameters according to the L2 evidence they encounter without any other influence."[4] If this model works, L2 competence is expected to be as good as that of L1. However, as we observe, L2 users rarely reach the same level of competence in their L2 as in their L1. Next, in 'no access view', supported by theorists such as Bley-Vroman, adult L2 acquisition is very different from L1 acquisition in that adult L2 learners resort to general learning strategies rather than UG to support language acquisition. According to this theorist, "L2 learning varies so considerably across individuals because general learning strategies vary greater from person to person. Adult L2 learners lack access to UG and the function of the UG is replaced with the general cognitive problem-solving mechanism utilized in general learning processes."[5] If this paradigm

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[1] Samuel Epstein-Suzanne Flynn-Gita Martohardjono, "Second language acquisition: theoretical and experimental issues in contemporary research", *Brain and Behavioural Sciences,* 19, 1996, p. 677.
[2] Johnson, op. cit., 39-42 ; Ellis, op. cit., p. 453.
[3] Suzanne Flynn, *A Parameter-Setting Model of L2 Acquisition*, Dordrecht, 1987, p. 29.
[4] Vivian J. Cook, *Linguistics and Second Language Acquisition*, Basingstoke,1993, p. 56.
[5] Robert W. Bley-Vroman, "The logical problem of second language learning" in Cook and Newson, *Chomsky's Universal Grammar*, Oxford, 1996, p. 53.

works, then a Turkish native speaker and an English native speaker should both feel the same easiness or hardness to learn a third language, like French. In partial access view, however, learners may access to the linguistic principles of UG but not to the full range of parametric variations. Proponents of this view such as White and Schachter assert that "learners can access to UG only through the L1. If the L2 values of parameters differ from the L1 settings, according to this view, learners cannot acquire L2."[1] Cook points out that in the 'indirect access' paradigm, "FL learners have access to UG in parallel to how much they know about the L1, but they start with the L1 parameter setting rather than the initial state."[2] Finally, in 'dual access', as proposed by Felix, "adults continue to access UG but they also refer to general problem solving ways as proposed in no access view." According to Felix, "this is inadequate for processing structures beyond elementary level of data and only UG can ensure complete grammatical competence, which is why most adults fail to achieve native-speaker level of competence."[3] In our opinion from the discussions above, we will make use of the 'direct' and 'partial' access models to explain the relationship between the UG and grammatical learning in our study. Learners of L2 directly access to their L1 competence for L2 structures requiring only universal principles or common parameters between the target language and their L1, but set parameters of the target language with the cognitive understanding of their difference from the parameters of L1. Therefore, it is essential for L2 learners to understand and recognize the parametric variation in their L1 and L2.

Regarding afore mentioned UG language acquisition models, we conclude that UG is a fundamental linguistic theory which must be taken into consideration more delicately in language learning. Ellis also believes in a similar way "Chomsky's theory of UG is the best theory of grammar currently available, because it achieves both descriptive and explanatory adequacy."[4] Therefore, in this study, we refer to the

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[1] Lydia White, *Second Language Acquisition and Universal Grammar,* Cambridge, 2003, p. 59; Jacquelyn Schachter, "Second Language Acquisition and its relationship to Universal Grammar", *Applied Linguistics*, 9/3, 1988, p. 219.
[2] Cook, *Linguistics and Second Language Acquisition,* op. cit. p. 56.
[3] Sascha W. Felix, "Some differences between first and second language acquisition" in V.J. Cook and M. Newson , *Chomsky's Universal Grammar*, Oxford, 1996.
[4] Rod Ellis, *The Study of Second Language Acquisition,* Oxford, 1994, p. 425-429.

'principles' and 'parameters' in terms of 'grammatical learning' since they offer a universal syllabus for natural languages and suggest common principles so as to represent languages in universal terms. Formulated by Chomsky, these theories classify the components of languages as 'language universals' which posit principles of grammar shared by all natural languages as an innate ability of human beings and 'language particulars', ignoring the former and extracting them from what is known as the 'grammar of a specific language'. In our study, just as in the case of first language acquisition, we aim to outline these principles and parameters in English and Turkish languages in order to identify what is to be 'lexically learned' and what is to be 'taught', or let's say, how a new linguistic English knowledge is to be learned (i.e. lexically or grammatically) by a learner who has competence in Turkish grammar (i.e. native speaker). Therefore, in order to determine the 'parametric variations' and level of learning (i.e. 'grammatical learning' or 'lexical learning'), we also need to explain reference L1 and target L2 concepts in the study and their relation with the concepts of 'grammatical competence' and 'grammatical learning'.

'First language' (L1), 'mother tongue' or 'native language' concepts are all used to refer to the 'first language' which is acquired subconsciously under the effect of the environment in which s/he was born and performed without a planned educational process by human, either by lexical or grammatical learning thanks to his/her innate knowledge of language. In order to contribute to the theoretical framework of the study, we should also need to explain to what extent L1 grammatical competence has an effect upon learning subsequent languages since the primary aim of our study is to identify parametric variations between English and Turkish, which in turn may explain the extent of grammatical learning in English for Turkish speaking English learner. The effect of L1 on learning a subsequent language (second (L2) or foreign language (FL)) has been observed to have a 'positive transfer' as well as a 'negative transfer' in several researches. 'Positive transfer' occurs when any L1 form used in L2 utterance is also a part of the L2 norm, which facilitates L2 acquisition. 'Negative transfer', on the other hand, occurs when any L1 form used in L2 production is not a part of the L2 norm, which inhibits L2 production or causes errors. For example, there are several differences between

English and Turkish as to the syntax. 'Negative transfer' here usually results from their syntactical parametric variations. To illustrate, the complement nouns in Turkish are always precede verbs (i.e. head-last parameter) while they proceed verbs in English (i.e. head-first parameter). Therefore, Turkish students have difficulty in constructing word phrases. Therefore, the transfer in language learning is regarded as a process by which students use their L1 grammatical knowledge to make conclusions about L2. During the process of learning a new language, learners already have general knowledge of language whether they are aware of it or not. They know, for example, 'lexical grammatical categories' such as 'adpositions', 'verbs' and 'nouns' or 'functional categories' such as 'determiner', 'tense' and 'aspect' etc. and they also know binary merging operations. When they start learning a foreign language, they access to their unconscious L1 knowledge, or 'competence', which may help acquisition of subsequent languages.

In this study, we prefer using the term 'foreign language' to 'second language' for the target language under study (i.e. English) since English is taught as a foreign langage in formal education in Turkey and 'Foreign language learning' involves developing knowledge and use of a target language consciously in a formal setting by learners who already know at least one other language as their L1 (e.g. Turkish). 'Foreign language learning' is the indirect aim of our study since we are not only interested in the unconscious knowledge (i.e. competence) of the derivational rules in Turkish grammatical structures, but also level of 'grammatical learning' in target English reference structures since we try to explain English grammar through already available innate Turkish grammatical competence, considering the assumption that "an adult FL learner learns the FL partly in terms of the meanings already acquired in his L1."[1] That is, a Turkish speaking English learner can learn the grammatical structure of English in terms of the semantic forms already acquired through his competence. We can associate this assumption with the UG which is assumed to be manifested in L1. Therefore, we can understand that learning a new language is similar to L1 acquisition in that "FL learner already has

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[1] Martin L. Albert-Loraine K. Obler, *The Bilingual Brain: Neuropsychological and Neurolinguistic Aspects of Bilingualism*, New York, 1978, p.449-453.

language background (as in the case of UG when learning first language) interfering with his successive language experiences."[1] This condition leads us to the assumption that the UG concepts such as 'grammatical learning' and 'lexical learning' defined for language acquisition can also be viable for learning a foreign language, marking all parametric variations and language particular grammatical features as 'grammatical learning' and the rest as 'lexical learning'.

Through analyzing English and Turkish reference grammatical structures and determining parametric variations between these languages, one being the target language (i.e. English) and the other reference language, we aim to achieve accessibility to UG when learning English as a foreign language. Keenan also relates accessibility to the theory of 'markedness' within L2 research, which posits "a 'hierarchy of learning' from most accessible, common and easy rules to those less accessible, rarely seen and more difficult rules between TL and L1 languages." Within this theory, "'unmarked' aspects of grammar are directly related to UG and form the core, whereas 'marked' aspects are less directly related to UG. 'Markedness' reflects the degree to which something is related to UG, and consequently the degree to which it is learnable by the child through his/her grammatical competence."[2] That is, as claimed by Cook, "a child prefers to learn an 'unmarked' structure, or a universal principle, rather than a 'marked' structure, or a language particular parameter."[3] Eckmann, in this context, found out that "FL learners should find those aspects of the L2 that are more marked in terms of accessibility the most difficult."[4] To illustrate, the question 'What happened?' is more accessible than the question 'How are you?' for a native Turkish speaker to produce, since the former's Turkish counterpart 'Ne oldu?' is composed of the same number and kind of lexical items (i.e. a question word 'ne/what' and a verb 'olmak/happen') of the same syntax (i.e. it starts with 'Ne/What' and followed by

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[1] Bley-Vroman, "The logical problem of second language learning" in Cook and Newson, *Chomsky's Universal Grammar*, op. cit., p.53.
[2] Edward L. Keenan, "On Semantically Based Grammar", Linguistic Inquiry 3, 1972, p. 445.
[3] Vivian Cook, "Chomsky's Universal Grammar and second language learning", *Applied Linguistics*, 6, 1985, p. 9.
[4] Fred Eckman, "Markedness and the contrastive analysis hypothesis", *Language Learning* 27, 1977, p. 325.

'oldu/happened') and of the same kind and number of morphological markers attached by functional categories (i.e. the past tense affix '-du/ -ed'*)* as in English. On the other hand, the latter's Turkish counterpart 'Nasılsın?' is composed of one lexical item (i.e. 'Nasılsın') containing an affix (i.e. the present 2SgP affix '-sın'), whereas there are three lexical items (i.e. the question word 'how', the auxiliary 'are', inflected for present tense and the 2SgP pronoun 'you'), but no any affixal unit. In addition, in terms of principles and parameters, while the construction of 'How are you?' requires 'wh-operator' and 'auxiliary' movement occurring as parametric variations between English and Turkish, the construction of 'what happened?' requires no new 'grammatical learning' but common parameters such as 'specifier-first' parameter in both languages. However, in almost all English course books in Turkey (e.g. New English File),[1] the target structure 'How are you?' is presented in the first introduction lesson giving priority to 'communicative competence', but neglecting 'grammatical competence'. Chomsky comments on this issue and states: "We would expect the order of acquisition of structures in language acquisition to reflect the structure of 'markedness' in some respects, but there are many complicating factors; e.g. processes of maturation may be such as to permit certain 'unmarked' structures to be manifested only relatively late in language acquisition, frequency effects may intervene, etc."[2] That is, more frequently used structures may be granted prior rank although they are of 'marked' features as in the case of afore mentioned questions 'What happened/ Ne oldu?' and 'How are you/ Nasılsın?' which are of different values in terms of 'markedness' for a Turkish speaking English learner to produce.

Considering the minimalist trend and the innovations brought by the MP and UG concepts mentioned in this part of the study, we try to find out to what extent English grammar is accessible for Turkish speaking English learners. Today, target grammar presented in school textbooks involves either unnecessary explicit sets of rules or descriptions for the target structures which are easily accessible through first

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[1] Clive Oxenden-Christina Latham-Koenig, *New English File (series),* Oxford University Press, Oxford, 2009.
[2] Chomsky, *Lectures on Government and Binding,* op. cit. 1981a, p. 9.

language competence, or implicit communicative activities for the structures which are inaccessible in terms of the learner's 'competence' and indeed inappropriate 'hierarchy of learning' beginning from what is to be taught later or last (e.g. the structure 'what is your name?' includes 'wh-movement', 'auxiliary movement' and an 'inflected auxiliary', all of which are parametric variations between English and Turkish) and delaying what is to be taught earlier or first (e.g. noun phrases with modifiers such as adjectives, past tense with affirmative regular verbs or wh-questions in situ, all of which are accessible through Turkish L1 competence). Thus, we hypothesize that getting rid of those unnecessary applications will make foreign language learning easier to access. In order to achieve this minimalist purpose, it is necessary to approach to grammar through the 'Minimalist Approach' which suggests minimalist solutions to minimise the linguistic variations between languages. As Radford states "although there are universal principles which determine the outlines of the grammar of natural languages, there are also language particular aspects of grammar which have to be learned."[1] 'Grammatical learning' is limited to those language particulars whereas the universal outlines of grammar need 'lexical learning' like looking up in a dictionary. In consequence, while principles and common parameters, if any found out, are regarded as the structures which do not require 'grammatical learning' but 'lexical learning' only, the 'parametric variations' and the 'language particular grammatical features' should be presented as structures which require 'grammatical learning', extracting those requiring 'lexical learning' from the target grammar. Therefore, we need to uncover the parametric variations between English and Turkish languages so as to determine what is left behind as 'English' or 'Turkish' grammar after extracting universal principles and common parameters and indeed common grammatical features valid for both of these languages. Furthermore, identifying what is to be 'lexically learned' and what is to be 'taught', we will be able to set a grammar syllabus appropriate for Turkish speaking English learners, giving priority to the introduction of the structures derived by language universals, or universal principles, and rising awareness for language particular parameters and grammatical features requiring 'grammatical learning' and

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op.cit., p.16.

avoiding unnecessary grammatical explanations for the universal properties which are already accessible, regarding the rest as 'lexical learning'. However, in this study, rather than setting a grammar syllabus, we are interested in what is to be learned lexically or grammatically in English grammar for a Turkish speaking learner. Designing a competence based syllabus relying on the results of this study may be suggested for further studies. In this study, we will analyze English (as a target language) and Turkish (as a reference language) grammatical structures through the 'universal principles' based on minimalist suggestions (i.e. the MP) and try to identify parametric variations accordingly. The universal and language particular items in English grammar are introduced, compared and contrasted with their Turkish counterparts to identify parametric variations between English and Turkish languages, based on linguistic theories such as the Minimalist Program and Principles and Parameters Theory (or GB).

CHAPTER 4: GRAMMATICAL CATEGORIES

In this part of the study, we describe grammatical categories of words with their inflectional morphology. In doing so, our aim is to introduce their lexical, traditional and linguistic descriptions as a taxonomy of words in order to determine the overt phrase constituents in the syntactical order which we will analyze in the following part of the study (see Chapter 5). In this part, we particularly avoid illustrating all types of uses of a given category, their derivational morphology and syntactical properties in details since our aim is not to give a full description of English and Turkish grammatical categories but rather to introduce the overt categories of words based on the target language (i.e. English) in our study, according to which we will analyze phrase structures comparatively and contrastively in both languages. The grammatical features such as 'case', 'tense', 'person' or 'number' assignment or agreement will be discussed in the following part (see Chapter 5) since these features have functions in syntactical relations. Accordingly, grammatical categories are analyzed in two categories: lexical categories and functional categories.

4.1. LEXICAL CATEGORIES

Lexical categories are "grammatical category of words having substantive descriptive content."[1] Nouns, verbs, adpositions, adjectives and adverbs are lexical categories to be analyzed in this section of the study.[2]

4.1.1. NOUNS

As a dictionary entry, a noun (N) is defined as a "word which is used to refer to a person, a thing or an abstract idea such as a feeling or quality."[3] In traditional grammar, nouns are described as "a grammatical category of words which denote entities"[4] such as book, bag, umbrella, key, David, Ali etc. In other descriptions, they

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[1] Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p. 41.
[2] Ibid.
[3] John Sinclair, *Collins Cobuild, Collins Birgmingham University International Language Database: English language dictionary*. London, 1987, p. 982.
[4] Radford, op. cit., p. 34.

are described as either "words which correspond to all living and non-living things and concepts individually or collectively",[1] or "words which are substantives of beings."[2] In linguistic terms, a noun is described as "one of the principle universally-present lexical category of words."[3]

The category of words in (1) denotes entities in English lexicon and represents objects with different properties and meanings.[4]

(1)   a. bag, book, coat, pencil, notebook, desk, table
        b. cheese, milk, water, dust, butter, meat, money
        c. Edison, London, Miranda, Paris
        d. confidence, belief, justice, freedom, happiness
        e. furniture, fish, crew, team, herd

Each of the words has distinctive spelling and pronunciation at PF representation and used to refer to 'something', 'somebody' or 'somewhere' different at LF. In addition, nouns also have morphological properties. Morphologically, we are generally concerned with inflectional properties demonstrating different forms of the same word as shown in English illustrations in (2) below: [5]

(2)   a. one book, one bag, one umbrella, one child, one man
        b. two book*s*, three bag*s*, four umbrella*s*
        c. *two man*s*, three child*s*, four woman*s*, five sheep*s*
        d. two men, three children, four women, five sheep
        e. *one milk, one air, one cheese, one money, one information
        f. *milk*s*, air*s*, cheese*s*, money*s*, information*s*
        g. wife's, wives', John's

We understand from (2a) and (2b) that nouns in English have different singular and plural forms when they are inflected for number. Whereas the noun *book* is used with the quantitative modifier *one*, the inflected form *books* appears

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[1] Muharrem Ergin, *Türk dil bilgisi,* 1962, p. 218.
[2] Tahsin Banguoğlu, *Türkçenin grameri*, Baha Matbaası, 1974, p. 319.
[3] Robert Lawrence Trask, *A dictionary of grammatical terms in linguistics*, Routledge, 1993, p.188.
[4] These words are noted as nouns or substantives in English by: Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p.38; Betty S. Azar, *Understanding and Using English Grammar,* New York,1999, p. 100-108.
[5] Number and case features of nouns (i.e. singular, plural, countable, uncountable and genitive case) in English are adapted from: Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p. 41,153-163; Betty S. Azar, *Understanding and Using English Grammar,* New York,1999, p. 100-108.

with the quantitative modifier *two*, which shows us *-s* is a plural affix attached to the noun stem. Thus we can categorize the words with plural *–s* ending as nouns in plural number. This grammatical feature will be represented in brackets (i.e. [Pl]) in the syntax. However, in (2c), the illustrated plural nouns are ungrammatical. These words are not pluralised by the plural suffix *–s.* They have irregular plural forms as illustrated in (2d). While *man*, *woman* and *child* have irregular plural forms with phonologic changes in their word stems (e.g. *one man, two men*), the noun *sheep* is invariable with a common singular and plural form without *–s* ending (e.g. **one sheep, five sheep*), showing us that there are nouns with their plural number properties in English lexicon without requiring morphological changes. Furthermore, in (2e), the nouns which cannot be counted (e.g. **one money, two moneys*) are uncountable nouns and cannot be pluralised as shown in (2f). In (2g), it is understood that nouns are used as modifiers, they are assigned genitive case (i.e. *-'s* for singular nouns and *-s'* for plural nouns that end in *-s*).

Consequently, from the semantic and morphological properties illustrated above, we understand that nouns are an overt lexical category of words with inflectional for number (i.e. singular, plural, countable and uncountable) and case for modifiers (i.e. genitive *'s*) properties. In this study, the category of nouns will be represented by a traditional abbreviation of 'N' in the syntactical structures.

4.1.2. ADJECTIVES

An adjective is defined in the lexicon as "a word that gives more information about a noun or pronoun, by selecting or restricting its meaning."[1] In traditional grammar adjectives are described as "a grammatical category of words which ascribe some property, quality or status to the entity denoted by a noun."[2] In other descriptions, they are described as "nouns of qualification and denotation",[3] or "words modifying or qualifying any being."[4]

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[1] Sinclair, *Collins Cobuild*, op. cit., p.18.
[2] Aslı Göksel-Celia Kerslake, *Turkish: A comprehensive grammar,* Psychology Press, 2005, p. 49.
[3] Ergin, *Türk dil bilgisi,* op. cit. , p. 244.
[4] Banguoğlu, *Türkçenin grameri*, op. cit., p. 340.

The lexical category of English words in (3) ascribes 'property', 'quality' or 'status' to the entities denoted by nouns:[1]

(3)   a. red, yellow, big, small, tall, beautiful, dangerous, expensive, important
        b. one, two, three, fourth, fifth, three hundred, two thousand, each, every
        c. good-bad, cheap-expensive, strong-weak, happy-sad
        d. English, Turkish, Italian, American, French

Each of the words in (3) is used to ascribe properties or qualities to nouns. While the words in (3a) denote 'colour', 'quality' or 'state', those in (3b) denote 'numeral descriptions'. In (3c), adjectives with their antonyms and in (3d), the nationality forms of the nations, also used as nouns referring to the languages, are illustrated.

Adjectives also have morphological properties. In a morphological sense, for this study, we are concerned with morphological properties demonstrating comparative and superlative forms of single-syllable adjectives in English. Accordingly, English operates the comparative suffix *-er* and the superlative suffix *–est* attached to the single-syllable adjectives:[2]

(4)   a. big-g*est*, small-*est*, tall-*est*
        b. big-g*er*, tall-*er*, small-*er*
        c. *beautiful-*est*, expensive-*est*, difficult-*est*
        d. *beautiful-*er*, expensive-*er*, difficult-*er*
        e. *most* beautiful, *most* expensive, *most* difficult, *most* complex
        f. *more* beautiful, *more* expensive, *more* difficult, *more* complex

In (4a), the suffix *-est* is attached to the adjective stems. The adjective *biggest* is inflected from the single-syllable adjective *big* and expresses the meaning 'bigger than all the others'. In (4b), the suffix *-er* is also attached to the single-syllable adjective stems. The adjective *taller* is inflected from the single-syllable adjective *tall* and expresses the meaning 'comparatively or relatively tall'. In (4c-d), however,

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[1] These words are noted as adjectives in English by: Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p.38.
[2] Morphological features of adjectives (i.e. comparative and superlative forms) in English are adapted from: Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p. 41; Audrey J. Thomson-Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 22-24.

the superlative suffix *-est* and the comparative suffix *-er* are ungrammatically attached to the multi-syllable adjectives, instead of which they are expected to be modified with the adverbs of comparative degree *more* as shown in (4f) and the superlative degree *most* as shown in (4e) (e.g. *more* beautiful, *most* beautiful).

Consequently, from the semantic and morphological properties illustrated above, we understand that adjectives are an overt lexical category of words with morphological properties of single-syllable adjectives (i.e. comparative and superlative). In this study, the category of adjectives will be represented by a traditional abbreviation of 'A' in the syntactical structures.

4.1.3. PREPOSITIONS

As an entry in a dictionary, a 'preposition' is described as "a word which usually has a noun group as its object."[1] In traditional grammar, on the other hand, they are described as "a grammatical category of words which express spatial or temporal relations between words."[2] For other descriptions, they are described either as "words which do not have meanings individually but grammatical functions with other category of words."[3] or as "words which precede nouns and correlate them with other words in their contexts."[4] In linguistic terms, a preposition is described as "a closed lexical category of words which typically precedes a noun phrase to make a prepositional phrase."[5] "If the same category of words follows their complements, they are called 'postpositions' and, indeed, 'adposition' is used as a 'super ordinate label', referring to both 'prepositions' and 'postpositions'."[6] In this part of the study, certain prepositions of time, place and movement as well as adverbial occurrences with their semantic and morphological properties in English are exemplified and analysed by our side.

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[1] Sinclair, *Collins Cobuild*, op. cit., p. 1131.
[2] Rodney Huddleston-Pullum K. Geoffrey, "The Cambridge Grammar of English", *Language, Cambridge,* 2002.
[3] Ergin, *Türk dil bilgisi,* op. cit. , p. 348.
[4] Banguoğlu, *Türkçenin grameri*, op. cit., p. 385.
[5] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 214.
[6] Ibid.

The following illustrations in (5) demonstrate us the PF of the prepositions in English:[1]

(5)   a. at, in, on, of, with, under, opposite, behind, over, by, for, between
         b. along, round, through, across, up, down, towards
         c. in front of, up to, next to, out of, due to, in spite of, on behalf of, thanks to

The words in (5) have overt spelling and pronunciation at PF representation. While they express 'dative' (e.g. to), 'locative' (e.g. in, on, at, behind etc.), 'genitive' (e.g. of) or 'ablative' (e.g. from) case paradigms in (5a), the prepositions in (5b) designate 'movement' (e.g. along, through etc). It is also understood that in (5d), the words are single words (e.g. at, in, on, for etc.). For the examples in (5b), however, we can see prepositions in phrasal structures (e.g. in front of, next to, out of etc.). The noun *front* initially merges with the locative preposition *in* and then the resulting phrase *in front* is followed by the possessive preposition *of* which requires a DP complement and results in the phrase '*in front of* DP'. Similarly, the adjective *next* is followed by the dative preposition *to* which requires a DP complement and results in the phrase '*next to DP'*. In addition, it is understood that prepositions (or adpositions) do not have morphological properties in English.

Consequently, prepositions are a lexical category of words which select nominal complements such as pronouns or determiner phrases and do not have morphological properties in English. In our thesis, pre/postpositions (or adpositions) will be represented with an abbreviation of 'P'.

4.1.4. VERBS

As an entry in a dictionary, a verb is described as a "word which is concerned with what people and things do and what happens to them."[2] In traditional grammar, on the other hand, they are described either as "words denoting every kind of action of the subjects at any place and time",[3] or as "words which denote a process or an

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[1] These words are noted as 'prepositions' or 'prepositions' under the category of 'particles' in English by: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 91-104; Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p.40.

[2] Sinclair, *Collins Cobuild*, op. cit., p.1620.
[3] Ergin, *Türk dil bilgisi,* op. cit. , p. 347.

event."[1] In linguistic terms, a verb is described as "an open universal lexical category of words expressing actions, events and state of affairs."[2] In this part of our study, the words which are categorized as verbs are described as to their semantic and inflectional morphology in English.

The following illustrations in (6) show us some verbs in English:[3]

(6)   a. do, speak, play, make, watch, wash
        b. live, sleep, walk, stand, jump, smile, cry, die
        c. give, send, ask, request
        d. know, understand, love, like, believe, trust
        e. drop, break, crash, recognize
        f. feel, see, smell, hear, taste

While the words in (6) express 'progressive' actions in (6a) and (6b), the words in (6d) and (6e) are 'non-progressive' or 'stative' actions. Moreover, while the words in (6a) and (6c) require the complement of *what* or/and *whom* (e.g. play football, do exercises etc.) and called 'transitive' verbs, the words in (6b) do not require them and called 'intransitive' verbs. The words in (6f), in addition, express 'senses'.

Verbs also have morphological properties. We are not interested in the derivational properties of verbs, but we illustrate the regular or irregular form of verbs since they are inflectional forms of the verbs. Therefore, in terms of inflectional morphology, English verbs typically have the following –n, -d, -s and –ing suffixed verb forms as well as the base form of the verb, each of which has different grammatical uses:[4]

(7)   a. do, have, speak, see, go, play, watch, wash, make
        b. do*es*, ha*s*, speak*s*, see*s*, go*es*, play*s*, watch*es*, wash*es*, mak*es*
        c. play*ed*, wait*ed*, watch*ed*
        d. do*ing*, speak*ing*, see*ing*, go*ing*, play*ing*, mak*ing*, hav*ing*
        e. *do-*ed*, have-*d*, speak-*ed*, see-*d*, go-*ed*, mak*e-d*
        f. *did, had, spoke, saw, went, made*

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[1] Banguoğlu, *Türkçenin grameri*, op. cit., p. 408.
[2] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p. 297.
[3] The semantic classification of verbs are adapted from: Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p.39.
[4] Morphological properties of verbs in English are adapted from:Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., 34.

g. *done, spoken, seen, gone, broken, written*
h. * wash-e*n*, have-*n*, make-*n*, brea*k-en*
i. *played, washed, had, made, broken*
j. *went-ing*, play-*ing-ed*, ma*d-ing*, ha*d-ing,* watch-*ing-ed,* sp*oke-n-ed*

(7a) illustrates the base form of the verbs in English. Accordingly, for the other verbs illustrated, we can see the suffix –*(e)s* in (7b), the suffix –*(e)d* in (7c), the suffix –*n(e)* in (7g), and the suffix –*ing* in (7d) on the verb stems. However, we can also see from the illustrations above that the affix –*(e)d* in (7c) cannot be suffixed to every verb stem as shown in (7e) but rather "these verbs have inflected forms with different spelling from the base form for the same function, which indicates irregularity,"[1] as shown in (7f), for "a limited number and a closed set of verbs."[2] That is, while it is ungrammatical to use the suffix –*(e)d* with those words in (7e)*,* the words in (7c) can be suffixed with –*(e)d* grammatically. The verbs in (7e) can only be inflected irregularly as shown in (7f) wherever the suffix –*(e)d* is required. In (7g), we can also observe that the suffix –*n(e)* in (7g) cannot be suffixed to every verb stem as shown in (7h) but rather while some of these verbs have –*(e)d* suffixed (e.g. play-*ed,* wash-*ed etc.*) forms, others may have irregular inflected forms (e.g. have/*had,* make/*made etc.*) for the same function as illustrated in (7i), which also indicates irregularity for a limited number and a closed set of verbs for this particular function. That is, while it is ungrammatical to use the suffix -*n(e)* with those words in (7h)*,* the words in (7g) can be suffixed with –*n(e)* grammatically. While the regular verb stems in (7h) are inflected by the suffix –*ed* (e.g. watch-*ed*) for the same function (i.e. past tense form) as that of those in (7g), the irregular verbs are inflected either by the suffixation of –*n(e)* to the verb stem (e.g. see-*n*) and to the available irregular inflected form (e.g. broke-*n*) or by an additional irregular form (past, perfect or passive participle)[3] wherever the form in (7g) is required. On the other hand, while the inflectional -*ing* form illustrated in (7d) is the present participle form, the inflectional -*s* form illustrated in (7b) is the 3SgP present form of the verbs. Finally, (7j) illustrates us that in English verbs can only be suffixed once at a time. It

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[1] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p.148.
[2] Azar, *Understanding and Using English Grammar*, op. cit., p. 22-23.
[3] Ibid, p. 19.

would be ungrammatical to suffix any of these markers with another concurrently to the same verb stem.

The auxiliary verb *be* appears as the most inflected verb in English as shown in (8):[1]

(8)   a. be
           b. am, is, are
           c. was, were
           d. been
           e. being

The auxiliary verb form *be* in (8a) is the base form, and *am, is* and *are* in (8b) are the inflected present forms depending on the person (that is operated only for the 1SgP) and the number of the subject in agreement. While (8c) illustrates the past tense forms of the verb *be, been* in (8d) is the past (or perfect) participle form and *being* in (8e) is the present participle form of the same verb. In brief, from the illustrations in (7) and (8), we understand that "English verbs are inflected for agreement in number (e.g. speak/speaks) or in person (e.g. am), tense (e.g. do/did, play/played), aspect (e.g. spoken/speaking) and voice (e.g. speak/spoken)."[2] In more general and traditional terms, "verbs forms in English are classified as present (e.g. speak/speaks), past (e.g. was, did, saw) and participles (e.g. doing, done)."[3] However, these classifications are insufficient since, in English, the most determining factor that identifies the final role and meaning of the verb form is the syntactical derivations. Otherwise, the verb forms listed above cannot convey tense, mood, voice or aspect alone except for the present and past forms of the auxiliary *be* and the third person singular present suffix –*s* (eg. speak-*s*) or some past form-only irregular verbs such as *saw, came, did* or *went* etc. The past tense regular verbs suffixed with –*ed* can also be used as the perfect/passive participle form (e.g. played, watched etc.). In addition, some irregular past tense verb forms can also be used as the perfect/passive participle form as in the case of the verb *made.*

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.35.
[2] Ibid.
[3] Azar, *Understanding and Using English Grammar*, op. cit., p. 19-23.

Consequently, verbs are a lexical category of words having affixal inflected forms for present, past and participle (present/past participles) forms apart from their base forms in English and are not inflected for agreement (at PF) except for the 3SgP present and auxiliary verbs. In our thesis, verbs will be represented with an abbreviation of 'V'.

4.1.5. ADVERBS

As an entry in a dictionary, an adverb is described as "a word that adds information about the verb in a clause or about a following adjective or adverb, or sometimes about a following prepositional phrase."[1] In traditional grammar, on the other hand, they are described either as "nouns for time, place, manner and quantity which modify adjectives, verbs or other adverbs,"[2] or as "words which modify or explain verbs and adjectives they come after or before."[3] In another traditional description, adverbs are described as "words that modify verbs, nominal predicates, adjectives, other adverbials or whole sentences."[4] In linguistic terms, an adverb is described as "a lexical category of words whose members are usually grammatical adjuncts of a verb and most typically express such semantic notions as time, manner, place and instrument or circumstance."[5] In this part of our study, the words which are categorized as adverbs are exemplified and analysed by our side to explain and illustrate their semantic and morphological properties in English as did we for the other categories.

In English, the lexical category of words in (9) ascribes property, quality, frequency, time or manner to the verbs and degree to adjectives or other adverbs:[6]

(9)   a. always, usually, frequently, often, sometimes, seldom, never
        b. fast, well, fine, late, hard, slowly, quickly, carefully
        c. yesterday, today, tomorrow, every day
        d. very, quite, really, considerably, fairly

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[1] Sinclair, *Collins Cobuild*, op. cit., 22.
[2] Ergin, *Türk dil bilgisi,* op. cit. , p. 258.
[3] Banguoğlu, *Türkçenin grameri*, op. cit., p. 371.
[4] Göksel-Celia, *Turkish: A comprehensive grammar,* op. cit., p. 50.
[5] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., 9.
[6] The semantic classification of adverbs are adapted from: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 32.

English words illustrated above denote frequency in (9a), quality, property or manner in (9b), time in (9c) and degree in (9d).

Adverbs also have morphological properties. In morphological sense, we will look into the derivational and inflectional properties of adverbs. In terms of derivational properties which demonstrate the adverb formation process, "English words ending with the derivational suffix –ly are classified as adverbs derived from adjective stems."[1] However, apart from the adverb suffix –ly, adverbials vary widely in their structures, from single words with or without suffixes to prepositional phrases as shown in (10) below:[2]

(10)   a. slow-*ly*, quick-*ly*, careful-*ly*, dangerous-*ly*, brave-*ly*
         b. fast, late, hard, always, sometimes
         c. well, fine, very, quite
         d. every day, next year, last week, once a day
         e. in 1990, for two days

In (10a) the adverbial suffix –ly is attached to the adjective stems. The adverb *slowly* is derived from the adjective *slow* and *carefully* is derived from the adjective *careful.*[3] While the derivational suffix –ly is a characteristic morphological criterion for categorizing adverbs, there are also some words which are used both as an adverb and adjective without being attached the suffix –ly as shown in (10b-c). Some words as illustrated in (10c), in addition, are originally adverbs and not used as adjectives. Although the word phrases in (10d) and (10e) are described as 'adverbs of time' in traditional grammar, they are not categorized as adverbs in this study since they are nouns or prepositional phrases.[4] They are syntactically adjoined to verbs as adverbs in a sentence but structurally they are not adverb phrases. But still in syntactical analysis, we will refer to the whole phrases as adverb without spelling them out (e.g. 'ADV every day'). From those illustrations in (10), we understand that as well as the original base form of adverbs, there are also noun phrases, prepositional phrases, and derivative (from adjectives or nouns) expressions to be classified as adverbs,

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[1] Azar, *Understanding and Using English Grammar*, op. cit., p. 442.
[2] The formation of adverbs are adapted from: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 32.
[3] Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p.46.
[4] Oxenden-Latham-Koenig, *New English File,* Elementary*,* Oxford, 2009, p. 32.

modifying the verb or adjectives. It is also understood that some adjectives are used as adverbs depending on what category of words they modify (nouns or verbs) or derived from adjectives with the suffix *-ly*, which is why "adverbs are sometimes omitted by some grammarians dealing with universal categorization of words,"[1] "not included in major lexical categories,"[2] or categorized as "*catch-all* category that includes all words that do not belong to one of the other parts of speech."[3]

In terms of the inflectional properties of adverbs in English, the comparative suffix *-er* and the superlative suffix *-est* are attached to the single-syllable adverbs without *-ly,* or the adverbs which retain the same form as the single-syllable adjective form, as in the case of adjectives:[4]

(11)   a. fast*est*, earli*est,* hard*est*
       b. earl*ier*, hard*er*, fast*er*
       c. *most* careful*ly*, *most* happi*ly, most* beautifully
       d. *more* happi*ly, more* quiet*ly, more* carefully

In (11a), the suffix *-est* is attached to the adverb stems. The adverb *fastest* is inflected from the adverb *fast* and expresses the meaning *does faster than all the others*. In (11b), the suffix *-er* is also attached to the adverb stems. The adverb *earlier* is inflected from the adverb *early* and expresses the meaning *does comparatively or relatively early*. However, the adverbs with the suffix *-ly* are not inflected with the comparative suffix *–er* or the superlative suffix *–est.* Instead, they are modified with the adverbs of comparative degree *more* as in (11d) and the superlative degree *most as* in (11c).

Consequently, adverbs are a lexical category of words having morphological properties. They will be represented in our syntactical analyses with an abbreviation of 'ADV' in this study.

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[1] Paul Schachter, "Parts-of-speech systems" *Language typology and syntactic description,* Cambridge, 1985, p. 3-61.
[2] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 166.
[3] Steven Abney, "Chunk stylebook", *Working draft*, 1996, p. 3.
[4] Oxenden-Latham-Koenig, *New English File,* op. cit., Elementary, p. 32, 84.

4.2.FUNCTIONAL CATEGORIES

"Functional categories are grammatical category of words having grammatical functions."[1] 'Pronouns', 'auxiliaries', 'determiners', 'infinitival to' and 'complementisers' in English are functional categories to be analyzed in this section of the study.

4.2.1. PRONOUNS

In lexicon, a pronoun is described as "a word that is used to replace a noun or a noun group that has already been mentioned or that will be mentioned later."[2] In traditional grammar, on the other hand, they are described either as "words corresponding to the subjects or objects either by representation or demonstration",[3] or as "words which refer to a prior object or subject."[4] In another traditional description, pronouns are defined as "expressions that are used when referring to persons, things or states of affairs that have previously been mentioned, whose referents are obvious from the context."[5] In linguistic terms, pronouns are described as "a lexical category of word, or a member of this category, whose members typically function as noun phrases in isolation, not normally requiring or permitting the presence of determiners or other adnominal, and whose members typically have little or no intrinsic meaning or reference."[6] In this part of our study, just as we have done so far in the study, the words which are often categorized as pronouns are analysed by our side to explain their semantic and morphological properties in English.

In English, the lexical items in (12) refer to persons, things or states that have previously been mentioned:[7]

(12)　　a. Jane invited *us* to the party. *She* told *it* yesterday.
　　　　b. The bag is lost. *I*'ve just seen *it* here.

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 41.
[2] Sinclair, *Collins COBUILD*, op. cit., p. 1150.
[3] Ergin, *Türk dil bilgisi,* op. cit. , p. 262.
[4] Banguoğlu, *Türkçenin grameri*, op. cit., p. 371.
[5] Göksel-Celia, *Turkish: A comprehensive grammar,* op. cit., p. 50.
[6] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 221.
[7] Oxenden-Latham-Koenig, *New English File,* Elementary, op. cit., p. 4, 8, 44.

c. An old man got on the bus. *He* sat down next to *me*.
d. *I* met new friends last night. *I* gave *them my* phone number.
e. That's wrong. Do *you* understand *me*?

From the given English sentences, we understand that the words italicised in the second sentences of each sampling item refer to a noun or noun phrase in the previous sentence. For example, *she* in (12a) refers to the previous subject, a proper female name, *Jane* and *it* refers to the partially specified state of *invitation.* Also, *it* in (12b) refers to the previous object, *the bag* and *he* in (12c) refers to the previously mentioned *an old man* and t*hem* in (12d) refers to the previously mentioned plural number noun phrase *new friends*. We also understand from the illustrations that the words such as *us, I, my, me* and *you* do not have overt referents since they refer to the first and second persons which refer to the addresser and the addressee, or the speaker and the listener.

If we intended to illustrate pronouns through descriptive contents, we could find nothing since this category of words are functionalcategories and only meaningful with their noun referents, that is, they are the shortcuts of their referents. Instead, we prefer to describe them with their referents within their contexts as in (13) below:[1]

(13) a. -Are *you* a teacher?
       -Yes, *I* am.

  b. -Is *John* married?
     - No, *he* isn't.

  c. -*Is Diana* from England?
     -Yes, *she* is.

  d. -What's *this*?
     -*It* is a dictionary.

  e. -*John* is from the US and *Diana* is from England.
     -Are *they* students?

  f. -*Marta* is in my class and *you* are in my class.
     -Are *we* classmates?

  g. -*Marta* is in class A and *I* am in class A, but *you* are not in this class.
     -Are y*ou* classmates?

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[1] Oxenden-Latham-Koenig, *New English File,* Elementary, op. cit., p. 4, 8, 44.

-Yes, *we* are but *you* aren't.

In the illustrations (13) above, we understand that English pronouns demonstrate a variety of forms depending on 'person', 'number' and 'gender'. In (13a), *you* addresses the listener and refers to the addressee, and in (13g), the same *you* addresses the listener but refers not only to the addressee but also to Marta, a third person, simultaneously. However, in both cases *you* is second-person and plural in number (e.g. *Are you...?*). In (13a), also, *I* addresses the listener but refers to the speaker him/herself, or the addresser, and in (13f), *we* addresses the listener but refers not only to the addresser him/herself but also to Marta, a third person, simultaneously. Therefore, *I* and *we* are first-person pronouns in both cases. However, while the former is singular in number (e.g. *I am...*), the latter is plural (e.g. *Are we...?*). In (13c), *she* addresses the listener but refers to Diana, which is a feminine name in English, and in (13b), *he*, similarly, addresses the listener but refers to John, which is a masculine name. Therefore, s*he* and *he* are third-person pronouns and singular in number (e.g. *Is Diana/John...?*). However, while the former is feminine, the latter is masculine in gender (e.g. *Is she...?* for Diana and *Is he...?* for John). In (13d), in addition, *it* addresses the listener but refers to the non-human noun *dictionary*, and in (13e), *they* addresses the listener but refers not only to *John* but also *Diana* simultaneously. Therefore, *it* and *they* are third-person pronouns in both cases. However, while the former is singular in number and non-human in genre, the latter is plural in number and used not only for human but also for non-human referents. We can also see that third-person singular pronoun *it* and third-person plural pronoun *they* are neuter in gender unlike *he* and *she*. In the illustrations above, we understand that all pronouns are of grammatical property of person (e.g. you, we, she, he, they, I etc.), some are of person and number (e.g. they, he, I etc.), person, number and gender (e.g. she and he) or person, number and genre (e.g. it).

The following English examples in (14) demonstrate a variety of pronouns as to their referents apart from persons mentioned in (13):[1]

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[1] Oxenden-Latham-Koenig, *New English File,* Beginner, op. cit., p. 4, 8, 16, 58.

(14)   a. *These* are my headphones.
       b. I've just seen it *here*.
       c. *This* is your watch.
       d. *Those* are her keys.
       e. My old *bag* is in my room. Where is the new *one*?
       f. *Somebody* is out.
       g. *There* is a book on the table.
       h. *Who* painted that picture?
       i. *What* happened?
       j. A surgery is a place *where* you can see a doctor or dentist.
       k. A toy boy is a young man *who* is going out with a much older woman.
       l. Do you have *any bread*? – I'm sorry, I have *none*.

From the illustrations (14) above, we understand that pronouns demonstrate variety of forms depending on their referents. In (14a), *these* demonstrates the plural noun *headphones* which are closer to me, and in (14d), *those* demonstrates 'the plural noun *keys* which are further away me.' Similarly, *this* in (14c) demonstrates the phrase *your watch* which is closer to me. So, this group of pronouns are of demonstrative value and demonstrate their referents in terms of proximity. *Here* in (14b) and *there* in (14g) are of locative referents, the former of which demonstrates a closer location and *the* latter of which demonstrates a further location in terms of proximity. *One*, in (14e), refers to the noun *bag,* being the complement of the adjective *new*, which is unique to this particular pronoun as well as its plural form *ones*. *Somebody*, in (14f), refers to an indefinite person like *nobody, anybody, everybody, something, nothing, everything* etc. *Who* and *what* in (14h-i) are the interrogative pronouns whose referents are the missing constituents in the sentence (e.g. '*Ali/who* painted that picture' or '*An accident /what* happened'). In (44j-k), on the other hand, the same lexical items (question words) *where* and *who* are observed within the sentence rather than being moved to the beginning. They are the relative pronouns which come after nouns like *place* and *man* in the examples and whose preceding referents (e.g. *a place*) are the missing constituents (i.e. subject or object) of the following clause (e.g. '*a place where* you can see a doctor or dentist ~~in this place~~' or '*a young man who* ~~a young man~~ is going out with a much older woman'). In (14l), *none* functions as the quantifier pronoun and refers to the noun *bread* with its quantifier *any* in the preceding sentence (e.g. *Many (people)* died in the accident).

Although the category of pronouns can be traditionally classified into various types such as personal pronouns, reflexive pronouns, impersonal pronouns as well as object, subject or possessive pronouns,[1] we will make do with those having morphological properties as illustrated below. "Morphologically, English personal pronouns are assigned nominative, accusative and genitive cases,"[2] as shown in (15) below:

(15)   David is American. (a) *He* is a teacher. (b) I know *him* very well. (c) *His* father is an engineer and *my* father is a lawyer. (d)   *Mine* is older than *his.* (e) I always ask *him* questions about *his* family.

In the sample paragraph (15) above, personal pronouns change their morphological structures according to the positions at which they are within the sentence. In (15a), *he* refers to *David* and functions as the subject of the auxiliary verb *is*, which demonstrates us that it is the nominative form of the pronoun. In (15b), *him* also refers to *David* and functions as the complement of the verb *know*, which demonstrates us that it is the accusative form of the pronoun. In (15c), *his* refers to *David's* as in (15e) and *my* refers to the first person possessive case and they both function as the determiner of the noun *father*, which demonstrates us that they are the genitive forms of the third person singular *he* and the first person singular *I*. In (15d), *mine* refers to *my father* and *his* refers to *his father,* which demonstrates us that they are also the genitive forms of the pronouns. However, while *mine* functions as the subject of the auxiliary verb *is*, *his* functions as the complement of the preposition of comparison *than,* which also demonstrates us that they are the genitive forms of the pronouns, which are used as object complement and subject specifier requiring accusative or nominative cases but not as determiners or possessive adjectives (e.g. *mine brother). In (15e), the pronoun *him* is the indirect complement of the verb *ask* different from the case in (15b) since it is in dative case (i.e. 'oblique case').

As a result, pronouns, with an abbreviation of 'PRN' in the further syntactical analyses of the study, are a category of words which have functional properties. It is

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[1] Audrey J. Thomson-Agnes V. Martinet, *A practical English grammar*, 1986, p. 52-56.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 44.

also understood from the illustrations that pronouns in English have morphological 'person', 'number' and 'case' properties. Apart from the properties above, English pronouns also have 'gender'. It should also be noted that this category of words do not have descriptive contents but functional properties.

4.2.2. DETERMINERS

In lexicon, a determiner is described as a "word that is used before a noun to select which instance of the noun you are talking about or to identify it."[1] In traditional grammar, on the other hand, determiners are not described as a distinct lexical category but rather classified as adjectives or articles. That is, they are described either as "definite or indefinite demonstrative adjectives",[2] or as "definite or indefinite articles."[3] For another definition, determiners are traditionally described as "words which determine the referential properties of nouns or noun phrases and refer to the nouns in terms of definiteness or indefiniteness as well as demonstration."[4] In linguistic terms, determiners are described as "a lexical category whose members typically occur within noun phrases and indicate the range of applicability of the noun phrases containing them."[5] In this part of our study, just as we have done so far in the study, the words which are often categorized as determiners are explained with their semantic and morphological properties in English.

Semantically, the lexical items in English illustrated in (16) below determine the definiteness property of nouns:[6]

(16)   a. *a* pen, *a* student, *a* big house, *an* orange, *an* opinion, *an* apple
        b. *the* door, *the* table, *the* classroom
        c. *Carrie's* friend, *Marianne's* sister, *the teacher's* office, *women's* wear,

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[1] Sinclair, *Collins COBUILD*, op. cit., p. 385.
[2] Ergin, *Türk dil bilgisi,* op. cit. , 247; Banguoğlu, *Türkçenin grameri*, op. cit., p. 351; Göksel-Celia, *Turkish: A comprehensive grammar,* op. cit., p. 179-180.
[3] Azar, *Understanding and Using English Grammar*, op. cit., 112-115; Thomson-Martinet- Draycott, *A practical English grammar*, op. cit., p. 9-15.
[4] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 4.
[5] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 80.
[6] These structures categorized as 'definite or indefinite articles' and 'pronouns' by: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 9-15; Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p. 39.

d. *his* name, *their* names, *my* book
e. *many* students, *some* milk, *any* books, *a lot of* students, *a lot of* milk
f. *The* Ferrari is *a* fast car.
g. *that* bag, *those* students, *this* chair, *these* books
h. * *many* money, *much* students, *a* books, *many* furniture
i. *how much* milk, *how many* books, *which* student, *whose* bag

A in (16a) determines a noun which is unfamiliar to the addressee, or indefinite. If a singular count noun is not referred to any context and used as a prototype of its sort, then it is determined by an indefinite determiner *a(n)*. When an indefinite noun with an initial vowel is determined, it is preceded by *an,* the reason of which could be explained phonologically. In contrast, *the* in (16b) is used to introduce referring expressions, or specific nouns which are expected to be familiar to the addressee just like the other definite cases in (16c), (16d), (16f) and (16g). In (16c), the nouns with the genitive *'s* determine the noun specifically like their genitive pronouns such as *her, his, my* or *their* in (16d). Genitive forms of the pronouns also determine the nouns but they have different referential properties, which we explained in (4.2.1). In (16f), while the 'definite determiner' *the* is used to determine the noun *Ferrari,* a well-known automobile trademark, *a* is used to determine the noun phrase *fast car* since it does not refer to a specific fast car which is familiar to the addressee, that is, it is only a prototype. In (16g), *that* as a 'demonstrative adjective' demonstrates a specific bag at a distance, illustrating a definite property like the determiner *the*. In (16e), 'indefinite determiners' such as *many, some, any, much* and *a lot of* quantify the nouns following them. This kind of determiners is restricted to nouns of specific number properties like singular, plural, countable or uncountable. *Many* modifies the plural count noun *students, much* modifies the singular mass, non-count, noun *milk, some, any* and *a lot of* can modify not only a plural count but also a singular non-count noun, which is also the reason why the expressions in (16h) are ungrammatical. *How many, how much, whose* and *which* in (16i) are 'interrogative determiners', questioning the referential properties of the nouns which they precede. Consequently, since determiners do not have a descriptive content like the lexical categories, they are categorized as a functional

category of words without inflectional morphology except for the genitive clitic *'s,* which we analyzed it as a case property of nouns in 4.1.1.

As a result, from the analyses and review of literature above, we understand that determiners are a different and an overt functional category of words in both languages,[1] but might be dropped if the noun itself has definite or indefinite feature (e.g. Ankara, London).[2] Besides, in Turkish morphology, possessive determiners (or possessive adjectives) assign genitive case to the nouns which are determined by preceding possessive determiners or the verb complement nouns to express definiteness. Moreover, while indefiniteness for singular count nouns is determined by an indefinite determiner (e.g. a/an) in English, a null determiner is operated for indefiniteness in Turkish. Determiners will be represented in the coming syntactical analyses with the abbreviation of 'D' in this study.

4.2.3. AUXILIARIES

In lexicon, an auxiliary is described as "one of a small class of verbs that are used before a main verb to show 'tense', 'aspect', 'mood' or 'voice'."[3] In traditional grammar, on the other hand, auxiliaries are described as "a lexical category in English having certain properties in common with verbs but also exhibiting a number of other distinct properties."[4] They are traditionally described also as "words which once functioned simply as words but in time have become a different category of words assigning tense, aspect, mood or voice to verbs."[5] In linguistic terms, auxiliaries are described as "an abstract category which is postulated as being universally present in sentences and which serves as the locus for certain grammatical functions, notably tense."[6] The concepts of tense, aspect and voice in traditional grammar, on the other hand, are highly controversial. According to one view, aspect is described as "the different actions undertaken by the subject within

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[1] Steven Abney, *The English noun phrase in its sentential aspect*, PhD Thesis, Massachusetts, 1987, p. 169.
[2] Nadir Engin Uzun, *Ana çizgileriyle Evrensel Dilbilgisi ve Türkçe,* İstanbul, 2000, p. 166.
[3] Sinclair, *Collins COBUILD*, op. cit., p. 85.
[4] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 24.
[5] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 47.
[6] Trask, op. cit., p. 24.

the speech, in other words, the stem verb determines the role of the subject within the speech, undertaking various appearances before other inflections, each of which is called aspect."[1] According to this view, "tenses, progressive and perfect inflections are all classified as modality."[2] In another classification, "while a progressive action at the time of speaking is regarded as 'present tense', which is one of the primary tenses, including past and future as well, habitual actions at present are classified as *aorist*, which is one of the secondary tenses with the perfect, or dubitative, inflection."[3] Aspect, for another view, is described as "the completion or continuity of an action represented by the same suffixes for tenses particularly in compound inflections."[4] 'Tense' is also described as "the temporal location of the situation being talked about, indicating whether this is before, at, or after a particular reference point, or the time of speaking," while 'aspect' is described as "an indication of whether the situation is presented as completed, ongoing, or part of a recurring pattern."[5] For this view, voice is a different category from aspect, which is related to the transitivity of a verb, including causative, passive, reflexive and reciprocal forms or the verbs.[6] Considering all these descriptions and classifications suggested for languages in general, we are faced with rich and variable morphology of verb inflections and a close relation between auxiliaries and 'tense', 'aspect', 'mood' and 'voice' derived by auxiliaries in English.

In this part of our study, just as we have done so far in the study, the words which are categorized as auxiliaries are exemplified and analysed by our side to explain and illustrate their semantic and morphological properties. How auxiliaries differ from verbs as to their semantic and morphological properties is one of the questions which we will try to find an answer in this part of the study. In a semantic

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[1] Banguoğlu, *Türkçenin grameri*, op. cit., p. 411.
[2] Ibid.
[3] Lewis, *Turkish grammar*, op. cit., p. 115.
[4] Benzer, *Fiilde Zaman Görünüş*, op. cit., p. 55.
[5] Göksel-Celia, *Turkish: A comprehensive grammar*, op. cit., p. 283.
[6] Ibid, p. 131.

sense, the lexical items in English illustrated in (17) below denote grammatical properties such as tense, aspect, mood or voice:[1]

(57) a. *do(es)*   *everyday*
      b. *did*   *yesterday*
      c. *will* do   *tomorrow*
      d. *can* do   *always able to do/ able to do tomorrow*
      e. *may* do   *probably tomorrow/now*
      f. *would* do   *but in fact not now/ habitually in the past*
      g. *could* do   *able to do in the past*
      h. *have/has* done *by/up to now or before now*
      i. *had* done   *by that time/ by yesterday*
      j. *is/am/was* doing *at the moment/ at that time yesterday*
      k. *are/were* done *by somebody or something*

From the illustrations in (17), we can observe that the italicised lexical items change consistently depending on the proceeding adverbs of time, expressing 'tense', 'mood', 'aspect' or 'voice'. Accordingly, in (17a), *do(es)* is inflected for 'present tense', thus denoting a repeated and habitual action which happens at a certain frequency imposed by the adverb *every day*. *Did*, in (17b), is inflected for 'past tense', thus denoting a completed or an executed action, happening at a certain time in the past, which is imposed by the adverb *yesterday*. In (17c), the lexical item *will* denotes 'future' with its complement verb *do*, an action which is to be executed in the future or to happen at any time from this moment, which is imposed by the adverb *tomorrow*. *Can,* in (17d), with its complement verb *do,* denotes an action within the capability of the performer happening at present or in the future, which expresses a modal action. *May,* in (17e), is used to denote a possible action likely to be at present or to happen in the future, which also expresses a modal action with its complement verb *do.* In (57f), *would* is used to denote a conditional action which is intended to be executed or expected to happen in an otherwise case at present but not yet executed, thus representing modality. *Could,* in (17g), is past-inflected form of the modal auxiliary *can,* thus, with its complement verb *do,* denoting an action within the capability of the performer in the past, or expressing a repeated ability happening in the past. In (17h-i), *have/has* and *had* are present or past-inflected

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[1] The semantic classification of auxiliaries are adapted from: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 75-88.

forms of the auxiliary verb *have*, with its complement past participle verb *done* used to describe an action completed *before* or *up to* another time as illustrated by the adverbs *by now* in (17h) and *by that time* in (17i), which expresses not only tense (e.g. present/past) but also aspect (e.g. perfect). *Am/is/are* and *was/were* in (17j), with their complement present participle verb *doing* are used to describe a progressive action happening during another action or at a specific time as illustrated by the adverbs *at the moment* and *at that time*, which expresses not only tense (e.g. present/past) but also aspect (e.g. progressive). In (17k), *am/is/are/was/were,* with the complement participle verb *done,* are used to denote an action whose subject is not the 'agent' but the 'undergoer' as illustrated by the expression *by somebody or something*, which expresses not only tense (e.g. present /past) but also voice (e.g. passive). Although there are various auxiliaries expressing modality apart from those listed above, we will not describe and illustrate all of them in details since we are not interested in the descriptive features of all auxiliaries severally in this study but common semantic and morphological properties which make them categorized as auxiliaries.

Morphologically, auxiliaries in English demonstrate inflectional properties, which can also be observed from the illustrations in (17) above (e.g. do/does/have/has/is/are/was/were/can/could).

The following examples in (18) illustrate the inflectional properties of auxiliaries in English:

(18)   a. He *does* not work
         b. *They   do* not work
         c. She/they *did* not work
         d. I/he *cannot* work now but I/he *could* work last year.
         e. She *has* worked
         f. We *have* worked
         g. I *am* working
         h. He *is* working
         i. You *are* working
         j. They *were* working
         k. She *was* working
         l. He asked me where he/we *would* stay there.

In (18), we can see that auxiliaries are in agreement with their subject for person (e.g. first, second or third person) and number (e.g. singular or plural). For example, in (18g), the auxiliary *am* denotes first person singular. Moreover, while the auxiliaries *does, has, was* and *is* all indicate third person and singular number and *was* also indicates first person singular like as shown in (18a), (18e), (18h) and (18k), the auxiliaries *do, have, are* and *were* all denote plural number as shown in (18b), (18f), (18i) and (18j). In addition, *do* and *have* may also indicate first person singular, demonstrating that tense has unvalued person and number features. However, modal auxiliaries such as *can, could* and *would* in (18d) and (18e) and the past tense auxiliary *did* in (18c) can be observed being inflected neither for person nor for number overtly at PF. Furthermore, auxiliaries can be observed to be inflected to past forms as shown in (18d) and (18l). Just as *could* in (18d) is used as the past form of present ability modal auxiliary *can* in order to denote ability in the past, *would* in (18l) is used as the past form of future modal auxiliary *will* in order to denote aspectual future in the past, which demonstrate us that the category of 'tense' in English is inflectional and requires auxiliaries as a host. This category has valued either 'present' or 'past' tense feature, but unvalued 'person' and 'number' features.

In addition to the agreement and tense inflections above, auxiliaries in English also fulfil 'aspect' and 'voice'. The progressive aspect and passive voice auxiliary *be* and the perfect aspect auxiliary *have* are inflected to introduce 'tense', 'agreement' and 'aspect' to their participle complements as illustrated in (19) below:[1]

(19) a. *He *have* done
   b. We *had* done
   c. She *has* done
   d. *It *be* doing
   e. I *am* doing
   f. He *was* doing
   g.*He *be* done
   h. They *are* done
   i. You *were* done

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[1] The uses of 'be' and 'have' as auxiliary verbs are adapted from: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 82, 85.

In (19a), (19d) and (19g), we understand that it is ungrammatical to use voice and aspect auxiliaries *have* and *be* in their infinite forms as predicates. They are inflected to person as in (19e), number as in (19c), (19f), (19h) and (19i) and present or past tense as in (19c,e) or (19b,f). Indeed, it should also be noted that auxiliaries in English all posit tense, which means that it is not auxiliaries themselves but tense what makes up a superior category, which is why they are suggested to be represented as 'tense' constituents in the derivations.[1] However, in English, whether these helping verbs are of auxiliary function or not can be distinguished only by their complements, which we will analyze and illustrate for the syntactical analysis of auxiliaries in the following part of the study (see 5.5).

From the semantic and morphological properties of auxiliaries illustrated above, we understand that auxiliaries in English are a closed set of words having functional properties such as tense, voice, aspect and modality. They range from helping verbs *be, do* and *have* to modals such as *will, can, must, should, could* etc. While helping verbs also have lexical descriptions (e.g. *have* two brothers, *do* homework or *be* at home) as ordinary verbs, modals only function as syncretised auxiliaries with tense and mood features and they do not have lexical descriptions. Moreover, whereas *do* is used only to support bare verbs in present and past tense, *have* and *be* are not merged with bare verbs. It is also understood that the auxiliary *be* selects nominals such as nouns, adjectives, adverbs, prepositions and present/past participles (e.g. doing, done, watched etc.) as a copula indicating aspect or voice. The auxiliary *have*, on the other hand, can only select past participles and denote perfect aspect. Modal auxiliaries can only select bare verbs and denote mood as well as present or past tense (as syncretised constituents). In this study, auxiliaries will be represented with the abbreviation of 'AUX' or as a 'T' constituent in the syntactical analyses.

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 105.

4.2.4. INFINITIVAL TO

In lexicon, *to* is described "as a lexical unit used either as a preposition or a part of an infinitive."[1] The word *infinitive*, on the other hand, is described as "a verb form which does not have inflections and used either on its own or with *to* in front of it."[2] In traditional grammar, on the other hand, such a phrase (e.g. to buy) was once regarded as a single form called *infinitive* of the verb, but this analysis is rejected by all contemporary theories of grammar and called as 'bare infinitive' today.[3] In linguistic terms, *infinitival to* is described as "a conventional label for an infinitival verb phrase preceded by the formative *to* (e.g. wants *to buy*)."[4] The term *infinitive*, on the other hand, is described linguistically as "a non-finite verb occurring in some languages and typically serving to express the meaning of the verb in the abstract with no marking for tense, aspect, mood or person" (e.g. come), whereas in some other languages it is often a "distinctly inflected form" [5] (e.g. gel-*mek /come* in Turkish, ven-*ir /come* in Spanish or in French etc.). For another definition, while *infinitive* is described as "an uninflected base form of a verb," the infinitive particle *to* is described as "an expression containing a verb in the infinitive form, the only kind of complement it allows."[6] In this part of our study, verbs with particle *to* which are categorized as *infinitives* are explained and illustrated with their semantic and morphological properties in English.

So, another overt functional category in English syntactical structure is the infinitival *to*. This particle can only be followed by an infinite verb, or an uninflected base, form. Below in (20) are the uses of infinitival *to*:[7]

(20)   a. I want *to* see the doctor.
        b. He decided *to* leave.

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[1] Sinclair, *Collins COBUILD*, op. cit., p. 1537.
[2] Ibid, p. 746.
[3] Sinclair, *Collins COBUILD*, op. cit., p. 1537.
[4] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 279.
[5] Ibid, p. 141.
[6] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 49.
[7] The semantic categorization of 'to' as an infinitival head are adapted from: Audrey J. Thomson-Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 15163; Otto Jespersen, *Essentials of English Grammar,* Routledge, 2003, p. 270-283.

c. It is easy *to* have a conversation with them.
d. need *to* do, plan *to* have, hope *to* meet, want *to* see
e. I don't know what *to* say/ how *to* do/ where *to* go/ what *to* wear.
f. The people *to visit us tomorrow* are from Britain.
g. *To* be successful, you should study harder.
h. *To* walk is good for health.
i. *to school, *to* London
j. look forward *to seeing*, be accustomed *to living*
k. like *reading*, mind *doing*, know *speaking*

From the illustrations in (20), we understand that *infinitival to* selects infinite verbs as shown in the illustration (20a-h). Therefore, it would be ungrammatical to use it with any other category of complements such as nouns as shown in (20i). In such cases as (20i), *to* is described as "*prepositional to* which denotes direction, or a dative paradigm for the nouns it is followed by."[1] Semantically, in (20a), *to see* denotes an irrealis action that is intended to occur at a posterior time, as in (20b, d, e, f and g), the act of seeing the doctor is posterior to the time of utterance, or to the action *want,* the preceding main verb. Likewise, the action of *leaving* is posterior to the preceding decision (i.e. *decided)* in (20b), the action of *doing* is posterior to the necessity (i.e. need) in (20d), the action of *saying* is posterior to the uncertainty (i.e. I don't know) in (20e), the action of *visiting* with the adverb of time *tomorrow* is posterior to the time of utterance in (20f) and the action of *being successful* expresses the purpose of the action denoted by the finite predicate *study,* posterior to the suggestion (i.e. should study) in (20g). In (20c), on the other hand, *to have* denotes an undefined action, and no any information about the temporal identification of the *infinitival to phrase* (i.e. to have) is denoted by the preceding adjective *easy.* In (20h), the infinitival phrase *to walk* functions as "the sentential subject and denotes an undefined action."[2] In (20j), in addition, although the particle *to* is followed by verbs, it is described as *prepositional to* since the complement verbs are nominalised verbs (i.e. *-ing*) while the *infinitival to* can only be followed by infinite bare verbs. In (20k), similarly, nominalised structures (i.e. gerunds) such as *reading, doing* and *speaking* denote realis events that are experienced at a prior time. That is, the action of *reading* in (20j) expresses the cause of the action denoted by the finite predicate

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[1] Asbury, *The morphosyntax of case and adpositions*, op. cit., p. 14-17.
[2] Szymon Slodowicz, "Complement control in Turkish", *Zas papers in linguistics*, 47, 2007, p. 139.

like, prior to the main verb. From the illustrations above, it is understood that 'infinitival to' and its complement verbs do not have morphological properties.

In conclusion, from the semantic and morphological analyses in (20), we understand that just as we explained above, the infinitival *to* in English is a functional constituent which has infinite tense property, which results in the suggestion that it is an infinite tense constituent as in the case of auxiliaries. In his early works, Chomsky suggested to label this resulting abstract category as *Inflection (INFL).* [1] However, in his later minimalist works after 1990, he started to use *Tense* as a label for the category representing both *auxiliaries* and *infinitival to,* which was established on the fact that it is of temporal features which we explained above as a common property shared by all finite auxiliaries and *infinitival to.* [2] In addition, for the nominalizers, English does not operate an overt nominalizer constituent. Rather, it has inflectional nominal form of verbs (i.e. -ing) in the lexicon. It should also be noted that while the suffix *-ing* is of nominal feature, semantically denoting non-finite pirior and realis events, the particle *to* selects infinite bare verbs denoting posterior irrealis events. In our illustrations, the infinitival head will be represented by 'T', while infinite tense is represented by 'INF'.

4.2.5. COMPLEMENTISERS

In lexicon, a complement is described as "an adjectival or a noun group that comes after a verb and which adds information about the subject or object of the verb."[3] Complementisers, on the other hand, are described linguistically as a "grammatical formative which serves to mark a complement clause to some lexical items."[4] In addition, complementisers are described as a "term employed to describe the kind of words which are used to introduce complement clauses."[5] In traditional grammar, however, they are termed as "subordinators, or subordinating conjunctions and subordinating suffixes which link the finite clauses to the predicate of the

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[1] Chomsky, *Lectures on Government and Binding,* op.cit., p.18.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 51.
[3] Sinclair, *Collins COBUILD*, op. cit., p. 284.
[4] Trask, *A dictionary of grammatical terms in linguistics* , op. cit., p. 51.
[5] Radford, op. cit., p. 52.

superordinate clauses within which a subordinate clause occurs."[1] Subordinate clauses headed by subordinators (either as a lexical item or an inflectional marker) are traditionally divided into different functions such as complement clauses (i.e. noun clauses), relative clauses (i.e. adjective clauses) and adjunct clauses (i.e. adverbial clauses) which are described as to their functions within the clause (e.g. complement clauses function as subjects or objects, relative clauses function as adjectival phrases and adjunct clauses function as adverbial phrases).[2] Among them, subordinators used for noun clauses are called complementisers which we will study in this part of the study. In some traditional classifications complementisers are also introduced as "infinite suffixes such as participles or gerunds."[3] As a distinct lexical category, they serve to head a finite complement clause. Moreover, it is also discussed within the framework of P&P theory that "whether they are finite or infinite, all canonical clauses are headed by null or overt complementisers."[4] In order to explain what complementisers are and how they function semantically and morphologically, we illustrate the following examples shown in (21) below, most of which are quoted from the previous section also illustrated to explain the properties of the 'infinitival to':

(21)　　a. She promises *(that)* she will come soon
　　　　b.*She promises *that* she to come
　　　　c. Do you know *how* you should/will do it?
　　　　d. It seems *that* it is going to rain.
　　　　e. The doctor recommended *that* you should stop smoking.
　　　　f. I wonder *whether/if/when/how* they will come.
　　　　g.*I wonder *whether/if they* to come
　　　　h.*I wonder *to* come
　　　　i. *I wonder *that* they will come.
　　　　j. *I claim *whether/if/when/how* they will come
　　　　k. I heard *(that)* you had had an accident.
　　　　l. The weather is so cold *that* we can't stand out even for a minute.

In (21), we understand that the expressions italicized above are complementisers not only because they are followed by a finite clause but also

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[1] Göksel-Celia, *Turkish: A comprehensive grammar,* op. cit., p. 123.
[2] Ibid.
[3] Banguoğlu, *Türkçenin grameri*, op. cit., p. 563-575.
[4] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 131.

because they are the complements of the other categories such as verbs or prepositions. The complementiser *that* in (21a, d, e, k and l) introduces a declarative clause, while other *wh-* complementisers as well as the complementiser *if* introduce interrogative clauses as shown in (21c) and (21f). As seen in (21j), since the predicate verb *claim* selects a declarative complement, it would be ungrammatical for it to have an interrogative complementiser. Likewise, since the predicate verb *wonder* in (21i) selects an interrogative complementiser, it would be ungrammatical for it to have a declarative complement. In addition, it should be noted that since these complementisers select a finite clause, the illustrations in (21b) and (21g) are ungrammatical. Besides, the predicate *wonder* in (21h) also does not select an infinite complement although it is not followed by a complementiser. It only selects a finite complement with an interrogative complementiser which gives us evidence for a functional category of complementisers. In (21a) and (21k), we can observe that the declarative complementiser *that* may be omitted, that is to say, it may have an overt or null representation in the syntax. In (21l), the complementiser *that* is the complement of the adverb phrase *so cold,* denoting effect.

For the following illustrations shown in (22), we look into infinite complementisers in English:[1]

(22) a. He wanted (*for) me to* close the door.
         *He wanted *that* I should close the door.

       b. They allowed (*for) us to* leave early.
          *They allowed *that* we could leave early.

       c. It is necessary *for you to* stop smoking.
          It is necessary *that you should* stop smoking.

       d. The doctor recommended (*for) you to* stop smoking.
          The doctor recommended *that you should* stop smoking

       e. The weather is *too cold for us to* stand out even for a minute.
          The weather is *so cold that we can't* stand out even for a minute.

In (22), we can observe that the infinite clauses headed by *for* or *infinitival to* in (22 c, d and e) are of similar semantic content to their finite counterparts headed

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[1] The illustration of infinite complementiser phrases and 'for' as an infinite complementiser are adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 128-131.

by finite complementisers. In other words, they introduce an irrealis clause (i.e. a clause denoting an unreal or hypothetical event which has not yet happened),[1] which we described as events posterior to their preceding predicates in the previous section (see 4.2.4) like in the case of modality expressing prospective mood. In (22a), the verb *want* do not also select a finite complementiser similar to the case of the verb *allow* in (22b), which may be caused by the lexical properties of the predicates.[2] We also understand from the illustrations above that *for* also appears either as an optional or obligatory complement as well as being a null variant as shown in (22a, b and d). The verbs like *want* in (22a) are referred as "for-deletion" verbs, but still their specifier pronouns are observed to be governed by this null infinite complementiser (e.g. wanted me).[3] In (22e), moreover, *that* functions as the complementiser of the adverbial phrase *so cold* and expresses the result of that much cold, while the infinite clause is the complement of the adverbial phrase *too cold* and expresses negative ability or possibility. It is also understood from the illustrations above that complementisers in English do not have morphological properties.

In conclusion, from the illustrations above, we understand that clauses are structures headed by a closed set of overt or null and finite or infinite complementisers which select finite or infinite clause structures and do not have descriptive but functional contents. In this study, complementisers will be represented as 'C' in the syntactical analyses. All the categories explained with their morphological properties in this part of the study will be analyzed as phrase constituents in the syntax. The grammatical categories defined as to English language will be analyzed with their corresponding Turkish structures comparatively and contrastively in the following part of the study to reveal the parametric variations between English and Turkish languages within the terms of the Minimalist Program.

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 53.
[2] Ibid, p. 125.
[3] Ibid, p.129.

CHAPTER 5: PHRASE STRUCTURES

In this part of the study, we study on how words are combined to derive phrasal and clausal structures. Considering the UG assumption that "although there are universal principles determining the outlines of the grammar of natural languages, there are also language particular aspects of grammar, varying from one language to another,"[1] called 'parameters, we will analyze syntactical derivations through the universal principles suggested by the Minimalist Program in order to find out parametric variations and differences in language particular grammatical features between English and Turkish languages. In more concrete terms, if any grammatical operation is observed in a one language but not in the other, then this variation is regarded as a parametric variation to be described and explained in the study. The bilingual phrase structures will be analyzed and illustrated via labelled tree diagrams and then compared and contrasted through cross-lingual M-diagrams in order to lay out parametric variations between the two languages clearly. Initially, we will explain the fundamental components of the phrase structures and their descriptions and then, for the following parts, we will compare and contrast various phrase structures of certain lexical and functional categories in both languages. During these comparative and contrastive analyses, parametric variations to be identified between English and Turkish languages will be described. It should be also be noted that for the order of analyses in this part of the study, we follow a bottom-up derivational order:

a. Noun Phrases (including the functional category of determiners)

b. Adjectival Phrases

c. Adverbial Phrases

d. Adpositional Phrases

e. Verb Phrases (including functional categories related to the grammatical structures such as tense, modal, auxiliary, aspect, negation and passive voice)

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[1] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 16.

In order to provide reliable corresponding structures for the target analysis, their reference grammar counterparts are tested through reference Turkish grammar books written in English. Turkish sample structures are either illustrated by our side or adapted from reference grammar books by substituting equivalent words but being closely faithful to the structure.

A 'phrase' (abbreviated as P in the study) is described traditionally as "a label applied to any string of words which someone wants to consider."[1] Another description for this term can be "the term which is used to denote an expression larger than a word."[2] However, what we mean by a 'phrase structure' is "a type of hierarchical structure which, in most theories of grammar, is posited for most or all sentences in most or all languages."[3] In a simpler way, it is also defined as "merging two words together,"[4] or as "combining at least two lexical items (e.g. *play/oyna* and *football/futbol*)."[5] They are also described as "the smallest meaningful set of words".[6] The structure of a sentence is established by combining the words in pairs, one being the complement of the other (e.g. *play football/ futbol oyna*). This operation of combining the words together to form larger units out of those already constructed is called 'merging'.[7] 'Merging' determines the pairs of lexical items, having a complementary relation between the words, that is, it is described as "combining the words with another word, one being the complement of the other."[8] In all these descriptions, the one to which the phrase is referred or belongs is called the 'head' (H) of the phrase since the head of the phrase determines the grammatical properties of the complement and the other which completes the head is the 'complement' of the phrase:

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[1] Robert Lawrence Trask, *A dictionary of grammatical terms in linguistics*, Routledge, 1993, p. 208.
[2] Andrew Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p. 469.
[3] Trask, R. L., op. cit., p.57.
[4] Radford, A. op. cit., p.66.
[5] Nadir E. Uzun, *Evrensel Dilbilgisi ve Türkçe*, İstanbul, 2000, p.18.
[6] İlker Aydın-Emrullah Şeker, A Comparative Study on English and Turkish Syntactic Structures within the Terms of the Minimalist Program. *International Journal of Linguistics*, 2013, 5.1: p. 231-247.
[7] Noam Chomsky, *The Minimalist Program*, MIT Press, Cambridge, 1995b.
[8] Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p.72.

(1)   Phrase Structure[1]

Phrase_V
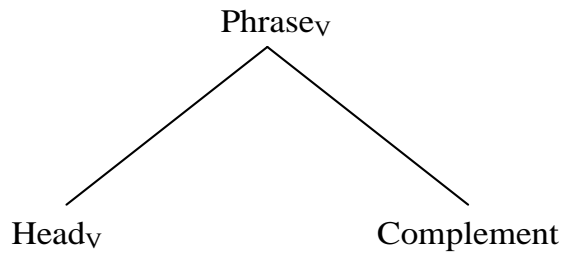
Head_V   Complement

In (1), it is understood that the head of the phrase is a verb (V) and merges with an 'internal argument' as a complement to form a verb phrase.[2] In more concrete terms, let's see the following illustrations in English:

(2)   Phrase Structure in English[3]

VP

Head_V   Complement
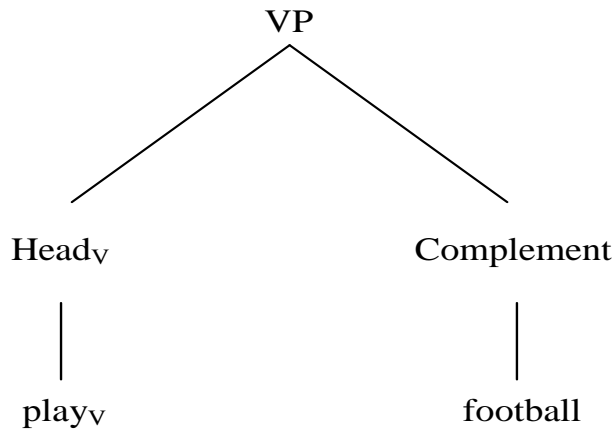
play_V   football

In (2), it is understood that the verb (V) *play* is the head of the phrase *play football* and merges with an 'internal argument' as a complement to form the resulting   verb phrase (VP) *play football*. As for Turkish, let's see the following illustration:

(3)   Phrase Structure in Turkish

---

[1] Adapted from: Uzun, *Evrensel Dilbilgisi ve Türkçe*, op.cit., p.19 (8).
[2] Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p.67.
[3] Adapted from: Uzun, *Evrensel Dilbilgisi ve Türkçe*, op.cit., p.19 (9).

```
                          VP
                         /  \
                        /    \
                       /      \
                      /        \
               Complement     Head_V
                   |             |
                   |             |
                futbol         oyna_V
```
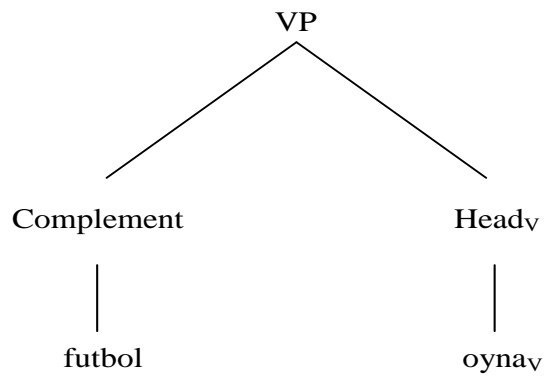
In (3), it is understood that he verb (V) *oyna* (play) is the head of the phrase *futbol oyna* (play football) and merges with an 'internal argument' to form the VP *futbol oyna* (play football).[1] Here we can observe that the head of the phrase settles in different positions in English and Turkish phrase structures. The verb *oyna* is the head of the phrase but, unlike its English counterpart shown in (3), it settles down on the right side of the branch, determining the grammatical properties of the phrase. The noun *futbol* (football), on the other hand, is the complement of the head. Now, let's see another phrase structure with a different category of head, as illustrated below:

(4)   for me[2]

```
                    PP
                   /  \
                  /    \
                 /      \
                /        \
               P         PRN
              for         me
```
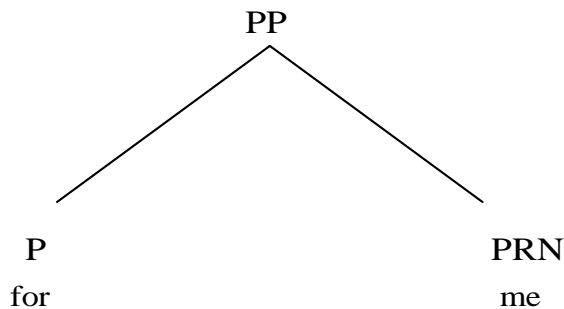
According to (4), the preposition (P) *for* is merged with a pronoun (PRN) *me* to form the prepositional phrase (PP) *for me*.[3] The category labels such as P, PRN

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[1] Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p.67.
[2] The PP illustration with a PRN complement on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p.81 (35).
[3] The analysis of PP with a PRN complement is adapted from: Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p.81 (35).

and PP illustrated on the tree diagram are called 'nodes'.[1] They are representations at LF. Each node represents a different constituent of the phrase. In the illustration above, nodes at the bottom of the tree (e.g. P and PRN) are described as 'terminal' nodes, whereas the other nodes like VP, PP, NP, T′ (or T-bar) are 'nonterminal' nodes and the top node which determines the overall phrase is called the 'root' of that phrase (e.g. the root is PP for 4).[2] Accordingly, (4) tells us that two lexical items *for* and *me* at PF, or two terminal nodes P and PRN at LF, undergo a merging operation, forming the phrase *for me,* or the nonterminal node *PP*. The preposition *for* is the head of the phrase and settles down on the left side of the branch, determining the grammatical properties of the phrase, or the root of the resulting phrase *PP*. The pronoun *me*, on the other hand, is the complement of the head.

Now, note that the verb *play/oyna* in (2) and (3) above also requires an external argument as the 'agent' of the action. This means that a verb like *play/oyna* has two projections: a smaller 'intermediate projection', forming the incomplete V-bar (V′) *play football/futbol oyna* with its complement *football* and a larger 'maximal projection', forming the complete verb phrase (VP) *I play football/Ben futbol oynarım* with its 'specifier' 1SgP *I* as an external argument (the functional category of T is ignored for this analysis), as shown below:

(4)   I play football[3]

---

[1] Andrew Radford, *Analysing English sentences: A minimalist approach*. Cambridge University Press, 2009, p. 69.
[2] Ibid.
[3] The projection analysis on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English*, op. cit., p. 78 (29).

```
                        VP
                       /  \
                      /    \
                     /      \
                    /        \
               Specifier      V'
                  I          / \
                            /   \
                           /     \
                      Head_V       \
                      play          \
                                Complement
                                 football
```

(5)   Ben futbol oynarım
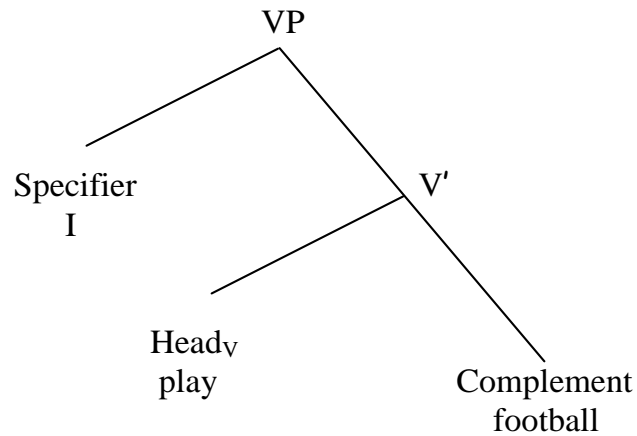
```
                        VP
                       /  \
                      /    \
                     /      \
                    /        \
               Specifier      V'
                 Ben         / \
                            /   \
                           /     \
                  Complement      \
                    futbol         \
                                Head_V
                                oynarım
```
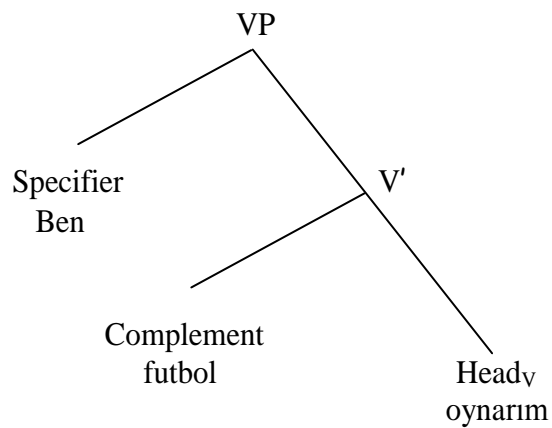
It should be noted that not only the 'agent', 'theme' or 'experiencer' external arguments of the verbs, but also the subject of the TPs as well as the modifiers such as adjectives, quantifiers, demonstarators, possessors or adverbs may serve as the specifier of the NPs, DPs or PPs, which is shown below:

(6)   very afraid of dogs[1]

---

[1] Adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 81.

Specifier
very

Head_A
afraid

Head_P
of

Complement
dogs
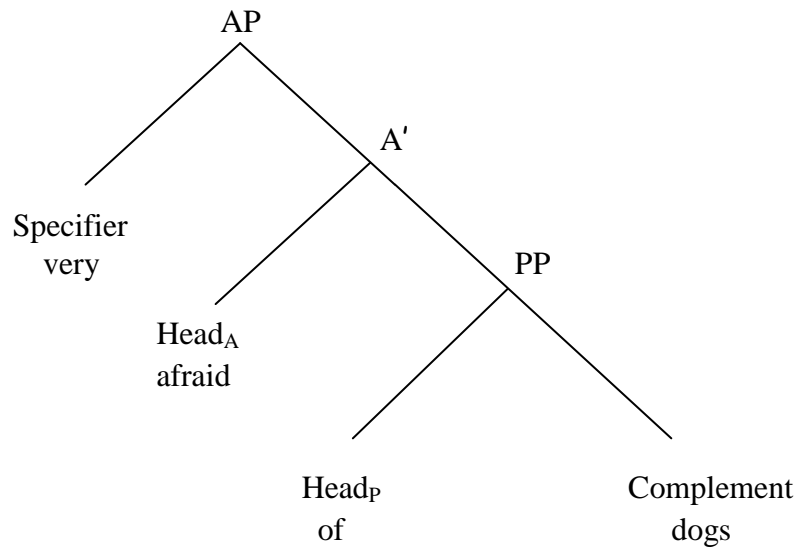
As we observed in the illustrations above, adjectives like the category of Vs and T may project into intermediate and maximal projections. The difference is that "it is obligatory for verbs (or the category of T) to have a specifier but optional for adpositions or adjectives."[1] These obligatory specifiers (i.e. subjects) are assumed to result from the thematic roles assigned by the verb or the EPP feature of the related category (e.g. the category of T). "EPP feature which is originally an abbreviation for a principle of UG known as the 'Extended Projection Principle' requires a given category to project a specifier"[2] in order to be a complete phrase.

After analyzing the universal properties of phrase structures which we can be described for both languages, we can also observe language particular properties or features depending on either language (i.e. parametric variations). As stated by Radford, "if all aspects of the grammar of languages were universal, then all natural language grammars would be the same and there would be no grammatical learning involved in language acquisition but lexical learning."[3] For the phrase structures in both languages, words initially undergo a merging operation. This operation results in binary syntactic structures, in consistence with the 'Binary Principle' which posits that "every syntactic structure is binary-branching."[4] One is the complement of

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.81.
[2] Ibid, p. 450.
[3] Ibid, p. 16.
[4] Ibid, p. 70.

another, which demonstrates that the resulting syntactic structures are the projection of a head word, in consistence with the universal principle called 'Headedness Principle' which posits that "every syntactic structure is a projection of a head word,"[1] leading, in turn, to the parameter known as the 'head parameter' which suggests that "a particular language consistently has the heads on the same side of the complements in all its phrases, whether head-first or head-last."[2] Finally, we get the first 'parametric variation' demonstrating:[3]

- **Head Parameter**

  i. English is a 'head-first' language

  ii. Turkish is a 'head-last' language

That is to say, when a Turkish man uses a verb with a noun, he knows that it should proceede the verb (i.e. head-last), whereas the case is vice versa for an English man. Therefore, the merging operations and phrase structures in both languages will be as the following (7) in both languages (H is for Head, C for Complement, and P for Phrase):

(7)
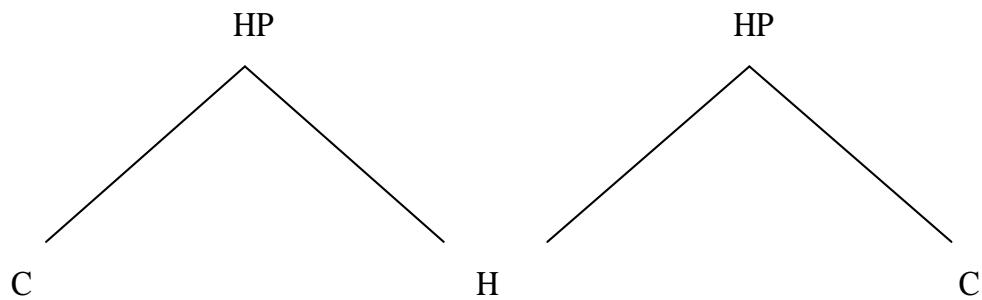
A Turkish Phrase Structure   An English Phrase Structure

For similar bilingual comparative analyses, we suggest an unlabelled 'Cross-lingual M-diagram' as the following:

(8)   futbol oyna/play football

---

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 70.
[2] Vivian Cook-Mark Newson, *Chomsky's Universal Grammar*, Oxford, 1996, p.243.
[3] Parameters are described modelling: Jamal Ouhalla, *Functional categories and parametric variation*, Routledge, London, 2003.

```
        /\      /\
       /  \    /  \
      /    \  /    \
     /      \/      \
            oyna / play
    /                  \
   /                    \
  futbol              football
```
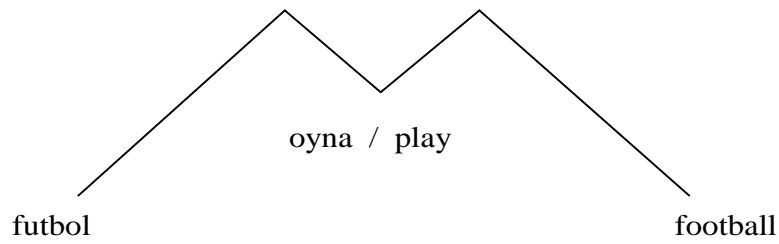
An unlabelled Cross-lingual M-diagram

In our study, we make use of this unlabelled cross-lingual M-diagram in order to illustrate comparative bilingual analyses particularly for the languages having contrasting head parameters. The phrase of two languages having different head parameters result in a letter 'M' configuration, which is why we call it 'M-diagram'. Through this diagram, we intend to lay out parametric variations between two languages cross-linguistically. Moreover, it should be noted that the idea of unlabelled representation is based on the 'bare phrase structure rules' suggested by the MP. However, we also use traditional labeled tree diagrams in order to be more explanatory in drawings.

Just as there are parametric variations between natural languages, there are also language particular grammatical features resulting from grammatical information about the lexical constituents which cannot be represented by category labels as analyzed in the previous part of the study. This information includes more detailed descriptions such as person, number, gender, case etc.[1] In this study, we use the traditional square brackets (e.g. [ACC-Case]) under each related node to represent formal 'valued' or 'unvalued' grammatical features, as shown in (10) below. However, it should be noted that the grammatical features such as person, number and case will not be displayed until they have derivational functions to fulfill in order to avoid repetition and unnecessary representations. In addition, apart from the minimalist 'formal grammatical features' playing active roles in derivations, we also use 'lighted square brackets' for additional semantic explanations such as 'paradigmatic cases' (i.e. [SOC], [ABL] etc), 'mood' (i.e. [ABIL], [OBL] etc) which do not have any functional roles in the derivation. They are only given as explanatory

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.58.

details where we need to convey the meaning of any empty category or morphological unit in order to be more explanatory on the comparison of some specific structures in both languages.

(9)   for him

```
                          PP
                        /    \
                       /      \
                      /        \
                     P          PRN
                    for         him
                 [ACC-Case]  [Sg-Num][3-Per][ACC-Case]
```
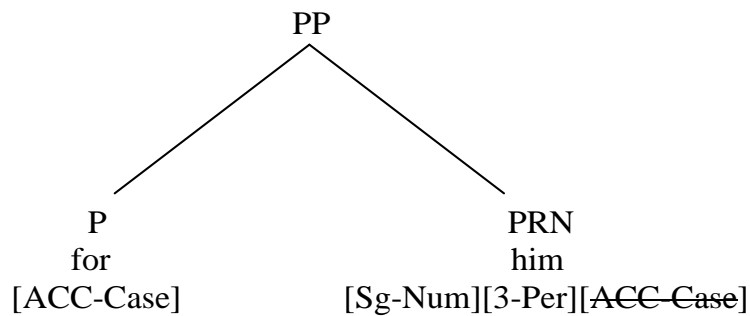
In (9), the grammatical information in brackets under the related nodes shows us that this category has interpretable (i.e. accusative case, singular number and third person) or uninterpretable (or unvalued like [u-Case]) grammatical features. PRN enters the derivation with its unvalued (u) case feature (i.e. he/3SgP) until it is merged with P which has an interpretable [ACC-Case] feature, undergoing feature checking with its complement and values its [u-Case] as [ACC-Case] (i.e. him) and then delete it [ACC-Case].

5.1. NOUN PHRASES

Nouns are the complements of the other lexical or functional categories such as verbs, adpositions or determiners and have specifiers but lack complementisers. However, the concept of noun phrase (NP) is still under operation when nouns are modified by adjectives, demonstrators (Dem) or quantifiers (Q). In the following illustrations, we study on the syntactical properties of NPs in English and Turkish languages. Below are the examples for nouns specified by modifiers in English:

(10)   a. old books, new bag, red pen, expensive car, close friend
        b. many books, some bread, a few patatoes
        c. these students, this bag, that man

Considering the Headedness Principle we have explained so far, these words are not complement of each other. The heads of the phrases are still nouns modified

by an adjective, a quantifier or a demonstrator. The modifier is also "a 'specifier' which serves to extend a lexical item or a phrase into a larger expression (e.g. old books, two bags) but still does not serve as a head of the phrase."[1] Therefore, when adjectives, quantifiers and nouns are merged with a noun/another noun, they modify that nouns and extend them into a larger expression still forming an NP.

The following phrase in (11) below is illustrated through a tree diagram in order to explain the structure of noun phrases in English. Note that the grammatical features such as person, number and case will not be displayed until they have derivational functions to fulfill:

(11)   old books

```
                    NP
                   /  \
                  /    \
                 /      \
                /        \
               A          N
              old        books
```
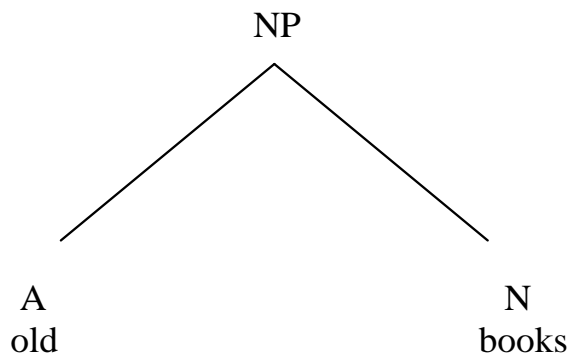
In (11), the words *old* and *books* are merged and result in the noun phrase *old books*. Note that although English is a head-first language as explained above, the resulting phrase is a noun phrase since it is modified by a preceding adjective.

(12)   many patatoes

```
              NP
             /  \
            /    \
           Q      N
          many  patatoes
              [-Def][Pl-Num]
```

---
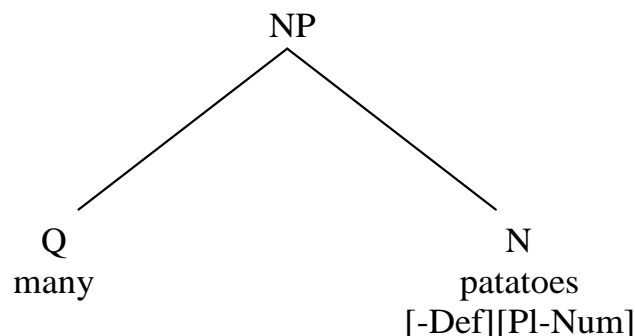
[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.49-50.

(13)   these students

```
                    NP
                   /  \
                  /    \
                 /      \
              Dem        N
             these     students
                    [+Def][Pl-Num]
```
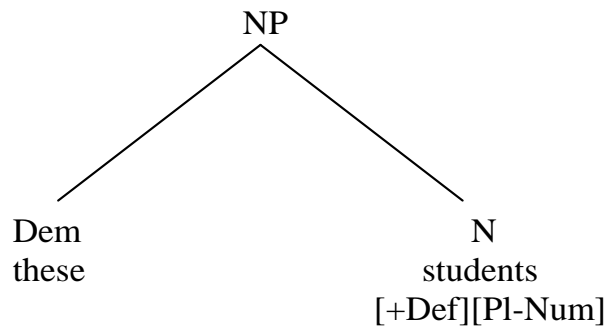
Now let's look into the examples for NP structures in Turkish. In order to see how phrases are derived in both languages comparatively, the following examples are illustrated through bilingual tree diagrams, as shown in (14) below (corresponding English structures are given in italics):

(14)   birçok öğrenci/*many students*

```
                    NP
                   /  \
                  /    \
                 /      \
                Q        N
             birçok    öğrenci
             *many*    *students*
```
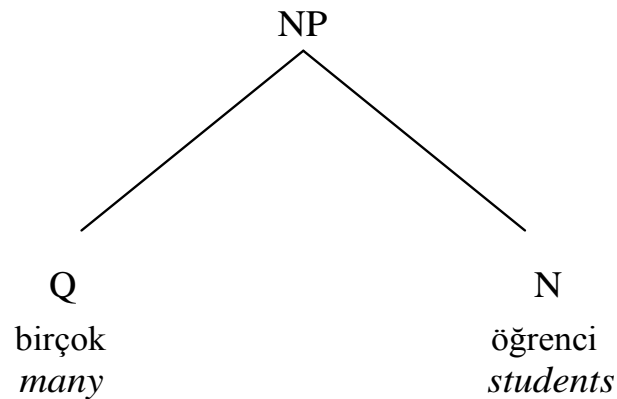
(15)   eski ev/*old house*

```
                    NP
                   /  \
                  /    \
                 /      \
                A        N
              eski      ev
              *old*     *house*
```
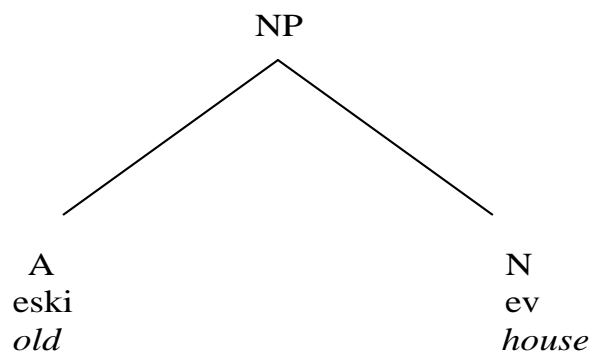
In (15), we can see that adjectives in Turkish precede nouns like the case in English. The words *eski* (old) and *ev* (house) are merged and result in the *NP eski ev* (old house). Note that since Turkish is a head-last language as explained above, the resulting phrase is an NP and it is also modified by a preceding adjective. Considering the position of the specifiers in both languages, we can suggest in a similar way to the head parameter and say that a particular language consistently has specifiers on the same side of the phrase, or projection, whether 'specifier-first' or 'specifier-last'. Therefore, it is understood that although there is a parametric variation between 'head-last Turkish' and 'head-first English' languages in terms of head parameter, there is a parametric similarity between these languages in terms of their specifiers. Accordingly, English and Turkish languages are 'specifier-first' languages.

The derivations which we have analyzed so far (i.e. noun phrases) are not complete derivations since "nouns have a referential property of 'definite' (i.e. [+Def]) or 'indefinite' (i.e. [-Def]) as arguments"[1] (i.e. as subjects or objects). This property is assumed to be satisfied by a functional category of words having matching 'definite' or 'indefinite' features (i.e. definite determiners such as the article 'the' or indefinite determiners such as the article 'a(n)'. However, these features can also be satisfied by modifiers such as 'quantifiers' having [-Def] features or demonstrators or other nomimal or pronominal expressions such as my, your, Ali's having [+Def] features. In (11), for example, we wonder whether the noun *books,* or the phrase *old books,* refer to *old books in general*, *some books* or *old books here*. In contrast, *students* in (13) is modified by the demonstrator *these* having a [+Def] feature, not requiring an overt definite determiner as in the case of *potatoes* modified by an indefinite quantifier *many*, which shows us that NPs require 'overt or null determiners'. This condition is explained by Abney's 'DP Hypothesis'. Abney suggests that "all definite noun expressions are DPs (including those not containing an overt determiner)."[2] Indeed, Radford go a step further and suggests that "all

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[1] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 161.
[2] Steven Paul Abney, *The English noun phrase in its sentential aspect*, 1987, PhD Thesis. Massachusetts Institute of Technology.

definite or indefinite expressions (used as arguments in phrases or clauses) are DPs with an overt or null head."[1]

A null D analysis in DPs is plausible in that a proper name like *Ahmet* denotes a specific, definite person as does a DP such as *the book* (a definite book). Accordingly, we will reillustrate the phrases which we analyzed in 5.1 with a higher null or overt category of D:[2]

(16)   old books

```
                    DP
                   /  \
                  /    \
                 /      \
                /        NP
               /        /  \
              D        /    \
              ∅       /      \
                     /        \
                    /          \
                   A            N
                  old          books
                            [-Def][Pl-Num]
```
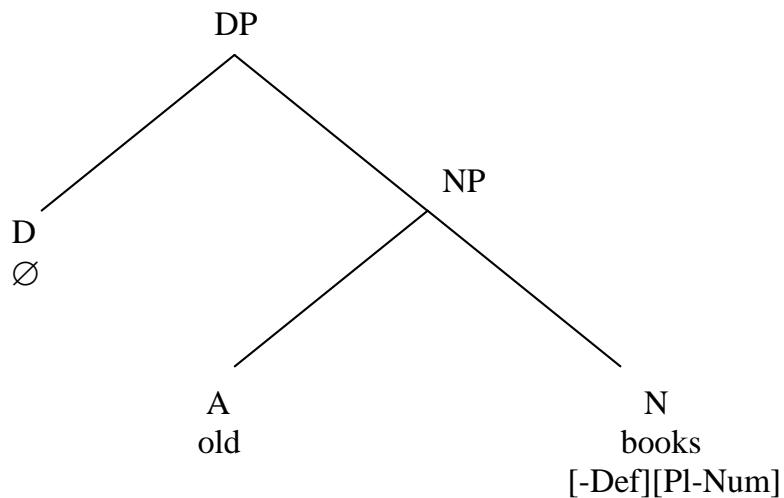
In (16), the plural noun *books* enter the derivation with its [-Def] and [Pl-Num] features and merges with the adjective *old* to form the *NP old books.* Since it has a [-Def] and [Pl-Num] features, the NP *old books* is headed by an indefinite null determiner ∅, forming the DP ∅ *old books*.

(17)   a pen

```
            DP
           /  \
          /    \
         D      NP
         A      pen
             [-Def][Sg-Num]
```

---
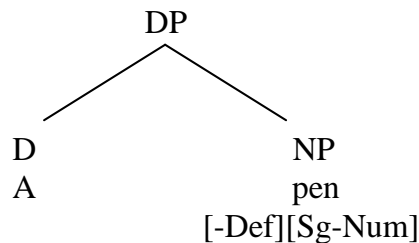
[1] Andrew Radford, *Analysing English sentences: A minimalist approach,* Cambridge, 2009, p.132.
[2] Null D ∅ analysis for these illustrations are adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 142-143.

(18)   many patatoes

```
                    DP
                   /  \
                  /    \
                 /      \
                /        NP
               /        /  \
              D        /    \
              ∅       /      \
                     /        \
                    Q          N
                  many      patatoes
                          [-Def][Pl-Num]
```
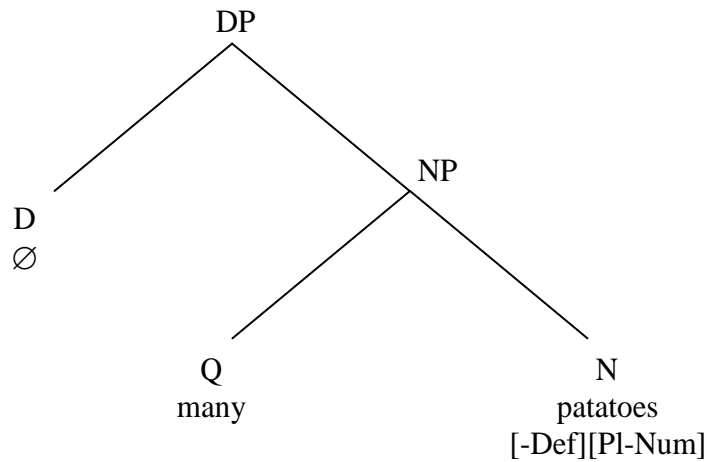
In (17), the singular NP *pen* enters the derivation with its [-Def] and [Sg-Num] features. Since it has a [-Def] feature and [Sg-Num] features, the NP *pen* merges with the overt indefinite determiner *a*, forming the *DP a pen.* In (18), the plural noun *patatoes* enter the derivation with its [-Def] and [Pl-Num] features. Since its [-Def] feature is satisfied by the indefinite quantifier *many*, the NP *many patatoes* is headed by an indefinite null determiner ∅, forming the DP ∅ *many patatoes*. Nouns can also have other nouns as their specifier and form DPs:

(19)   a. course books, fruit juice, a memory card, the Everest
        b. John's car, our house, my friend

Those structures will be analyzed through an 'nP-Shell' analysis. "Like the complex shell structure of VPs (i.e. vP-shell), it can also be assumed that NPs can also be explained through an 'outer nP-shell' headed by a light noun and an inner NP core headed by a lexical noun, housing adjectives, possessors, determiners and other nominal modifiers."[1] Now let's analyze these structures:

(20)   a memory card[2]

---

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.367.
[2] nP-Shell analysis through a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 368-369.

```
                    DP
                   /    \
                  /      \
                 /        nP
                /        /   \
               D        /     \
               a       /       n'
                      /       /  \
                     /       /    \
                    NP      /      \
                    memory /        \
                          /          \
                         n            NP
                      ∅+card          c̶a̶r̶d̶
                                   [Sg-Num][-Def]
```
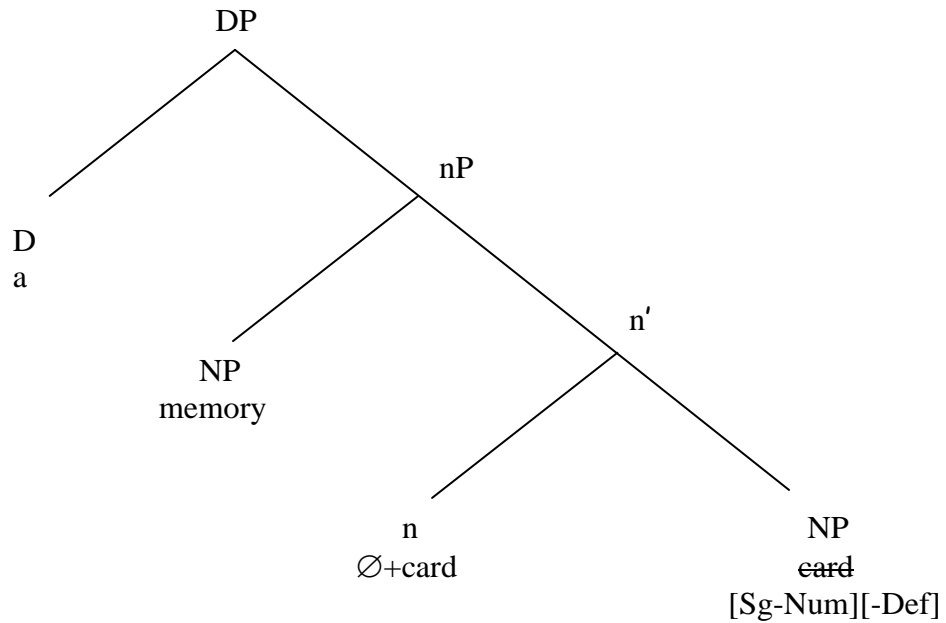
In (20), the NP *card* enters the derivation with its valued [-Def] and [Sg-Num] features. Then, this NP is merged with a null light noun (n) which has 'the function of marking possession'[1] and projects the NP *memory* as its modifying specifier. Since the null light noun is affixal in nature, it triggers raising of the noun *card* to adjoin to the light noun. Since, under the DP hypothesis, nominal arguments are DPs headed by an overt or null determiner, the nP has to be merged with the appropriate (i.e. [- Def]) D *a*, forming the DP *a memory card.* Now we will supply more examples on different DP structures below:

21)   The Everest

```
                 DP
                /    \
               /      \
              /        nP
             D        /   \
             The     /     n'
                    /     /  \
                   NP    /    \
                   Everest    \
                        n      NP
                        ∅      ∅
                             Mount
                             [+Def]
```
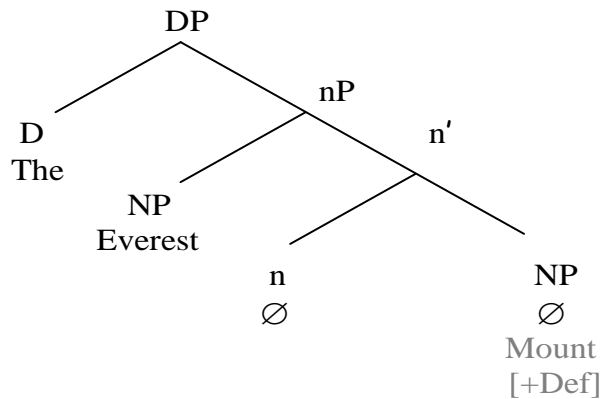
[1] Ibid, p.370.

In this structure, the core NP is assumed to be ellipsed, resulting in the ellipsed DP *the Everest (Mount).*

(22)   the old course book[1]
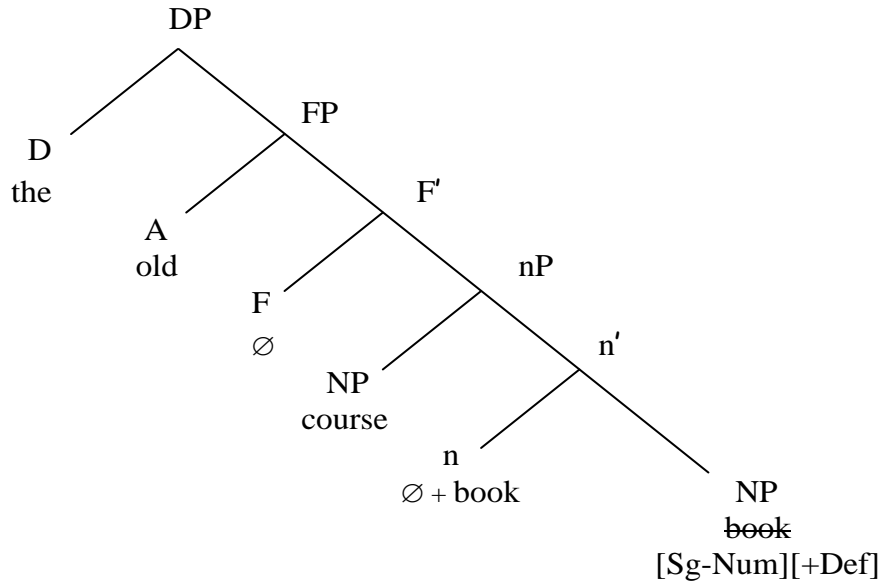
In (22)*,* Cinque suggests that an adjective like *old* occupies "some position above nP which is assumed to serve as the specifier of a functional head F having an adjectival specifier"[2] (see also Radford 2004; p.367-370). In earlier GB, Jackendoff, on the other hand, suggests "two layers of specifier positions" in the noun phrases for the maximal DP projections containing possessive adjectives, determiners, quantifiers and descriptive adjectives simultaneously.[3] Abney developed it into "a two bar DP analysis"[4], as illustrated below:

(23)   the old English course book

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[1] FP category analysis on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 369.

[2] Guglielmo Cinque, "On the evidence for partial N-movement in the Romance DP", *Paths towards universal grammar,* 1994, p. 106.

[3] Ray Jackendoff, *X-Bar Syntax: Astudy of Phrase Structure. Linguistic Inquiry Monograph,* Cambridge,1977, p. 53.

[4] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.186.

```
            DP
           /  \
          D    NP
         the   |  \
              A    N''
             old   |  \
                  A    N'
               English |  \
                      N    N
                   course   |
                           N
                          book
```
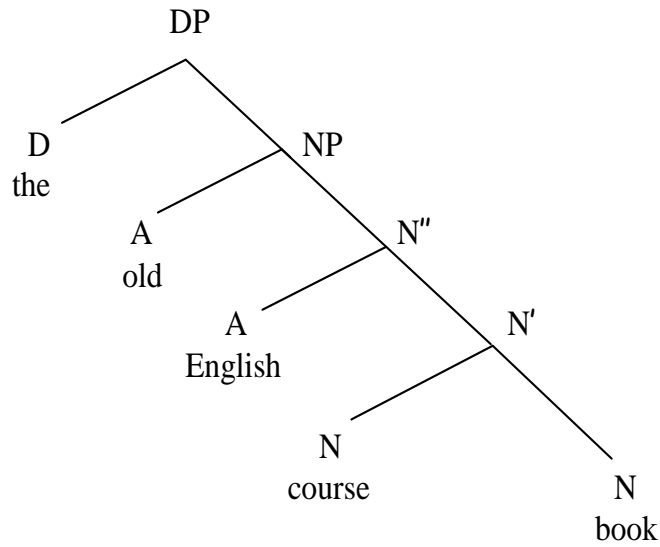
As for the NPs modified by the DPs or pronominals, in addition, the derivation will be as the following (24):

(24)   John's car

```
                    DP
                   /  \
                  /    D'
               DP     /  \
              John's  D    nP
           [GEN-Case] ∅   /  \
                    [GEN-Case] n'
                      [EPP]   /  \
                          DP n    NP
                         John ∅+car car
                       [u-Case]    [Sg-Num][+Def]
```
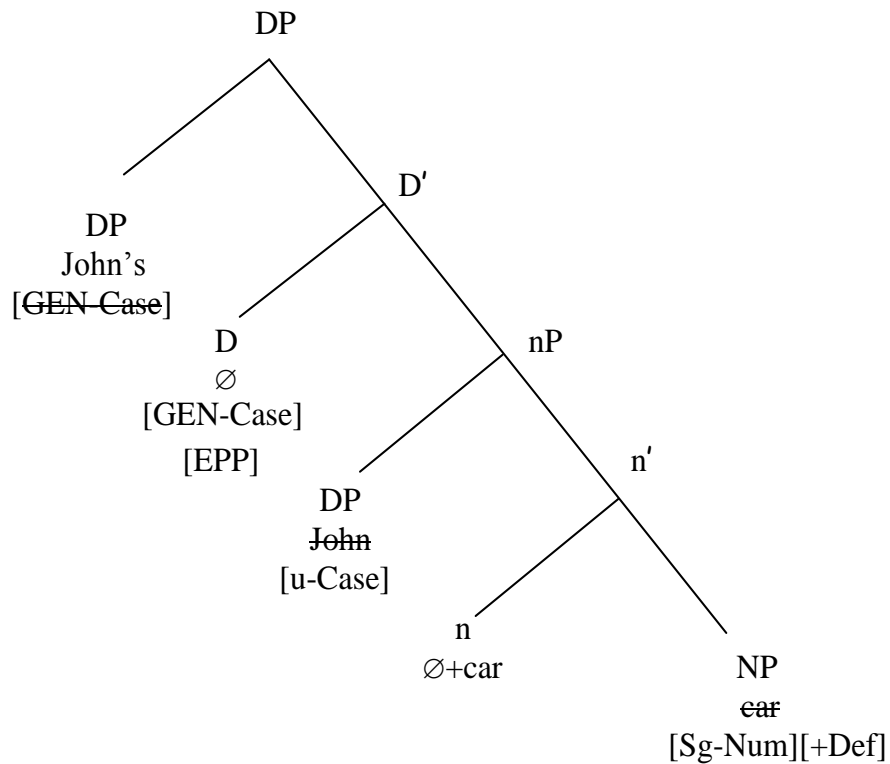
In (24), the NP *car* enters the derivation with its valued [Sg-Num] and [+Def] features, merging with a null light noun (n) which has 'the function of marking

possession'[1] and projects the DP *John* (headed by a null determiner ∅) as its external argument to which it assigns the θ-role of POSSESSOR and to its NP complement the θ-role of POSSESSEE.[2] Since the null light noun is affixal in nature, it triggers raising of the noun *car* to adjoin to the light noun, deriving the nP *John car*. Considering the DP hypothesis suggesting that nominal arguments are DPs headed by an overt or null determiner, the nP is merged with the category of D. Note that DP *John* has an unvalued case feature which needs to be valued and deleted. "Since cases are assigned to a goal by a c-commanding probe, it may be assumed that it is the D head of DP which assigns case"[3] to the DP *John,* which is described as 'Genitive Case Assignment' by Radford (2004) suggesting that "a null φ-complete determiner probe assigns genitive case to a matching case-unvalued goal."[4] Accordingly, "the genitive case assigned by D to a DP expression is spelled out as the genitive suffix's at PF,"[5] forming the DP *John's car*. The subjects of nominals move into spec-DP since D carries an [EPP] feature and thus triggering movement of the genitive DP *John's* from spec-nP to spec-DP.[6] Now let's see the derivation of possessors through a similar analysis adapted from the derivation above:

(25)   my friend

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.370.

[2] FP category analysis through a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 369.

[3] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 369.

[4] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 368.

[5] Ibid.

[6] Intermediate D' projection analysis through a tree diagram is adapted from: Radford, op. cit., p. 369.

```
                                    DP
                                   /  \
                                  /    \
                                 /      D'
                             PRN       / \
                             my       /   \
                          [GEN-Case] /     \
                                    D       nP
                                    ∅      /  \
                               [GEN-Case] /    \
                                 [EPP]   /      n'
                                      PRN      / \
                                      I̶      /   \
                                  [u-Case]  /     \
                                           n       NP
                                        ∅+friend  friend̶
                                              [Sg-Num][+Def]
```
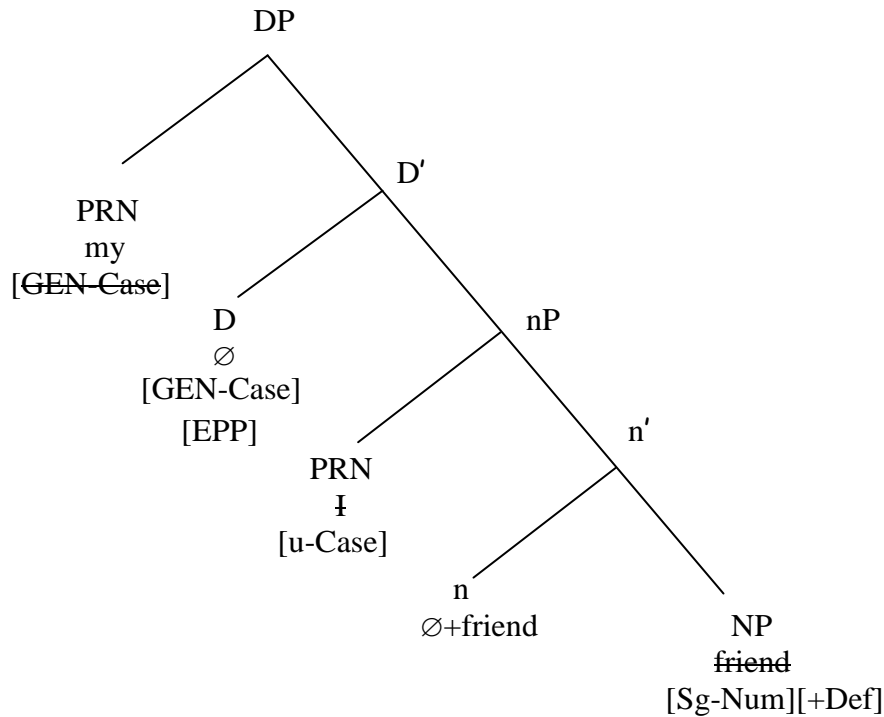
In (25), the NP *friend* enters the derivation with its valued [+Def] and [Sg-Num] features, merging with a null light noun (n) and projects the1SgP pronoun *I* as its external argument to which it assigns the θ-role of POSSESSOR and to its NP complement the θ-role of POSSESSEE. Since the null light noun is affixal in nature, it triggers raising of the noun *friend* to adjoin to the light noun, deriving the nP *I friend*. The resulting nP is then merged with a null φ-complete determiner having interpretable [GEN-Case] and [EPP] feature, undergoing feature checking with the [u-Case] feature of the pronoun *I* which is valued and then deleted thus being spelled out as *my* at PF, and triggering movement of the genitive PRN *my* from spec-nP to spec-DP, forming the DP *my friend.*

In the illustraions (16-25), we can observe that NPs with [+,- Def] feature are headed by an overt or null category of determiners in English. When NPs are specified by other NPs, DPs or pronouns, they show different properties in terms of *n* and D features (i.e. genitive case assignment, projecting a modifier or an external argument as a specifier). Now let's look into the examples for NPs merged with the category of D in Turkish:

Apart from the NP structure above, the evidence from the following illustrations in (26) can help us understand the DP structure and its [+, - Def] conditions in Turkish better:

(26)   a. faydalı kitap   yeni çanta   eski ev
          useful book   *new bag*   *old house*

       b. ders kitab-ı   Türkiye Cumhuriyet-i   Van Göl-ü
          course book-AGR   *Turkish Republic-AGR* *Lake Van-AGR*

       c. Ali*'nin* kitab-ı   *bizim* tarla-*mız*   arkadaş-ı
          Ali-POSS book-AGR   *our* field-*AGR*   *friend-AGR*

       d. bir kitap   bu ev   biraz süt
          a book   *this house*   *some milk*

In (26a), we can see that when descriptive adjectives modify nouns, nouns are not assigned any markers and they do not denote definiteness (e.g. *yeni çanta/ new bag*, *eski ev/ old house, friend etc.*) overtly just as the case in their English counterparts. In (26b), however, it is understood that when nouns are modified by another noun, the modified noun, as discussed above, is assigned the marker *-I,*[1] which is traditionally described as the 'genitive case', 'agreement' or the 'izafet case' that denotes affiliation of the modified noun to the preceding noun. Aydın describes this suffix as an agreement marker with the genitive case (i.e. in agreement with the preceding abstract possessor noun).[2] He states that this marker is in an agreement with a preceding possessor assigned GEN case *–(n)In* (e.g. saray-*ın* kapı-*sı/* palace*'s* door-*AGR* or saray-∅ kapı-*sı / palace-∅ door-AGR/3SP*) and adds that this resulting marker is also a determiner marker just like the accusative case *-I* in Turkish since they both determine nouns with a slight difference: the latter case is suffixed to the nouns only when they are obligatory complements of verbs.[3] Similarly, according to

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[1] Note that the suffixes used for the same purpose and having the same consonant phonemes vary as to the changes in their vowels resulted from the vowel harmony constraint in Turkish (e.g. *–i/ı/u/ü* etc.). Vowel harmony is a phonological process which determines what vowel will appear when a suffix is attached to a stem. It harmonizes with the properties of the vowel in the preceding syllable, irrespective of whether the stem is of native or foreign origin (e.g. kal*e*m-i, ins*a*n-ı). Affixes requiring vowel harmony will be demonstrated with capital vowel during our study, which means they undergo the vowel harmony (i.e. *-I*).[1]

[2] İlker Aydın, "Türkçede Belirtme Durumu ve Tümcenin zorunlu Kurucusu Nesne Üzerine", YYÜ Sosyal Bilimler Dergisi, 2009,16, p.39.

[3] Ibid.

Uzun, the marker -*I* in this structure is an agreement marker. He claims that the description of 'accusative case' assigned to the nouns as the marker-*I* is problematic since there seem no case assigners for the indefinite NPs (e.g. ders kitabı/course book) as in the case of possessives in definite NPs.[1] Instead, he suggests that since Turkish does not have a closed set of lexical items such as articles and demonstrators like English, determiners should be represented as "an abstract category in Turkish as should agreement in English,"[2] which is also suggested by Kornfilt, according to whom "nominal AGR assigns GEN case."[3] Another explanation for this case comes from Lewis who describes it as "the 'izafet case' which expresses the affinity and relativization of a noun to a specific kind."[4] Lewis also suggests that this izafet marker indicates the person and number features of the definite or indefinite modifier noun.[5] However, considering minimalist innovations getting rid of the category of 'agreement', the suggestions above are far from simplicity in terms of representation and thus not satisfying. Likewise, in (26c), we can observe that when nouns are modified by a possessor, the modified noun undergoes in agreement with the possessor. This case is different from those of (26b) in that it is of [+Def] value. That is, while the noun *kitap* (book) in the phrase *ders kitabı* (course book-AGR) is of [-Def] value, the same noun in the phrase *Ali'nin kitabı* (Ali's book-AGR) is of [+Def] value. In (26c), it is clearly understood that the marker –*I* in the phrase *kitab-ı* (book-GEN) denotes third person singular agreement for the noun to which it is assigned and it is preceded by a genitive PRO (e.g. *onun* kitab-ı/ *his/her* book-*AGR*). For the phrase *ders kitab-ı* (course book-AGR) in (26b), however, it is clearly understood that the noun *kitap* is of [-Def] feature since **ders-in kitab-ı* (course-POSS book-AGR) would be ungrammatical. In (26d), we can see that when nouns are modified by demonstrators having [+Def] properties or quantifiers having [-Def] properties, they are not assigned any markers just like the case of their English

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[1] Uzun, *Evrensel Dilbilgisi ve Türkçe*, op. cit., p.209.
[2] Ibid, p.167.
[3] Jaklin Kornfilt, *Case marking, agreement, and empty categories in Turkish,* Harvard University, 1984, p. 219.
[4] Geoffrey Lewis, *Turkish grammar*, Oxford, 1967, p. 42.
[5] Ibid.

counterparts such as *this, that, some* etc. Now, let us see the minimalist analyses of DP structures containing NPs modified by other NPs, DPs or PRNs in Turkish:

(27)   ders kitabı *(course book)*

```
                            DP
                          /    \
                        /       \
                      /          D'
                    /          /    \
                  /          /       \
                NP          nP         \
                ders      /   \         \
           [Sg-Num][3-Per]    \          \
                          NP    \          D
                          ders    n'        kitap+ı
                              /    \    [S̶g̶-N̶u̶m̶][3̶-P̶e̶r̶][EPP]
                            /       \
                          NP         n
                          kitap      k̶i̶t̶a̶p̶+∅
                          [-Def]
```
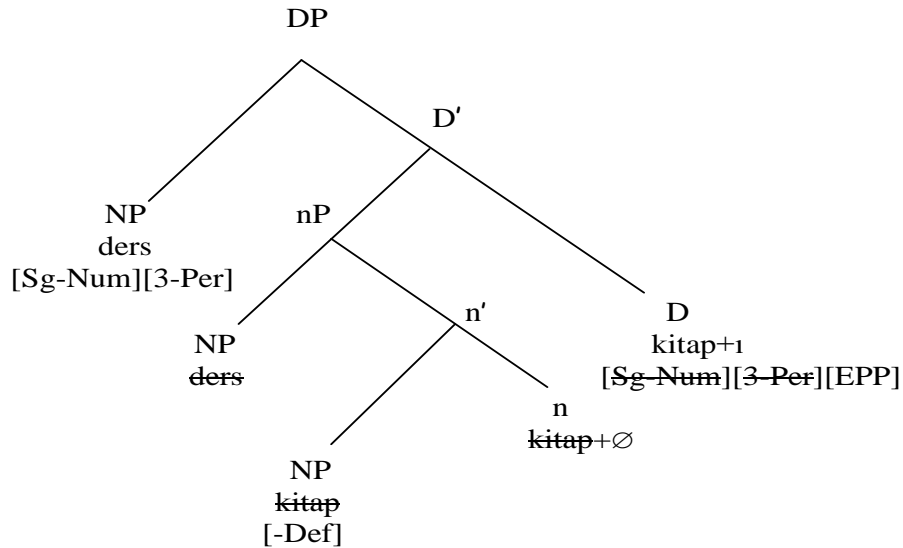
In (27), the words *ders* (course) and *kitap* (book) are merged and result in the *DP ders kitabı* (course book). In the derivation, the NP *kitap* enters the derivation with its [-Def] feature. The NP, then, is merged with a null affixal light noun (n) which has 'the function of marking possession'. The affixal null light noun triggers raising of the noun *kitap* to adjoin to the light noun which is affixal in nature and projects the NP *ders* (course) as its modifying specifier (since it is an NP having modifying function). The resulting nP is then merged with an appropriate (i.e. [-Def]) D which is affixal in Turkish and has interpretable [EPP] and uninterpretable [u-Num] and [u-Per] features. The D triggers raising of the noun *kitap* to adjoin to the D which is affixal in nature and projects the closest nominal NP *ders* (course) having matching interpretable person and number features from spec-nP to the spec-DP, which may be assumed to explain agreement markers in Turkish. Since this null D has unvalued [u-Num] and [u-Per] features, it undergoes feature checking with the matching [Sg-Num] and [3-Per] features of the nominal specifier *ders.*The unvalued features of the affixal D is valued and deleted as [S̶g̶ N̶u̶m̶] and [3̶ P̶e̶r̶], thus deriving the DP *ders kitabı*, which also shows us a parametric variation between English and Turkish languages for the same derivation.

While the category of D in English is an overt lexical or null category, it is spelled out as affixal or null category having unvalued person and number features in Turkish (e.g. kitab-ı), leading, in turn, to a 'D parameter' which is explained as the difference in the properties of 'category selection' (i.e. c-selection) by Ouhalla (1991).[1] This parameter is explained as 'AGR-GEN selection' by Ouhalla (1991). He describes a parametric variation between English and Turkish languages in GB terms as the following:

D Parameter[2]

i. In English, D does not c-select AGR.

ii. In Turkish, D c-celects AGR-GEN.

In minimalist terms, this parameter may be modified by overt and covert checking relations resulting from strong or weak features of the related categories in different languages just as described for the categories of light verb (v) or T in English.[3] Accordingly, in a broader sense, "a particular operation in a particular language must apply before or after spell-out."[4] In a narrower sense, while spec-DP undergoes agreement-checking (i.e. person and number checking) relations with the D overtly in Turkish, this operation does not take place in English, which is "attributed to a difference in the morphology selection (i.e. m-selectional) or category selection (i.e. c-selectional) properties of the D category in the two types of languages" by Ouhalla.[5] Let's describe it in a more specific 'D parameter', suggesting:

- **D Parameter I**

    i. In English, D has c-selectional properties.

    ii. In Turkish, D has m-selectional properties.

From the analyses above, it can also be concluded that the prominent property of the genitive case assigning D (i.e. -nIn/-'s) in both languages seem to depend on

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[1] Ouhalla, *Functional categories and parametric variation*, op. cit., p. 180-182.
[2] Ibid, p. 180.
[3] Norbert Hornstein-Jairo Nunes-Kleanthes K. Grohmann, *Understanding Minimalism,* New York, 2005, p. 163; Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 160.
[4] Hornstein-Nunes-Grohmann, op. cit., p.288-289.
[5] Ouhalla, *Functional categories and parametric variation*, op. cit., p. 186.

whether the specifier of the nP is an NP moving to the spec-nP as a modifier or a DP moving to the spec-nP as the external argument assigned POSSESSOR-role by the light noun. This case is also pointed out by Uzun (2000), suggesting that "the AGR head which assigns GEN case *-(n)In* to the indefinite NP but whose GEN case is deleted when it raises to the specifier position of the AGRP."[1] In minimalist terms, this condition may be explained by covert case assignment for NPs at LF in both languages. However, this is not the case since the derivation crashes. That is, if this assumption were true, then phrases like **many course's books* or **ben-im ders-in kitab-ı-m* at LF would be as grammatical as the phrases like *many course books* in English and *ben-im ders kitab-ım* in Turkish. As a consequence, the DP structures containing an NP or nP complements with NP or DP specifiers in Turkish will be analyzed as the following:

(28)   kırmızı kalem *(red pencil)*
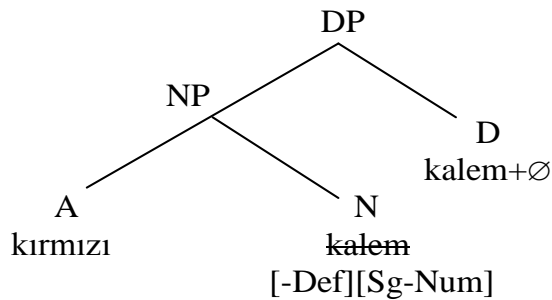
From (28), we understand that NP complements containing definite or indefinite nouns in plural or singular number may be assumed to be headed by a null affixal D in Turkish, which is different from the case in nPs which are headed by an affixal D having interpretable genitive case and uninterpretable person and number features undergoing feature checking with their specifiers. In both cases, D appears as an affixal category attracting the nouns. However, D in English is non-affixal. As for English and Turkish, this parametric variation may be suggested as the following:

- **D Parameter II**

    i. In English, D is overt or null non-affixal.

    ii. In Turkish, D is null affixal.

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[1] Uzun, *Evrensel Dilbilgisi ve Türkçe*, op. cit., p. 220.

Accordingly, while Turkish null D can attract the NP and attact to it, English overt D cannot, which may be the reason for overt case assignment at PF in Turkish. Now, let's see the following analysis:

(29)   Ali'nin kardeşi
       Ali-GEN brother-AGR/3SgP
       Ali's brother
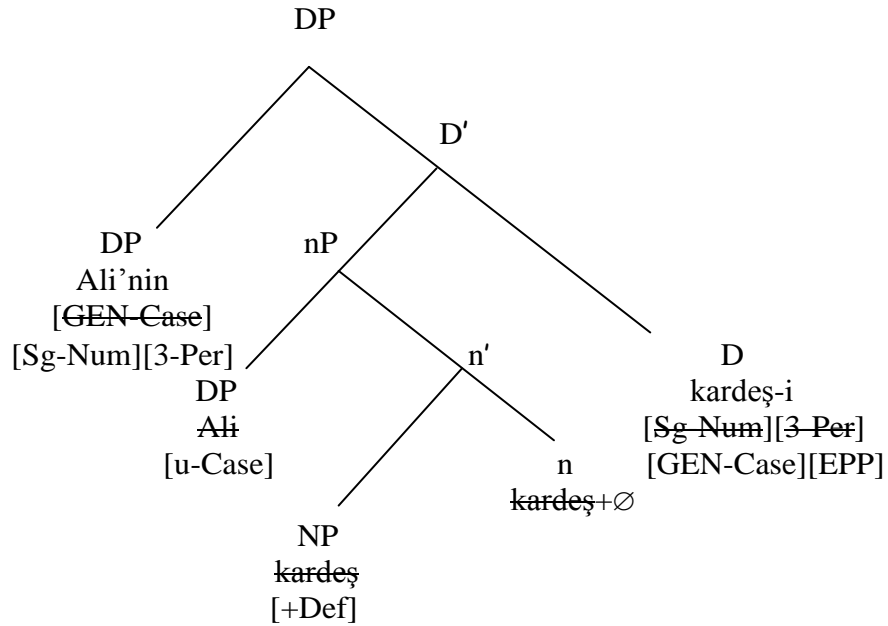
(30)   (benim) araba-m
       (my) car-AGR/1SgP
       my car
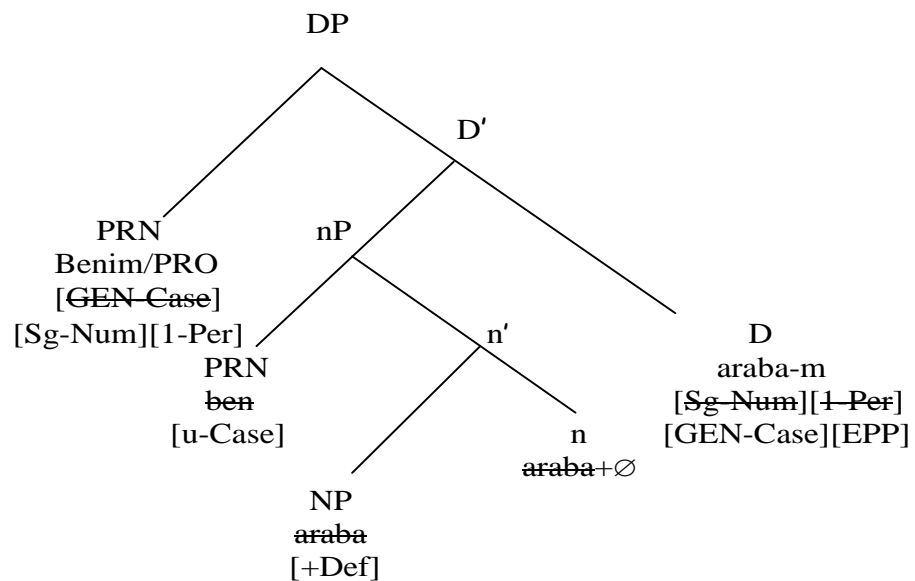
In the derivations (29) and (30), the NPs enter the derivation with their interpretable or uninterpretable [Def], [Case], [Num] and [Per] features, merging with a null light noun (n) and projects DPs or pronouns as their external arguments to which they assign the θ-role of POSSESSOR and to their NP complements the θ-role of POSSESSEE. Since the null light noun is affixal in nature, it triggers raising of the nouns in within NPs to adjoin to the light noun, deriving the nP. The resulting nP is then merged with a null φ-complete determiner which is affixal in Turkish and has interpretable [EPP] and [GEN-Case] and uninterpretable [u-Num] and [u-Per] features. The D triggers raising of the nouns from *n* to adjoin to the D which is affixal in nature and projects the closest DP or PRN having matching interpretable person and number features from spec-nP to the spec-DP. The unvalued [u-Num] and [u-Per] features of the affixal D and the unvalued [u-Case] feature of the specifier undergo feature checking with the matching [Sg-Num] and [3-Per] features of the specifier and [GEN-Case] feature of the D. The unvalued features are valued and deleted as [S̶g̶ ̶N̶u̶m̶] and [3̶ ̶P̶e̶r̶], spelling out as *kardeş-i* or *araba-m* and [G̶E̶N̶-̶C̶a̶s̶e̶], spelling out as the suffix '(*n)In* for the DPs (i.e. Ali'nin) or genitive form of the pronoun (i.e. benim) at PF, forming the DPs *Ali'nin kardeşi/benim arabam*. Note that the possessive prononun may also be dropped in Turkish thanks to the person and number morphology on the noun at PF, resulting a 'PRO' specifier. We prefer to label it as big PRO as in the case of infinite CPs since possessors occupy the specifier positions of nominal phrases (i.e. spec-nP/DP). This condition may be explained by a Possessor PRO-drop parameter (or Null-Possessor Parameter) determining whether a language allows a null pronominal specifier or not depending on the morphological features of the language,[1] which in turn, results in a PRO-drop parametric variation between English and Turkish languages:

- **Null-Possessor PRO Parameter**

  i. In English, pronominal possessors are not allowed to be dropped.
  ii. In Turkish, pronominal possessors are allowed to be dropped.

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[1] Cook-Newson, *Chomsky's Universal Grammar*, Oxford, 1996, p. 348.

Accordingly, while possessive prononuns in Turkish may be dropped thanks to the morphological agreement features, those in English cannot just as in the case of subject parameter.

(31)   benim eski okul arkadaşım
        my old school friend-AGR/1SgP
        my old school friend
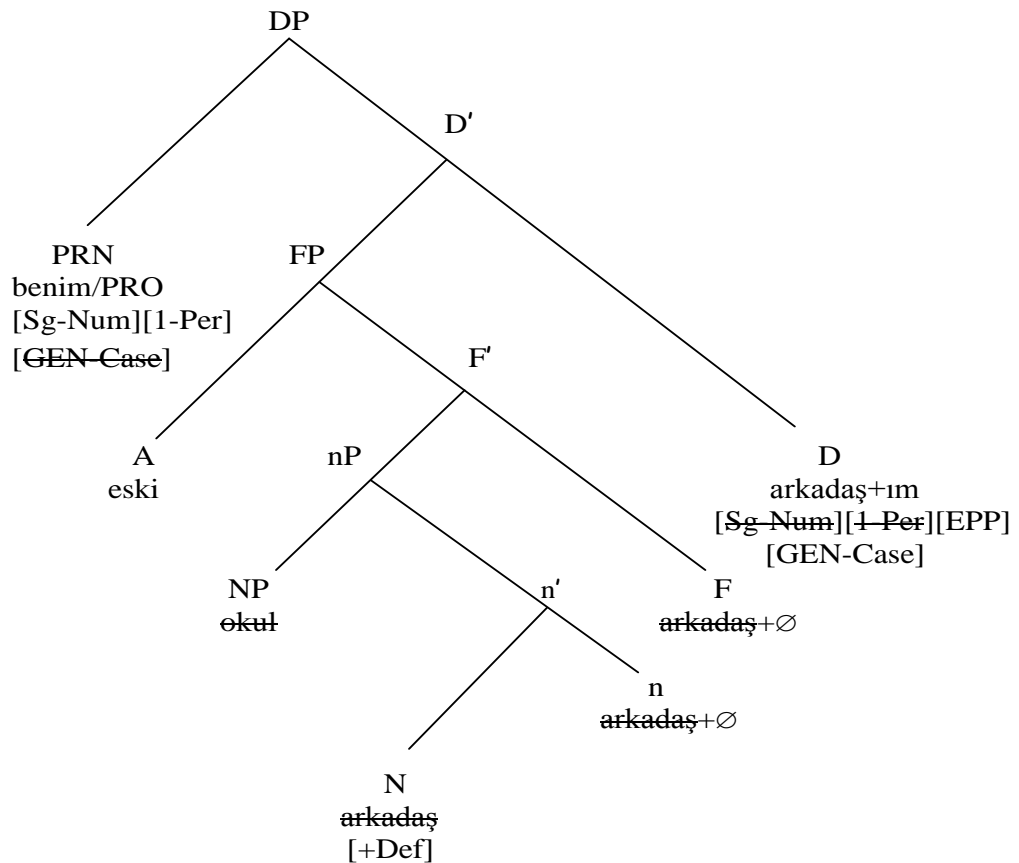
In (31), however, it should be noted that in genitive case assigning DP structures, adjectives like *eski* (old) enter the derivation "at some position above the nP, serving as the specifier of a functional head F which has an adjectival specifier."[1] It should also be noted that it is the external argument of the PRN *benim* which occupies the spec-DP not the NP *okul* which undergoes feature checking with the [u-Num] and [u-Per] features of the D. Another noteworthy derivational stage is the F position of the FP. The functional head is also affixal in nature and attracts the noun.

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[1] Guglielmo Cinque, "On the evidence for partial N-movement in the Romance DP", *Paths towards universal grammar,* 1994, p. 106.

Considering these analyses we have illustrated so far and 'Headedness Principle' which suggests that every constituent must be headed as well as the 'Head Parameter Hypothesis' which determines whether a language positions heads before or after their complements, we suggest that 'demonstrators' and 'quantifiers' are not included in the category of D or Q (Quantifiers) but they are specifiers like 'descriptive adjectives' but with a difference: they have interpretable [+/- Def] and [Sg/Pl-Num] features. Abney and Jackendoff also have similar suggestions stating that "these lexical items are not determiners but specifier between D and N."[1] According to Abney, "possessors and demonstrators occupy the same structural position so they cannot co-occur and quantifiers position between determiners and descriptive adjectives."[2] In addition, for the DP structures containing different kinds of specifiers, we will follow Number phrase (NumP) analysis,[3] which is explained in the following analyses in detail:

(32)   my some old school friends[4]

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[1] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.185.

[2] Ibid, p.172.

[3] Cinque, Guglielmo. "On the evidence for partial N-movement in the Romance DP." *Paths towards universal grammar* (1994): 85-110; Picallo, M. Carme. "Nominals and nominalizations in Catalan." *Probus* 3, no. 3 (1991): 279-316.

[4] NumP analysis through a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 179, 371.

```
                    DP
                   /  \
              PRN      D
              my      / \
                     D   NumP
                     ∅   /  \
                        Q    Num′
                      some   /   \
                          Num     FP
                           ∅     /  \
                              A       F′
                             old     /  \
                                   F      nP
                                   ∅    school friends
                                        [Pl-Num][+Def]
```
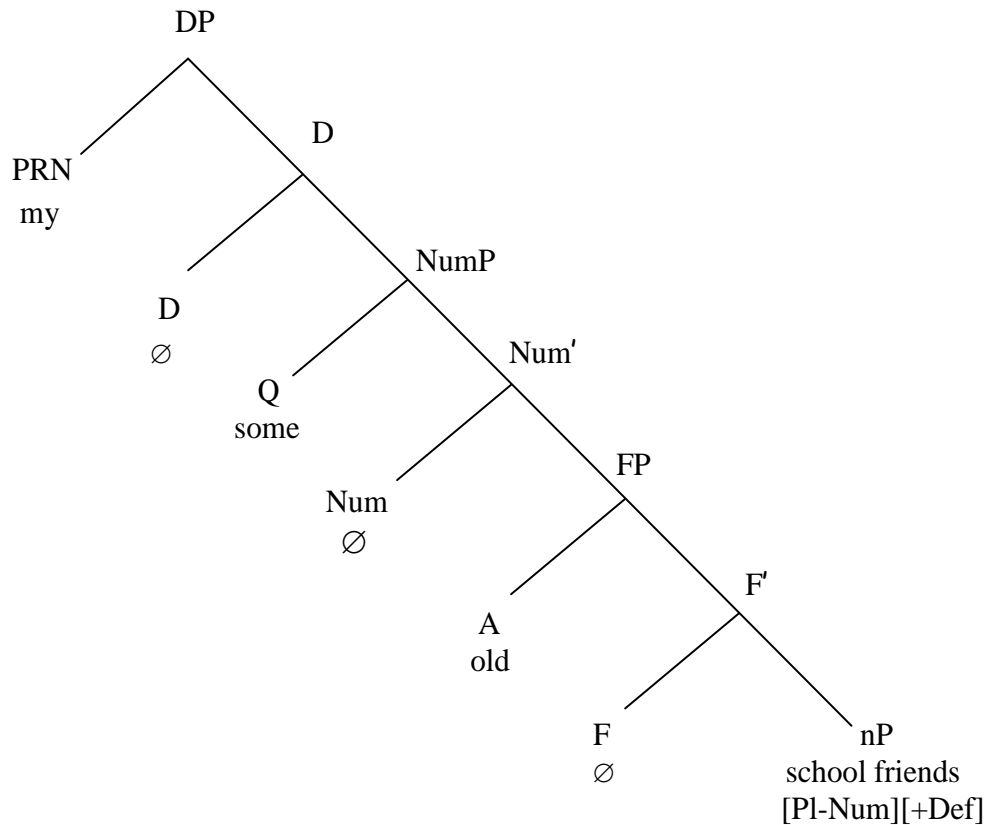
According to (32), specifiers such as possessors, quantifiers, demonstrators and nouns position between determiners and nouns in English. Adjectives and nominal specifiers are assumed to be headed by "an intervening head (Num) which has the number properties of nominals."[1] It is also assumed that the D above the NumP does not have [EPP] feature and hence it does not have a specifier, which suggests that "possessive pronouns occupies a position lower than the determiner, that is, the spec-NumP."[2] However, this is not the case considering the derivations in Turkish below (33). Accordingly, we suggest that quantifiers occupy the spec-NumP, while the possessive pronouns rise to the spec-DP. It is also observed that since possessors, demonstrators and quantifiers are already of [+/-Def] feature, they may be assumed to be headed by a null (∅) determiner, being the specifier of a NumP based on the assumption that "different kinds of adjectives serve as specifiers to different types of head."[3] In addition, since possessors and demonstrators position on

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 179.
[2] Ibid, p. 179.
[3] Cinque, "On the evidence for partial N-movement in the Romance DP", op. cit., p.85-110.

the head direction (head-first) and cannot be iterated (i.e. *the my son, a Ali's daughter, the many children etc.), they are often regarded as Dem (for demonstrators) or Q (for quantifiers), and, as stated by Abney, "they are claimed to occupy single specifier position in the syntactical order,"[1] which in compatible with the case in Turkish (see 31 above) and the assumption that every definite or indefinite NPs are DPs whether or not they include an overt determiner. Furthermore, from the illustrations so far, we understand that English has an overt (e.g. a(n) and the) or null ($\varnothing$) category of determiners bearing the grammatical features: definiteness and number. In terms of definiteness, determiners have either [+/-Def] feature. In terms of number, on the other hand, the determiner *a(n)* has interpretable [Sg-Num] feature, which is why Radford take the determiner *a(n)* as a quantifier. Now, let's analyze a similar structure in Turkish:

(33)   benim bazı eski okul arkadaşlarım (*my some old school friends*)
        my some old school friends-GEN/1SgP
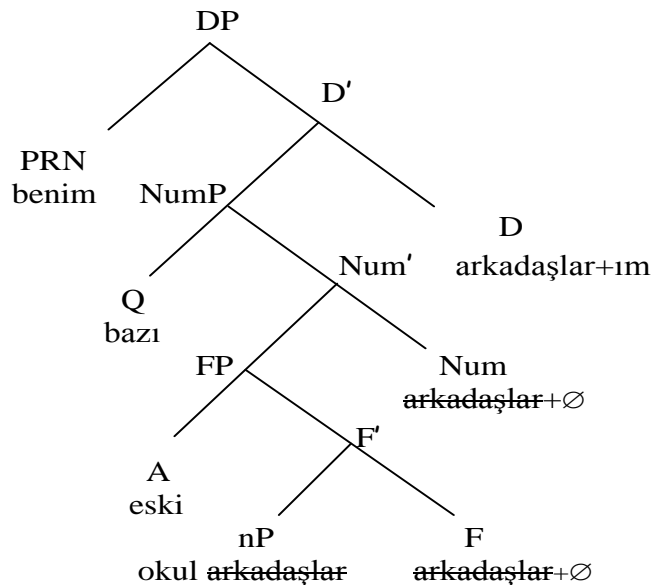
In (33), on the other hand, specifiers such as possessives, quantifiers, demonstrators and nouns in Turkish precede nouns just as the case in English, occupying the specifier position of the NP, FP, NumP and DP. Adjectives and noun specifiers are assumed to be headed by an intervening head (Num) having the number properties of nominals. Since these functional heads such as FP or NumP,

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[1] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.185.

which positions on the right of the phrase structure due to the head-last parameter in Turkish, are affixal in Turkish, they trigger the movement of N (i.e. arkadaşlar) to D position, however, this is not the case for the Num in English. Therefore, "it does not trigger the movement of N (i.e. arkadaşlarım) to Num position."[1] Furthermore, (32) also tells us that Turkish does not have an overt lexical category of determiners but affixal category bearing the grammatical features of definiteness, person and number. In (34) below, DP structure is illustrated on a crosslingual unlabeled M-diagram, comparing the final derivation at PF of both languages.

34)   benim bazı eski okul arkadaşlarım
        my some old school friends

Accordingly, we can see that except for the parametric variations in 'D Parameter' (i.e. affixal D having agreement checking features) and the 'Head Parameter' (i.e. D as a functional head is of parametric variation which is head-last for Turkish and head-first for English), the structure appears to be derived in the same way (i.e. specifier-first) in both languages. It should be noted that possessors

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 371.

are taken as specifiers and the category of D is taken as non-affixal null category in both languages. Below are the structures containing 'NPs' or 'pronominal quantifiers' having DPs as an internal argument rather than a specifier:

(35)   a. *many* students, *a lot of* students, *some* students
       b. *many of the* students, *some of the* students
       c. *the handle of the* door, *the capital of* Turkey

There are syntactic differences between the quantifiers such as *a lot of/plenty of/many* and other pronominal quantifiers (Q-pronouns) such as *many/some* etc. in terms of derivational computations. These structures will be explained and illustrated through tree diagrams in (36) below:

(36)   a lot of/many students

```
                    DP
                   /  \
                  /    \
                 /      \
              D          NP
              ∅         / \
                       /   \
                      /     \
                     Q       \
                a lot of/many  \
                                N
                             students
                          [Pl-Num][-Def]
```
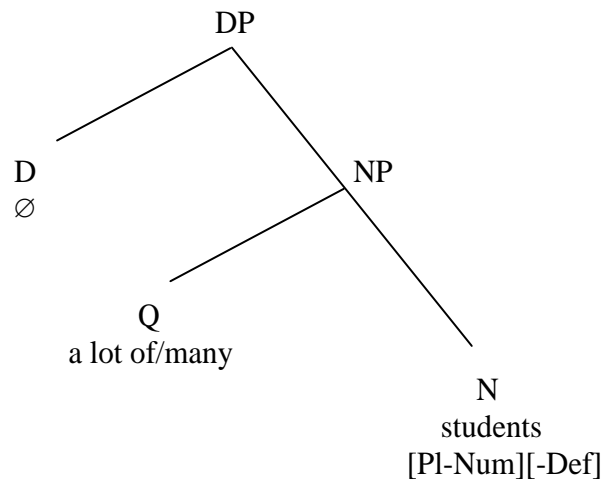
(37)   many of the students[1]

---

[1] PP analysis for of-Phrases through a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 93 (65).

```
                          DP
                       ╱     ╲
                   D           ╲
                   ∅            NP
                             ╱    ╲
                         PRN       ╲
                         many       PP
                                  ╱   ╲
                               P        ╲
                               of        DP
                                       ╱    ╲
                                    D          ╲
                                    the         NP
                                                students
                                             [Pl-Num][+Def]
```
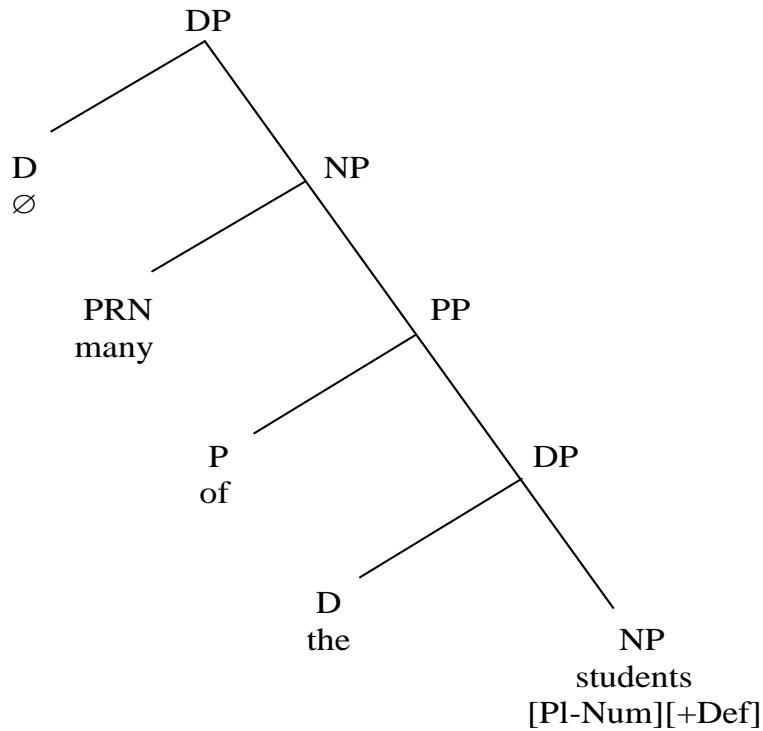
In (36-37) we can see that *a lot of* (like *plenty of, a deal of* etc.) is a phrasal quantifier which function as a modifying quantifier (e.g. many books) in NPs while quantifiers such as *many, some* and *much* function not only as quantifiers but also as pronouns (or "pronominal quantifiers/Q-pronouns"[1]) having internal arguments "introduced by a preposition, the nature of which is determined by the theta role carried by the relevant argument. For example, the preposition *to* is used to introduce 'GOAL' argument, *by* an 'AGENT' argument, *from* a 'SOURCE' argument, *with* an 'INSTRUMENT' argument etc,"[2] which makes it possible for them to merge with the possessive preposition (i.e. POSS) *of* as a 'THEME' argument, just as in the case of other nouns shown in (38) below:

(38)   the capital of Turkey

---

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.45.
[2] Ibid, p. 367.

```
                    DP
                   /  \
                  /    \
              D        NP
             the      /  \
                     /    \
                 N        PP
              capital    /  \
              [+Def]    /    \
                    P        DP
                    of      /  \
                           /    \
                       D        NP
                       ∅        Turkey
                                [+Def]
```
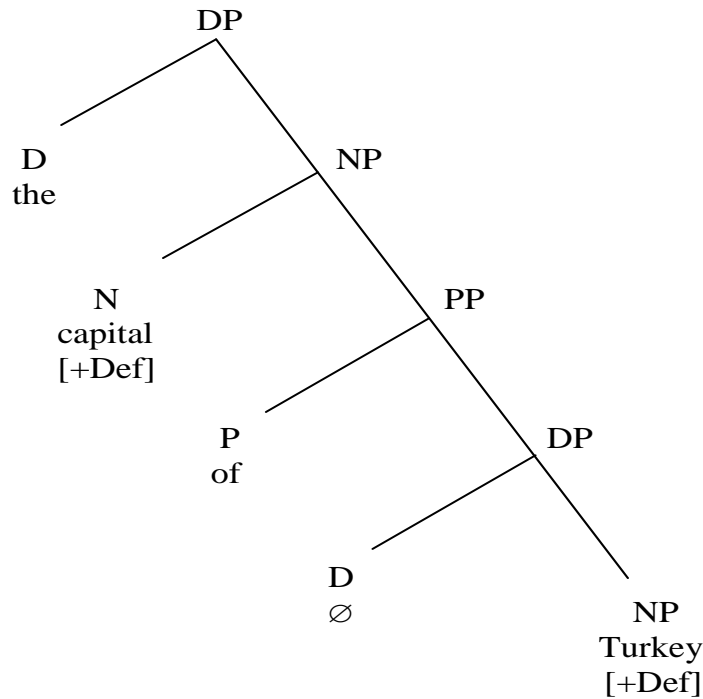
For (38), the DP *Turkey* is the internal THEME argument of the noun *capital,* the reason why it is merged with the preposition *of*, forming the prepositional phrase *PP of Turkey.*[1] The resulting PP is, then, merged with the noun *capital,* forming the *NP capital of Turkey*. The resulting NP is then merged with the definite D to form the *DP the capital of Turkey*. Now let's see how the same semantic content is derived in Turkish, as illustrated in (39) below:

(39) a. *birçok* öğrenci, öğrenciler-*in bir çoğ-u*,
      a lot of student, students-*GEN many-AGR*
      a lot of students, many of the students

    b. *kapı-nın* kol-*u, Türkiye'nin başkent-i*
      door-GEN handle-AGR, Turkey-GEN capital-AGR

    the handle of the door, the capital of Turkey

There are morphological differences between quantifiers such as *birçok, bir takım, biraz* and their pronominal forms (i.e. Q-pronouns) such as *bazısı, birkaçı, birazı* etc in that the latter ones are assigned agreement features (i.e. person and number) with 3Pl/SgP (i.e. bazı-sı/some-AGR/3SgP), which may be an evidence to

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[1] Ibid.

explain "whether the counterpart of the English *of*-phrase is a nominal morphologically inflected for genitive case in other languages, or whether *of* in this type of use is a marker of inherent case in English."[1] Therefore, we understand that *of*-phrase derivations in English appear as genitive case assigning DP containing an nP as in the case of other DP structures having DP or pronoun complements since Turkish does not go any discrimination between whether any DP is the internal argument or the specifier of a noun and thus not operating PP structure but assigning GEN-Case to the DP (i.e. -nIn), which is also an affixal possessive case paradigm (i.e. POSS) in Turkish, as analyzed through tree diagrams below:

(40)　birçok öğrenci
　　　a lot of student
　　　a lot of students

```
                    DP
                   /  \
            NP         \
           /  \          \
          /    \          D
         /      \       öğrenci+∅
        Q         N
      birçok    öğrenci
              [Pl-Num][-Def]
```
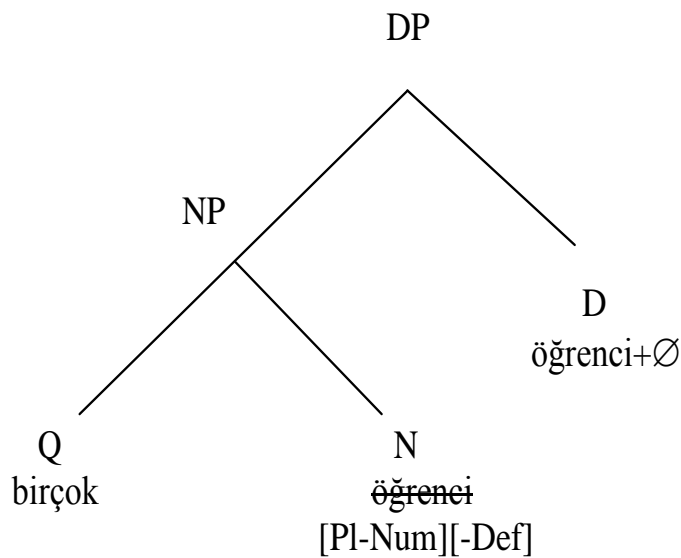
(41a)　öğrenciler-in birçoğ-u
　　　students-GEN many-AGR
　　　many of the students

---

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 367.

DP

            D′

DP   nP
öğrencilerin
[~~GEN-Case~~]
[Pl-Num][3-Per]
          DP   n′
          ~~öğrenciler~~   D
          [u-Case]   birçok-u (birçoğu)
                         n   [~~Pl-Num~~][3-Per]
                        ~~birçok~~+∅ [GEN-Case][EPP]
          PRN
          ~~birçok~~
          [+Def]

(41b) PRO birçoğumuz
       many-AGR
       many of the students

DP

            D′

DP   nP
PRO/bizim
[~~GEN-Case~~]
[Pl-Num][1-Per]
          PRN   n′
          PRO/~~biz~~   D
          [u-Case]   birçok-umuz (birçoğumuz)
                        n   [~~Pl-Num~~][1-Per]
                      ~~birçok~~+∅ [GEN-Case][EPP]
          PRN
          ~~birçok~~
          [+Def]
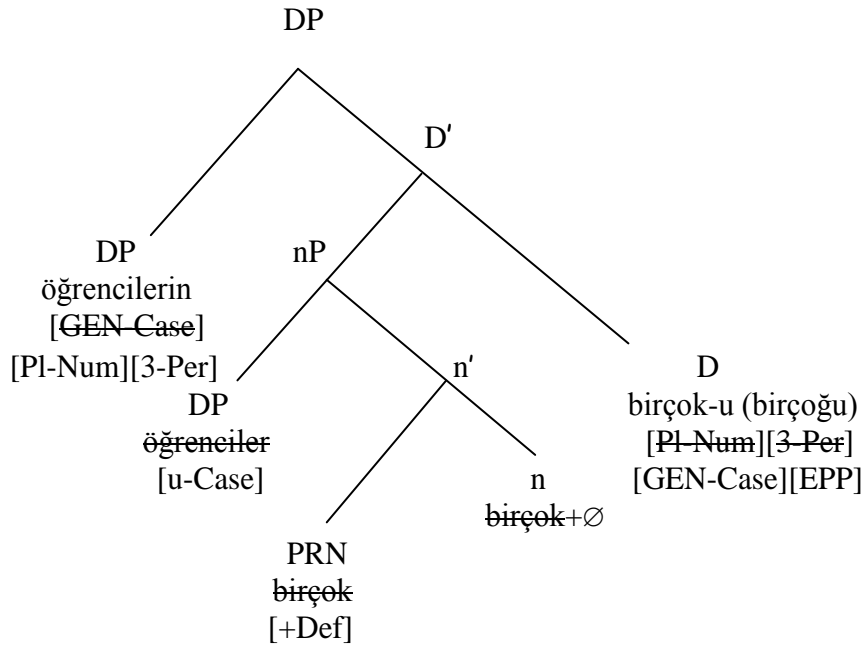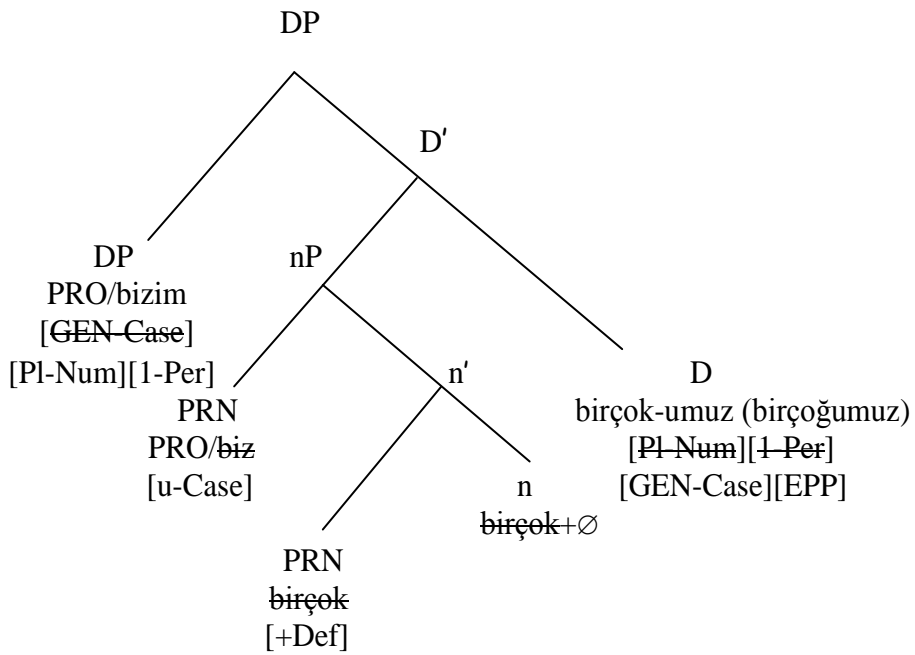
(42)   Türkiye'nin başkent-i
       Turkey-POSS capital-GEN
       The capital of Turkey

```
                         DP
                        /  \
                       /    \
                      /      D′
                     /      / \
                    /      /   \
              DP   nP     /     \
         Türkiye'nin  \  /       \
         [GEN-Case]    \/         \
        [Sg-Num][3-Per] \          \
                  DP     n′         D
                Türkiye  / \      başkent-i
                [u-Case]/   \    [Sg-Num][3-Per]
                       /     n   [GEN-Case][EPP]
                      /   başkent+∅
                    NP
                  başkent
                  [+Def]
```
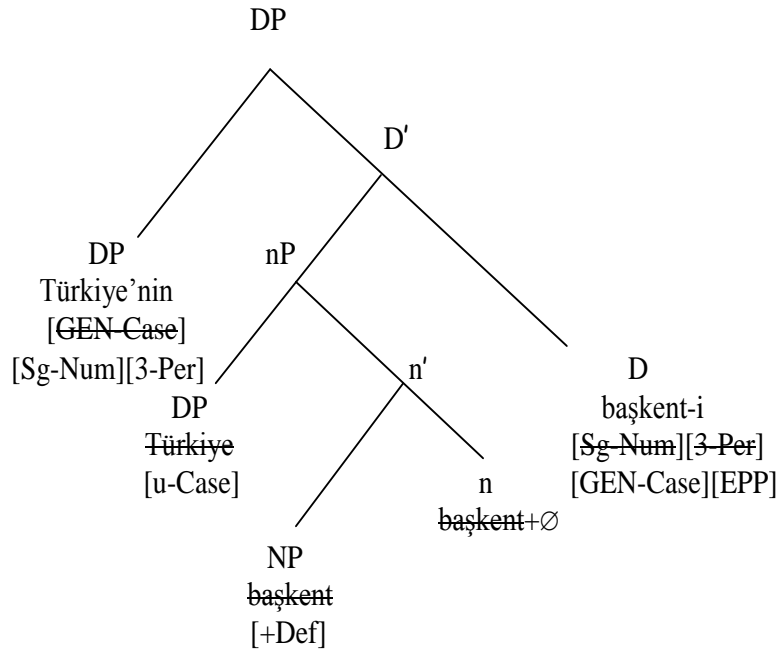
In (40) and (41), we can see that *birçok* (like *bazı, birkaç, çok, az* etc.) functions not only as a quantifier but also as a pronominal quantifier, which makes it possible for itself to occupy the modified head noun position in NPs as in the case of other nouns. In (41a-b), the indefinite quantifier pronoun *birçok* (many) has agreement features checked by the interpretable person and number features of the specifier DP *öğrenciler* (students) and the 1PlP pronoun *PRO/biz* (we) which are assigned genitive case spelled out as (-In) by the D which is an affixal category in Turkish, forming the DP *öğrencilerin birçoğu* (many of the students)/*PRO/bizim birçoğumuz* (many of us) as in the case of the DP *Türkiye'nin başkenti* analyzed in (42).

5.2. ADJECTIVAL PHRASES

As for adjectival phrases, we lay out the differences between phrases *headed* by adjectives and phrases *specified* by adjectives, analyzing adjectival phrase structures such as comparatives and superlatives. The following illustration in (43), for example, demonstrates us adjectival phrases in English, having "internal

arguments introduced by prepositions determined by the 'theta-role' carried by the relevant argument":[1]

(43)   *afraid of* darkness, *good at* football, *full of* books, *close to* him

In (43), we understand that the noun *darkness* merges with the preposition *of* (since it is a 'THEME' argument) to form the prepositional phrase *PP of darkness*. Then, it is merged with the adjective *afraid* to form the adjectival phrase *AP afraid of darkness*,[2] which is also operated for other similar expressions, illustrated in (44) below:

(44)   afraid of darkness[3]
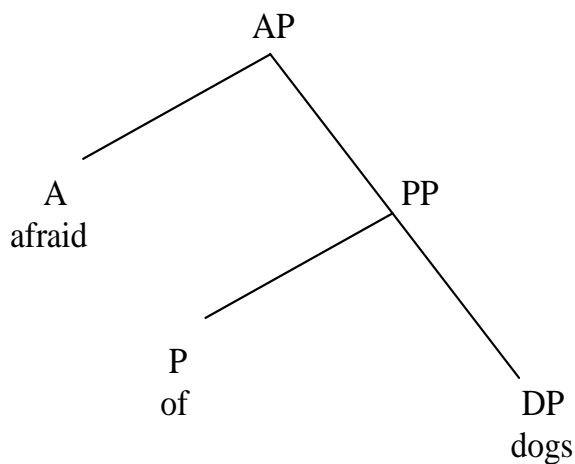
```
                    AP
                   /  \
                  /    \
                 A      \
               afraid    PP
                        / \
                       /   \
                      P     \
                      of     DP
                            dogs
```

(45)   good at football

```
                    AP
                   /  \
                  /    \
                 A      \
               good      PP
                        / \
                       /   \
                      P     \
                      at     DP
                           football
```

---
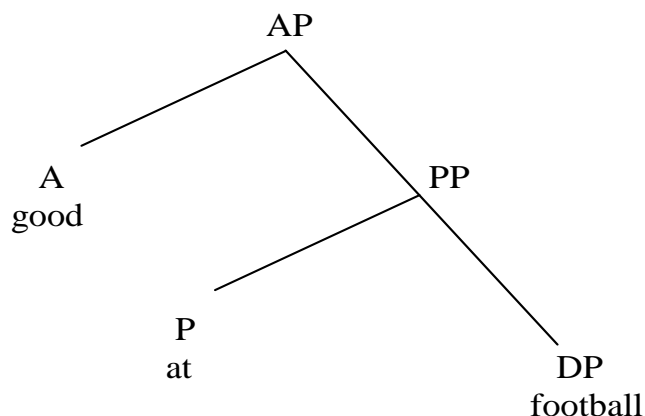
[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 367.
[2] Ibid, p. 81.
[3] AP analysis through a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 81.

In (44) and (45), it is understood that the DP *dogs/football* is merged with the preposition *of/at*, forming the PP *of dogs/at football*. The resulting PP is then merged with the A *afraid/good* to form the AP *afraid of dogs/good at football*. For the adjectival phrase structures specified by adverbs, on the other hand, let's see (46) below:

(46)   *very* beautiful, *quite* difficult

In these structures, adjectives are specified by adverbs of degree (DEG),[1] forming APs, as shown below:

(47)   very beautiful[2]

```
                        AP
                       /  \
                      /    \
                     /      \
                  DEG        \
                  very        \
                               A
                            beautiful
```

In (47), we understand that the adjective *beautiful* merges with the adverb of degree *very* and the adverb *very* then positions on the specifier position of the resulting phrase to form the adjectival phrase 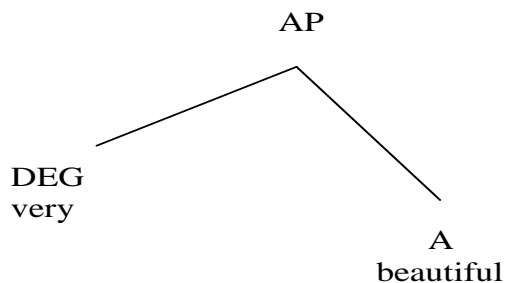*AP very beautiful*. For these structures, Abney suggests 'Degree Phrase' (DEGP) which posits that "adjectives, adverbs and quantifiers are degree phrases headed by DEGs since they are a different category of words from adverbs in that some lexical items such as *very, quite* and *too* can only precede adjectives and extend them into a larger projection"[3] (see also Radford,2009; p.52). Now let's see Abney's DEGP analysis, as shown in (48) below:

(48)   very beautiful[4]

---

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 79.
[2] Representation of DEG as a node on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 79 (31).
[3] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.189.
[4] DEGP analysis through a tree diagram is adapted from: Abney, *The English noun phrase in its sentential aspect*, op. cit., p.189.

```
                          DEGP
                          /\
                         /  \
                        /    \
                  DEG          \
                  very          \
                                 \
                                  A
                              beautiful
```
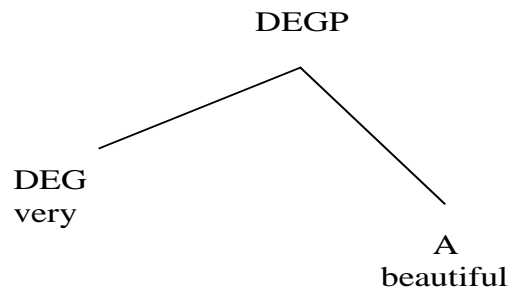
However, despite Abney's suggestion of DEGP, we prefer to categorize adjectives or adverbs specified by comparative and superlative as well as other adverbs of degree as APs or ADVPs since DEGs occupy the specifier position of the APs or ADVPs in Turkish which is a head-last language just as possessors, quantifiers and adjectives do in NPs. In the illustrations (49-59), we illustrate the comparative and superlative structures accordingly. Now, let's see the APs below:

(49)   *too expensive* to buy, *cheap enough* to buy

For the examples above, we illustrate *infinite complementiser phrases (CPs)* merged with APs specified by adverbs of degree, which are represented as DEGPs in Abney's analyses. However, it should be noted that the internal structures of *infinital to* phrases as infinite complementiser phrases are neglected since, at least for this part of the study, we are only interested in their external structures of CPs merged with adjectives or adverbs. The following analyses illustrate the derivations taking place in these structures:

(50)   too expensive to buy[1]

---

[1] A' projection, Null-C and non-finite CP representations on a tree diagram are adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 81,130.

```
                        AP
                      /    \
                   /          \
                /               \
            DEG                  A′
            too                /    \
                            /          \
                         A               CP
                    expensive          /    \
                                     /          \
                                  C               TP
                                  ∅             /    \
                                             /          \
                                          PRN              T′
                                          PRO            /    \
                                                      /          \
                                                   T               V
                                                  to              buy
```
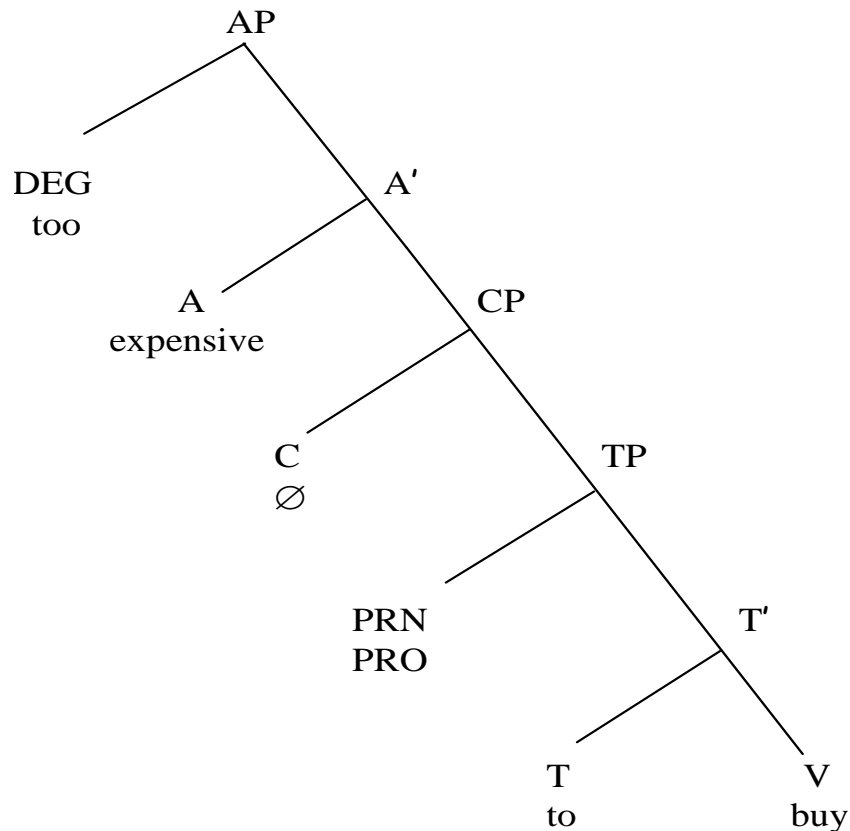
In (50), we can observe that the verb *buy* is merged with the infinitival particle *to,* forming the T-bar *to buy*. Next, this T-bar is merged with its null *PRO* subject and null complementiser ∅ to form the TP *PRO to buy*. The TP is then merged with a null C ∅, forming the infinite CP *PRO to buy.*[1] The CP is, then, merged with the A *expensive,* forming the A′ *expensive to buy*. Next, the resulting A′ is specified by an adverb of degree *too* to drive the resulting adjectival phrase *AP too expensive PRO to buy*. Since the detailed explanation of the finite and infinite complement phrases is not our focus now, we avoid submitting further explanation for their internal structures (e.g. T *to,* C ∅, PRN PRO etc.) and just try to demonstrate that adjectives specified by *DEG too* are followed by an infinite extended clause since, as Abney also suggests, "there is a special relation between degree phrases and extended clauses."[2] Another example for infinite CP complements is illustrated in (51) below:

---

[1] T' and inner CP analysis are adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 130-135.

[2] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.199.

(51)   cheap enough to buy
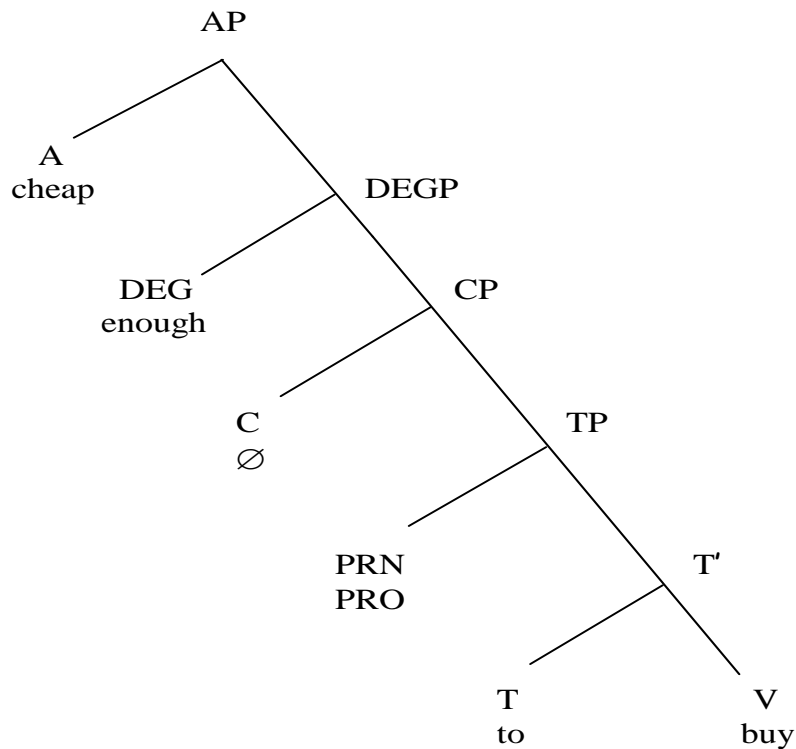
In (51), the infinite CP *PRO to buy* merges with the adverb of degree DEG *enough*, forming the *DEGP enough PRO to buy*, which is , in turn, merged with the A *cheap* to drive the AP *cheap enough PRO to buy*. Note that the adverb of degree *DEG enough* does not occupy the specifier position of the adjective like the case in (50), but it denotes degree, occupying the position DEG over the CP. While we can use the phrase *enough to buy* independent from any preceding adjective (e.g. The money *is enough for me* to buy a house), we cannot use the DEG *too* independent from adjectives (e.g. *The money *is too for me* to buy a house). However, since it still needs to be headed by an adjective or adverb, it is merged with the adjective *cheap* to form the AP. In (52) below, on the other hand, we illustrate comparative and superlative AP structures:
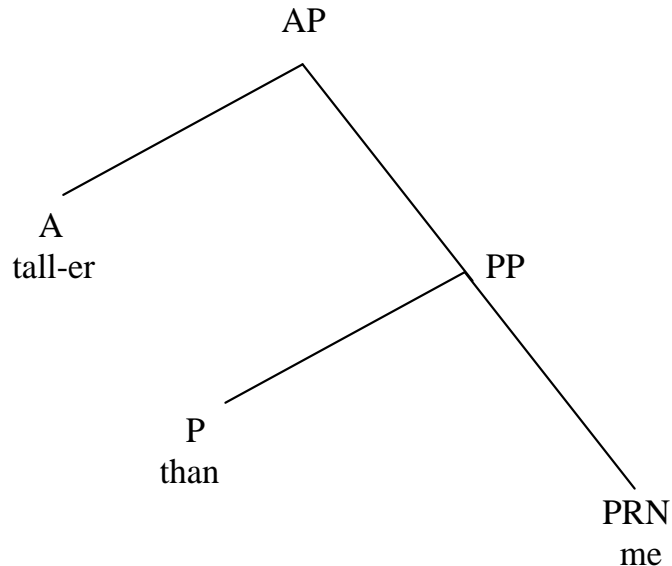
(52)   tall*er than* me, *more* difficult *than* the other, *as* tall *as* me

In (52), we can see comparative adjective structures. Note that monosylable comparative adjectives have morphological features, entering the derivation as

comparative adjectives (e.g. taller, older etc.). Now, let's analyze comparative adjective phrases:

(53)   taller than me[1]

```
                          AP
                         /  \
                        /    \
                       /      \
                      /        \
                     A          \
                   tall-er       \
                                 PP
                                /  \
                               /    \
                              /      \
                             P        \
                           than        \
                                        \
                                        PRN
                                         me
```

Let's take a look at the derivation of the comparative structure *taller than me*. Initially, the first person singular pronoun *I is* merged with the comparative preposition *than.[2]* Since *than* is a transitive preposition with an interpretable [ACC-Case] feature and c-commands its complement pronoun having unvalued [u-Case] feature (i.e. Feature Checking and C-command Principle) and operations apply as early in a derivation as possible (i.e. Earliness Principle), it assigns accusative case to the pronoun *I* and thus merging with *me* to form the prepositional phrase *PP than me*. Then, the resulting phrase is merged with the A *tall-er* (comparative adjective) to form the AP *taller than me.*

(54)   more difficult than the other

---

[1] 'A over PP' analysis is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 81.
[2] 'Than' is described as 'Prep' by: Sinclair, *Collins COBUILD, Collins Birgmingham University International Language Database: English language dictionary*, London, 1987, p.1511.
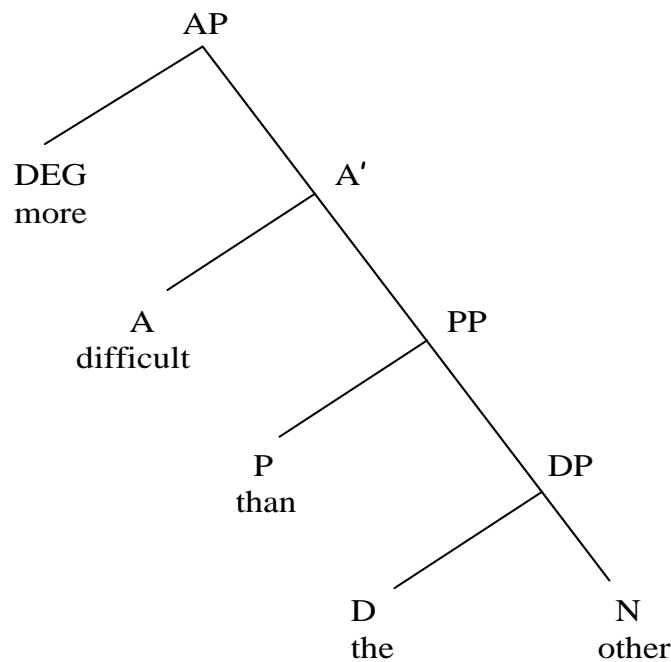
For (54) above, initially, the PP *than the other* is merged with the adjective *difficult* to form the A-bar *difficult than the other.* The intermediate A-bar is, then, merged with its specifier DEG *more* and projects into the AP *more difficult than the other.* Note that adjectives with more than two syllables and adverbs with the suffix -*ly* do not have inflected forms with the suffix –*er* but headed by an overt comparative adverb of degree *more*.

In (55) below, we illustrate a different comparative AP structure in which the adjective is initially merged with "the adverb of degree *as*" and then merging with the PP headed by another *as* "used as preposition."[1]:

(55)   as tall as me

```
                        AP
                       /  \
                      /    \
                   DEG      A'
                    as     /  \
                          /    \
                         A      PP
                        tall   /  \
                              /    \
                             P      \
                             as      \
                                    PRN
                                     me
```
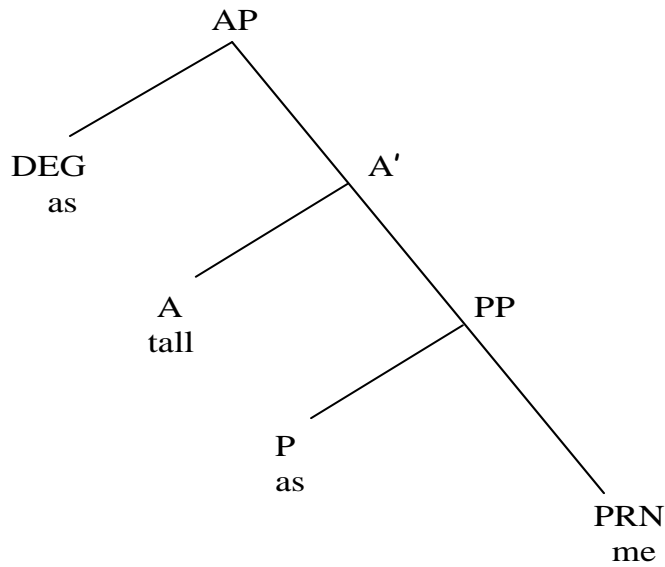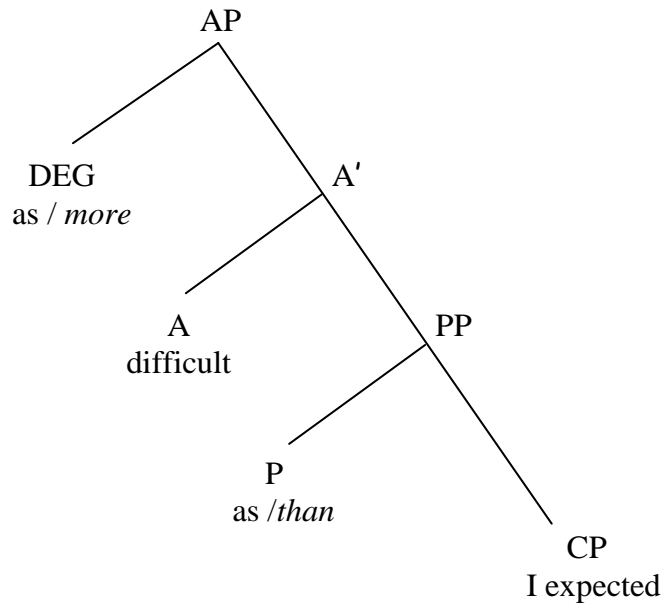
(55) tells us that initially, the first person singular pronoun *I is* merged with the comparative preposition *as.* Since *as* is a transitive preposition with an interpretable [ACC-Case] feature and c-commands its complement pronoun having unvalued [u-Case] feature, it assigns accusative case to the pronoun *I* and thus merging with *me* to form the prepositional phrase PP *as me.* Then, the resulting phrase is merged with the A *tall* to form the intermediate projection A' *tall as me.* The adverb of degree DEG *as* merges with the A' *tall as me,* forming the AP *as tall as me.* Note that APs specified by adverbs of degree such as *too, enough* and *as* license PP as well as an extent CP as illustrated in (56) below:
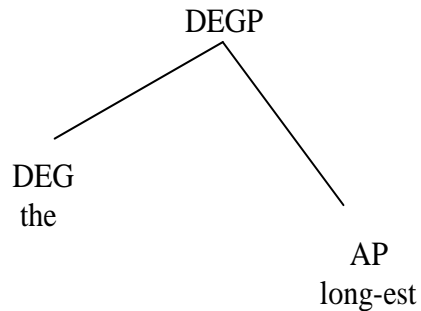
(56)   more difficult than I expected/*as difficult as I expected*

```
                    AP
                  /    \
                /        \
            DEG           A'
          as / more      /  \
                       /      \
                     A         PP
                  difficult   /  \
                            /      \
                          P          \
                       as /than       \
                                       CP
                                    I expected
```

(57)   *the* long*est*, *the most* dangerous

As for the superlative degree phrases demonstrated in (57), Abney questions whether the phrases above are DEGPs headed by the DEG *the* or not,[1] merging with the APs as shown in (58) below:

(58)   the longest[2]

```
            DEGP
           /    \
         /        \
       DEG          \
       the           \
                     AP
                   long-est
```
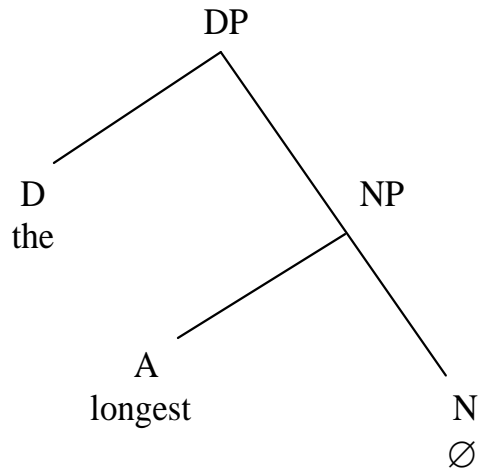
However, Abney rejects this suggestion by referring to the *partitive-of* complements (e.g. the *best of* all) and thus he suggests taking them "as bare-NP structures,"[3] as shown in (59) below:

(59)   the longest

---

[1] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.219.
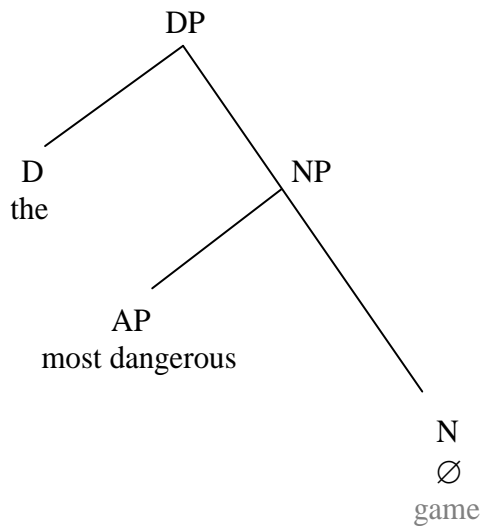[2] Representation of 'The' as DEG is adapted from: Abney, *The English noun phrase in its sentential aspect*, op. cit., p.219.
[3] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.219.

```
              DP
             /  \
            /    \
           /      \
          D        NP
         the      /  \
                 /    \
                /      \
               A        N
            longest      Ø
```

This suggestion is plausible considering the fact that when adjectives are determined by the determiner *the,* they are also personalized and used as plural mass nouns (e.g. *the young* which means those who are young). Since adjectives are not pluralized, when headed by *the* like other adjectives, it is plausible to assume that "*the* in these structures merges with an NP with a 'nominal gapping', i.e. they are elliptical structures,"[1] as also illustrated in (60) below:

(60)   the most dangerous (e.g. game)

```
              DP
             /  \
            /    \
           /      \
          D        NP
         the      /  \
                 /    \
                /      \
              AP        N
         most dangerous Ø
                       game
```

In (60), it is understood that *the* is not the indispensible part of a DEGP but of a DP. In order to understand how those derivations (i.e. adjectives and adverbs of

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 454.

degree) we have studied in English so far are constructed in Turkish, let's look at the following examples and their illustrations on a tree diagram subsequently:

(61)   fizik-*te iyi*   kale-si-(*y)le ünlü*   tatlı-*ya düşkün*
        physics-*LOC good*   castle-*GEN-COOP famous*   dessert-*DAT fond*
        good at physics   *famous for its castle*   *fond of dessert*

        In (61), we understand that the DP *fizik (physics)* merges with the adjective *iyi (good),* being assigned a locative case *fizik-te (physics-LOC)* to form the adjectival phrase AP *fizik-te iyi (physics-LOC good)*, which has the structure (62) below:

(62)   fizik*te iyi*
        physics-*LOC good*
   good at physics
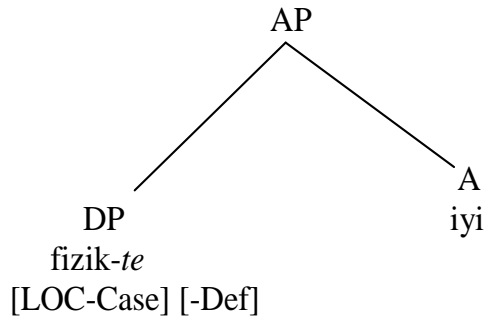
        In (62) above, the DP *fizik-te* spells out a noun and an affixal locative case paradigm (i.e. *–te).* However, this analysis is problematic when spatial cases are assumed to enter the derivation as interpretable features without any feature checking.[1] This case can be explained by the relation between cases and adpositions and will be discussed in detail in the further parts of the study where we focus on adpositional phrases (see 5.4). Therefore, in this part, we just introduce their external structure merged with adjectives. In these analyses, the spatial cases in Turkish are regarded as the affixal category of P and represented as an affixal head which attracts the closest noun from a lower DP to P to attach to it.[2] Now let's rewrite the illustration for Turkish AP in (62) above accordingly:

---

[1] Anna Asbury, "The morphosyntax of case and adpositions", *LOT*, 2008, p.37.
[2] Ibid, p. 10.

63)   fizik-*te iyi* [1]
        physics-*LOC good*
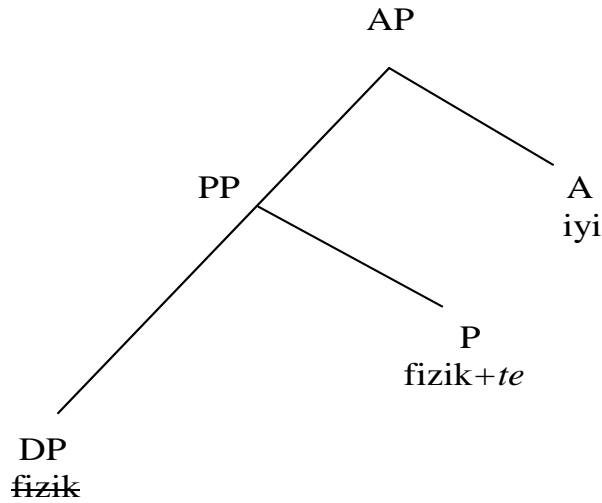
In (63), the indefinite DP *physics* is merged with an affixal locative P. The affixal P, then, attracts the closest noun from a lower DP and attaches to it to form the PP *fizik-te*. The resulting PP is merged with the A *iyi,* forming the AP *fizikte iyi*.

In order to make the comparative analyses simpler and bring out a cross-lingual explanation, let's see the comparative M-diagram in (64) below:

(64)   fizik-te iyi /*good at physics*
        physics-LOC good
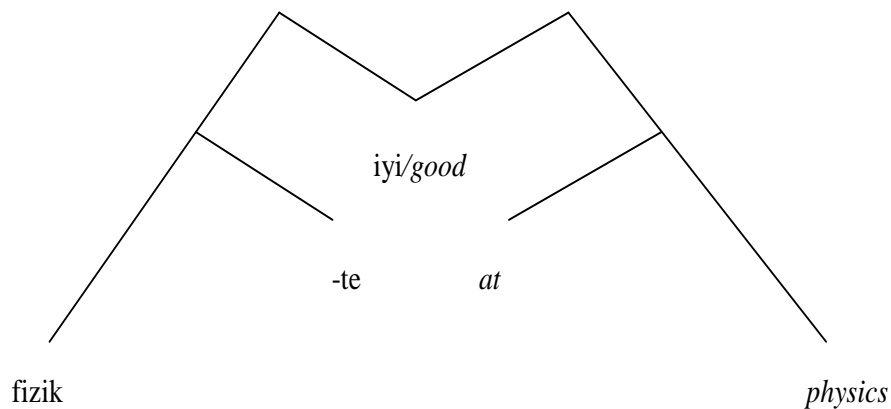
From the illustration (64), we understand that affixal locative adpositional case *-te* corresponding to the overt preposition *at* in English cross-linguistically

---

[1] Representation of spatial cases as P is adapted from the illustration of Hungarian cases by Asbury.

merges with the DP, forming the PP *fizikte/at physics*. The resulting PP is then merged with the adjective *iyi/good* to form the AP *fizikte iyi/good at physics*. For another example, let's analyze the following derivation in (65) and (66) below, demonstrating a similar grammatical content with different case paradigms:

(65)   tenis-*te kötü*
       tennis-*LOC bad*
       bad at tennis
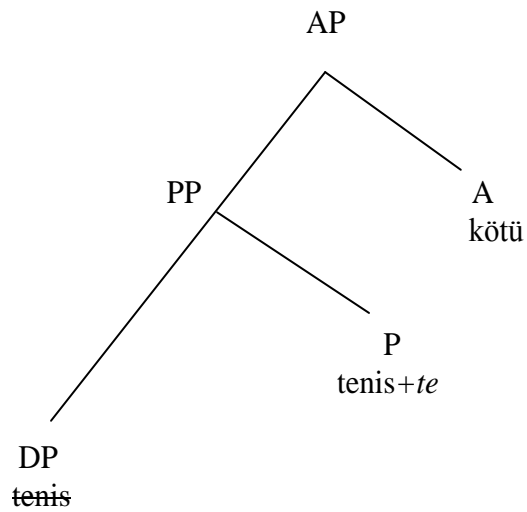
(66)   kale-*si-(y)le ünlü*
       castle-*GEN-COOP famous*
       famous for its castle
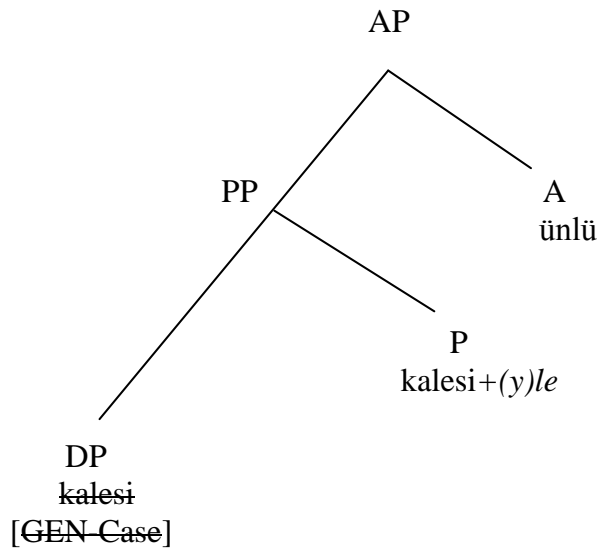
In (66), the definite DP *kalesi* (PRO castle-AGR) is merged with an affixal P entering the syntax due to the related cooperative COOP-role of the internal argument. The affixal P, then, attracts the closest DP with its checked features and attaches to it to form the PP *kalesi-(y)le* (the castle-COOP). The resulting PP is merged with the A *ünlü* (famous), forming the AP *kalesiyle ünlü* (famous for its castle).

(67) tatlı-*ya düşkün*
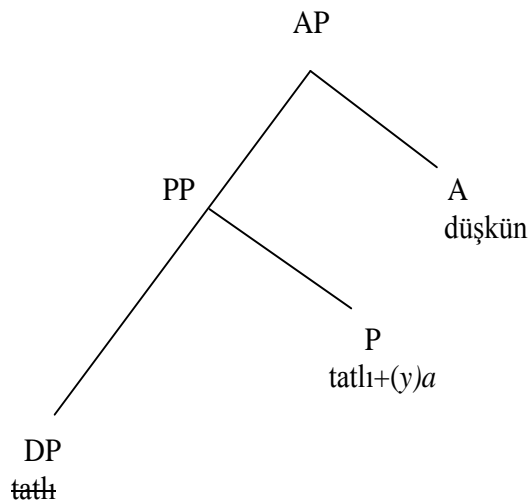   dessert-*DAT fond*
       fond of dessert

AP

PP

A
düşkün

P
tatlı+(*y)a*

DP
~~tatlı~~

For (66) and (67), it should also be noted that adpositional paradigms may change from one language to another. For example, the Turkish word *düşkün* and the English word *fond* are described as adjectives used to describe "a strong feeling of affection *'for'* a person or thing in the lexicon."[1] While the adjective *düşkün* merges with a PP having directive (DIR) paradigm (i.e. PP tatlı-ya/dessert-DIR) in Turkish, the adjective *fond* merges with a PP having possessive (POSS) paradigm (i.e. PP of dessert) in English. The cross-lingual M-diagram below compares the derivations in (67) above. Note that adpositional case paradigms are given in lighted (i.e. [DAT]) brackets as explanatory details which do not have syntactical functions in the derivations.

---

[1] Türk Dil Kurumu, *Türkçe sözlük.* Türk Dil Kurumu Yayınları, 1983; Sinclair, *Collins COBUILD,* p. 561.

68)   tatlıya düşkün*/fond of dessert*
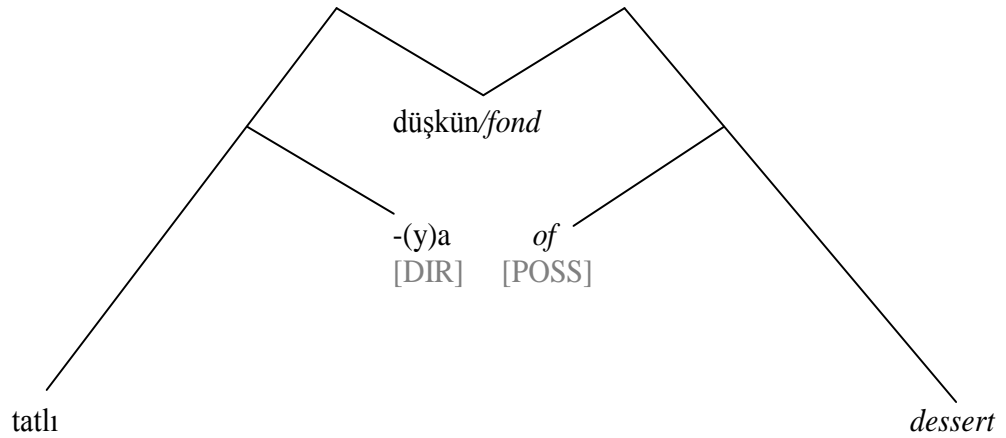
In (69) below, on the other hand, we can see that the adjective *güzel* (beautiful) merges with the adverb of degree *çok* (very) and the DEG *çok* then positions on the specifier position of the resulting phrase to form the adjectival phrase AP *çok güzel* (very beautiful):

(69)   çok güzel   oldukça hızlı   çok yavaş
        very beautiful   *quite fast*   *very slowly*

The phrase structures in (70) can also be taken as ADVPs since Turkish does not operate a compulsory derivational suffix like adverbial *-ly* in English. They are determined as to their positions in the syntactical order, which we will illustrate in the following section of the study (see 5.4).

As for the comparative AP structures in Turkish, let's analyze the following examples:

(71)   Ali *kadar yaşlı*   bu-*nun kadar ucuz*   ben-*im kadar uzun*
        Ali *as old*   this-*GEN as cheap*   I-*GEN as tall*
        as old as Ali   *as cheap as this one*   *as tall as me*

In (71), it is understood that in comparative derivations, PP structures derived by the comparative "postposition *kadar*"[1] are merged with adjectives, as shown below:

---

[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, New York, 2005, p.176.

72) ben-*im kadar uzun*
     I-*GEN as tall*
     as tall as me

```
                              AP
                             /  \
                            /    \
                        PP /      \
                          /\       A
                         /  \      uzun
                        /    \
                       /      \
                      /        P
                     /         kadar
                  PRN
                  benim
                [GEN Case]
```
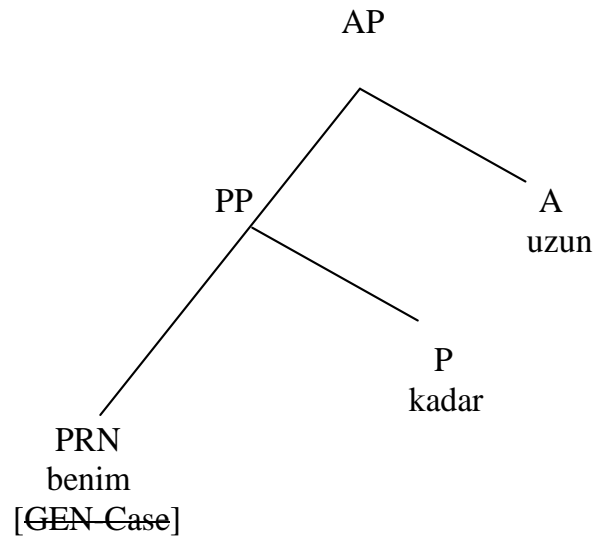
(72) tells us that the comparative postposition P *kadar* (as) merges with a 1SGP pronoun complement (i.e. PRN *benim)* with it is already valued genitive case feature. Then, the resulting PP *benim kadar* (as 1SgP/GEN) is merged with the A *uzun* (tall), forming the AP *benim kadar uzun* (as tall as me).

In order to compare Turkish and English derivations in terms of comparative structures, we will illustrate the following cross-lingual M-diagram below:

(73)   benim kadar uzun/*as tall as me*
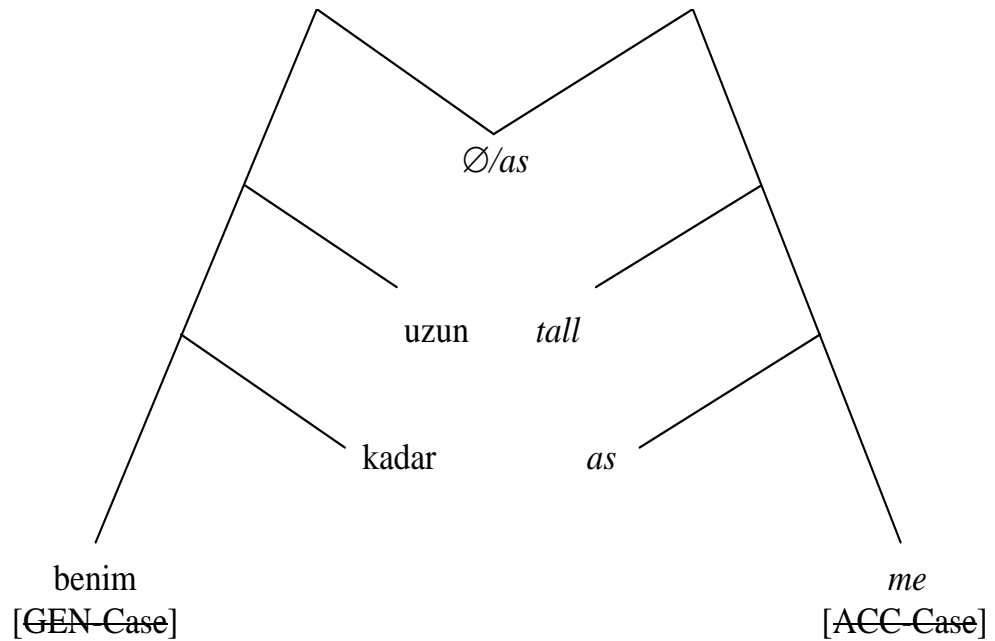
In the derivation of the same semantic context in two different languages, differences (i.e. Turkish and English) are observed in case assignment of the pronominal complements of the adpositions (i.e. GEN vs. ACC). This variation will be discussed and explained in the following parts of the study (see 5.4 Adpositional Phrases). Furthermore, it is also understood that the comparative AP in Turkish does not need specifying by a DEG head as in the case of English (i.e. as tall). As another example for the comparative structures, see the examples in (74):

(74)   diğeri-*(n)den daha* pahalı
       other-*ACC-ABL more* expensive
       more expensive than the other

As for (74), we can see comparative adjective structures. In order to compare Turkish and English derivations in terms of comparative structures, we will illustrate the following cross-lingual M-diagram (75):

(75)   diğerinden daha pahalı/*more expensive than the other*

daha pahalı/*more expensive*
[COMP]

+(n)den   *than*

diğeri   *the other*

In (76) below, there are adjectival phrase structures with superlative degree in Turkish:

(76)   *en* yüksek dağ, *en* tehlikeli oyun
        most high mount, *most* dangerous game
        the highest mount, the most dangerous game

Let's look at the derivation of the superlative structure *en yüksek (highest).* Initially, the adjective *yüksek* is merged with the specifier 'adverb of degree *en*'[1] to form the AP *en yüksek,* which has the structure (77) below:

(77)   en yüksek
        most high
        highest

AP

DEG
en

A
yüksek

Now, let's compare the superlative structures in Turkish and English through an M-diagram, as shown below:

---

[1] Göksel-Celia, *Turkish: A comprehensive grammar*, op. cit., p.176.

(78)   en yüksek dağ/*the highest mount*

```
         en yüksek           dağ+∅/the          highest

                             d̶a̶ğ̶                 mount
```

As for the CP requirement, the 'adverb of degree *kadar*'[1] in Turkish semantically functions as adverbs of degree *too* and *enough* in English in that they require infinite CPs. The illustrations below (79-81) analyze the infinite CP complements of APs in Turkish:

(79)   al*amayacak kadar* pahalı
         buy-*ABIL-NEG-NOM* DEG expensive
         too expensive to buy

```
                              AP

              DEGP                      A
                                      pahalı

                              DEG
                              kadar

              CP
           alamayacak
```

80)   koş*abilecek kadar* sağlıklı
         run-*ABIL-NOM* DEG fit
          fit enough to run

---

[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p.213.

```
                    AP
                   /  \
              DEGP      A
             /   \     sağlıklı
           /       \
          /       DEG
         /        kadar
        CP
     koşabilecek
```

Note that the negative meaning of the DEG *too* in English is assigned to the verb in Turkish (i.e. ala-ma-yacak/buy-ABIL-NEG). Now, let's see this derivation on an unlabelled cross-lingual M-diagram comparing it to its English counterpart:

(81)   koşabilecek kadar sağlıklı/*fit enough to run*

```
          /\            /\
         /  \          /  \
        /    sağlıklı/fit  \
       /    /          \    \
      /   kadar      enough  \
     /                        \
 koşabilecek                to run
```

(81) tells us that just as an English adjective merging with the adverb of degree *enough* requires an infinite CP complement, the Turkish adjective *sağlıklı* merges with the adverb of degree *kadar*, requiring an infinite CP complement in Turkish. In conclusion, just as APs specified by adverbs of degree *too, as* or *enough* license PP as well as a CP in English, the adverb of degree *kadar* specifying APs licences infinite CP in Turkish.

5.3. ADVERBIAL PHRASES

As for adverbial phrases, just like for adjective clauses, we lay out the differences between phrases merged with adverbs and phrases specified by adverbs, analyzing adverbial phrase structures with DEG such as comparatives and superlatives. The following illustration in (82), for example, demonstrates us adverbial phrase structures specified by adverbs in English:

(82)   *very* slowly, *as* well *as*

In these structures, adverbs are specified by adverbs of degree (DEG),[1] forming ADVPs, as shown in (83) below:

(83)   very slowly[2]

ADVP

DEG
very

ADV
slowly
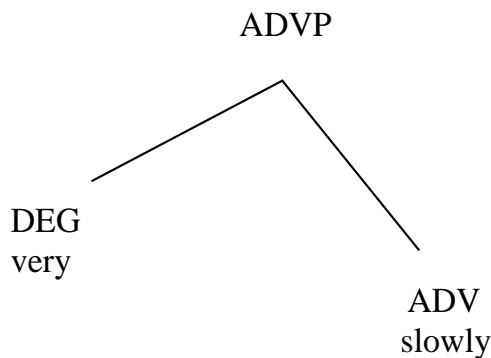
In (83), we understand that the adverb *slowly* merges with the adverb of degree *very* and the adverb *very* then positions on the specifier position of the resulting phrase to form the adverbial phrase ADVP *very slowly*. In the illustrations (84-92), we illustrate the comparative and superlative structures accordingly. Now, let's see the example below:

(84)   *too slowly* to reach

For the example above, we illustrate an infinite complementiser phrase (CP) merged with an ADVP specified by an adverb of degree, which is represented as DEGPs in Abney's analyses. However, it should be noted again that the internal

---

[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 79.
[2] Representation of the category of DEG over ADV on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 79 (31).

structures of *infinital to* phrases as infinite complementiser phrases are neglected since, at least for this part of the study, we are only interested in their external structures of CPs merged with adverbs. The following analyse in (85) illustrates the derivation in (84) above:
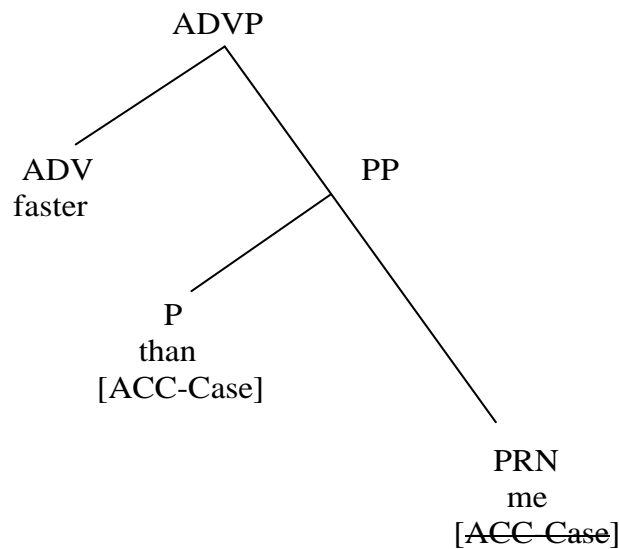
(85)   *too slowly* to reach
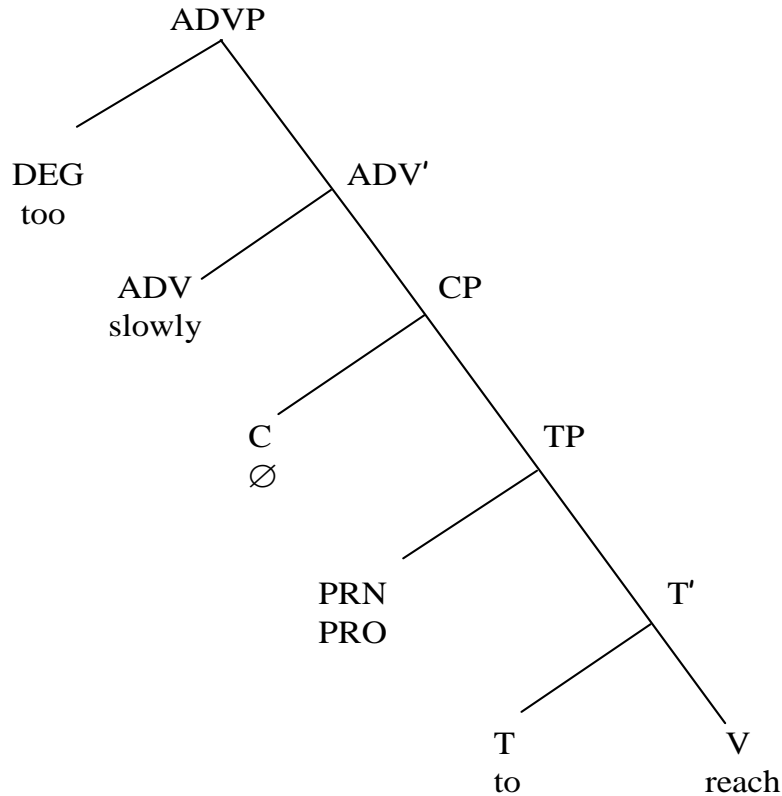
In (85), we can observe that the verb *reach* is merged with the infinitival particle *to,* forming the T-bar *to reach*. Next, this T-bar is merged with its null *PRO* subject and null complementiser ∅ to form the TP *PRO to reach.* The TP is then merged with a null C ∅, forming the infinite CP *PRO to reach.* The CP is, then, merged with the ADV *slowly,* forming the ADV′ *slowly to reach.* Next, the resulting ADV′ is specified by an adverb of degree *too* to drive the resulting adverbial phrase ADVP *too expensive PRO to buy.* Since the detailed explanation of the finite and infinite complement phrases is not our focus now, we avoid submitting further explanation for their internal structures (e.g. T *to,* C ∅, PRN PRO etc.) and just try to demonstrate that adverbs specified by DEG *too* are followed by an infinite extended

clause just as in the case of adjectives. In (86) below, we illustrate comparative and superlative ADVP structures:

(86)   fast*er than* me, *more* slowly *than* the other, *as* well *as* me

In (86), we can see comparative adverbial structures. Note that monosylable comparative adverbs have morphological features, entering the derivation as comparative adverbs (e.g. faster, better etc.) like adjectives. Now, let's analyze comparative adverbial phrases below:

(87)   faster than me[1]

```
                    ADVP
                   /    \
                  /      \
                 /        \
            ADV          PP
           faster       /  \
                       /    \
                      /      \
                     P        \
                    than       \
                  [ACC-Case]     \
                                  \
                                PRN
                                 me
                             [ACC Case]
```

Let's take a look at the derivation of the comparative structure *faster than me*. Initially, the first person singular pronoun *I is* merged with the comparative preposition *than.*[2] Since *than* is a transitive preposition with an interpretable [ACC-Case] feature and c-commands its complement pronoun having unvalued [u-Case] feature (i.e. Feature Checking and C-command Principle) and operations apply as early in a derivation as possible (i.e. Earliness Principle), it assigns accusative case to the pronoun *I* and thus merging with *me* to form the prepositional phrase *PP than me.*

---

[1] 'ADV over PP' analysis is adapted from the 'A over PP' analysis by: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 81 (35).
[2] 'Than' is described as 'Prep' by: Sinclair, *Collins COBUILD, Collins Birgmingham University International Language Database: English language dictionary*, London, 1987, p.1511.

Then, the resulting phrase is merged with the ADV *fast-er* (comparative adverb) to form the ADVP *faster than me.*

(88)   more slowly than the other
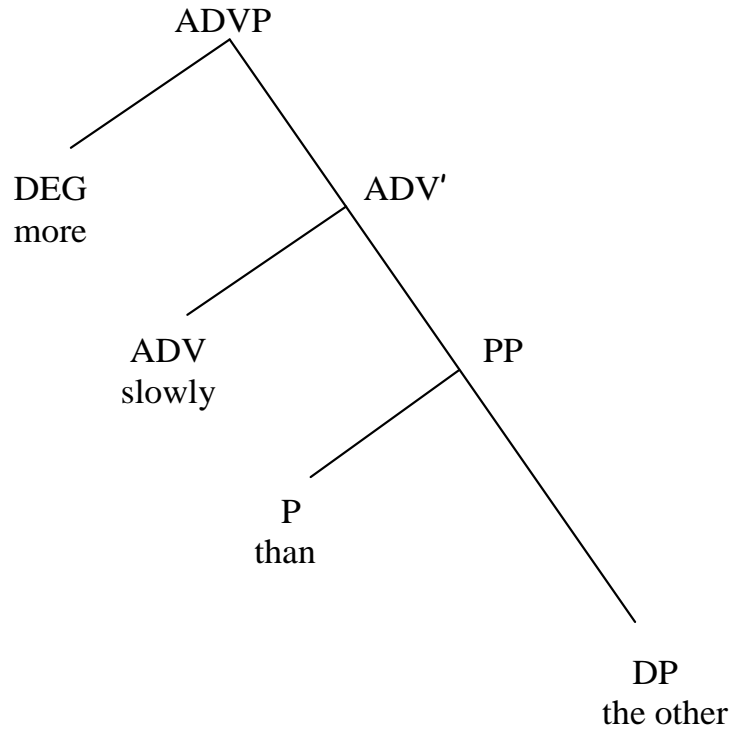
For (88) above, initially, the PP *than the other* is merged with the adverb *slowly* to form the ADV-bar *slowly than the other.* The intermediate ADV-bar is, then, merged with its specifier DEG *more* and projects into the ADVP *more slowly than the other.* Note that adverbs with the suffix *-ly* do not have inflected forms with the suffix *–er* but headed by an overt comparative adverb of degree *more*.

In (89) below, we illustrate a different comparative ADVP structure in which the adverb is initially merged with "the adverb of degree *as*" and then merging with the PP headed by another *as* 'used as preposition':"[1]

(89)   as well as me

---

[1] Sinclair, *Collins COBUILD, Collins Birgmingham University International Language Database: English language dictionary*, London, 1987, p.71.

ADVP

DEG
as

ADV′

ADV
well

PP

P
as

PRN
me
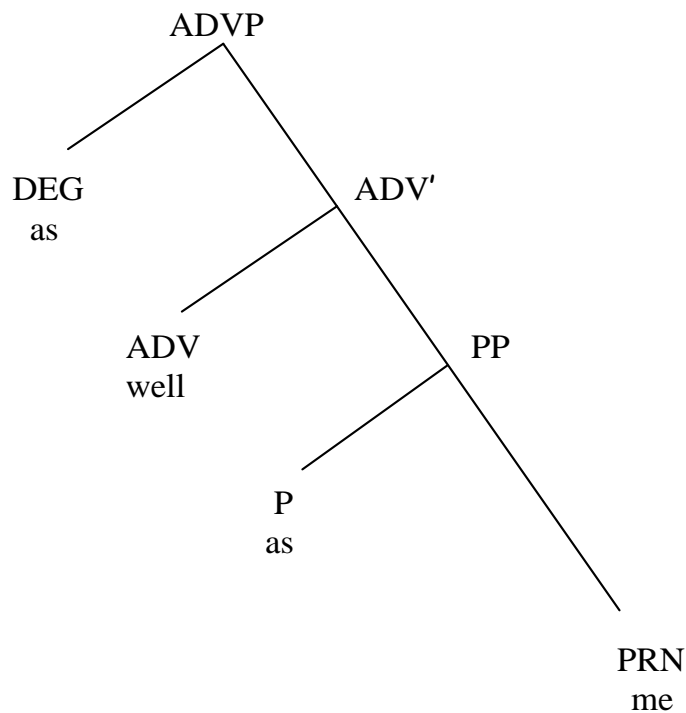
(89) tells us that initially, the first person singular pronoun *I is* merged with the comparative preposition *as.* Since *as* is a transitive preposition with an interpretable [ACC-Case] feature and c-commands its complement pronoun having unvalued [u-Case] feature, it assigns accusative case to the pronoun *I* and thus merging with *me* to form the prepositional phrase PP *as me.* Then, the resulting phrase is merged with the ADV *well* to form the intermediate projection ADV′ *well as me.* The adverb of degree DEG *as* merges with the ADV′ *well as me,* forming the ADVP *as well as me.* Note that ADVPs specified by adverbs of degree such as *too,* and *as* license PP as well as an extent CP like in the case of adjectives, as illustrated in (90) below:

(90)   better than/*as well as* he can speak his native language

```
                    ADVP
                   /    \
                  /      \
              DEG        ADV'
              as/∅       /  \
                       /     \
                     ADV      PP
                  well/better  /  \
                             /     \
                           P        \
                         as/than     \
                                      \
                                       CP
                              he can speak his native language
```
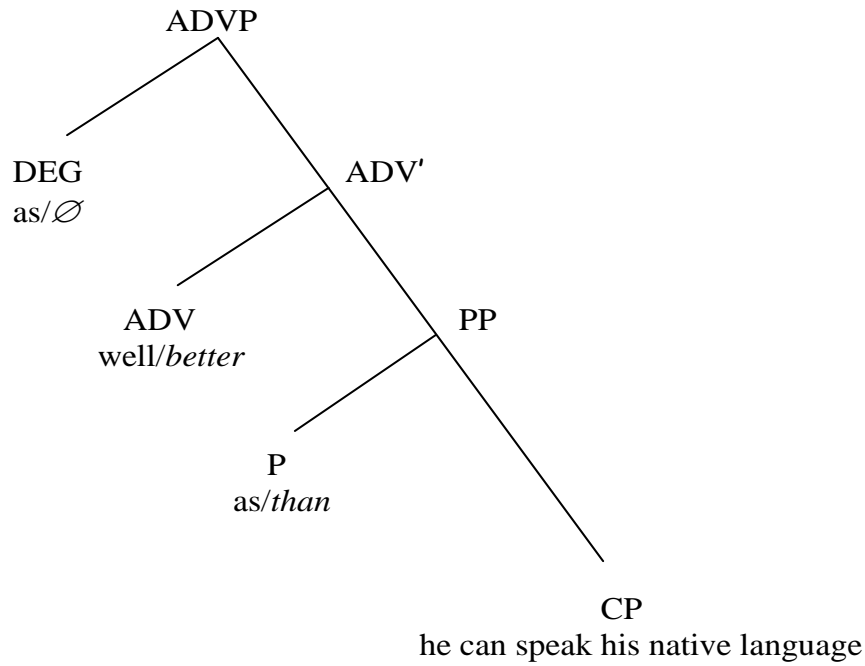
In order to understand how those derivations (i.e. adverbs phrases) we have studied in English so far are constructed in Turkish, let's look at the following examples and their illustrations on a tree diagram subsequently:

(91)   çok yavaşça   oldukça hızlı   çok yavaş bir şekilde
        very slowly   *quite fast*   *very slowly*

The phrase structures in (91) are taken as ADVPs since Turkish operates an adverb derivation suffix like *-ly* in English and a PP ... *bir şekilde* (in a ... manner).[1] They are determined as to their positions in the syntactical order, having the structure below:

(92)   çok yavaşça/*very slowly*

```
                ADVP
               /    \
              /      \
           DEG        ADV
           çok        yavaş/-ça
```

---
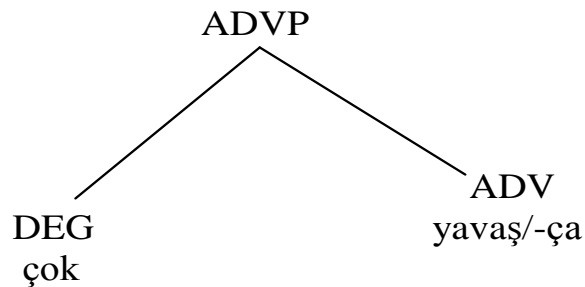
[1] Aslı Göksel-Celia Kerslake, *Turkish: A comprehensive grammar,* Psychology Press, 2005, p. 190-191.

As for the comparative ADVP structures in Turkish, let's analyze the following examples:

(93)   ben-*den daha* yavaş (koşuyor)
         I-*ABL more* slowly (runs)
         (runs) *more slowly than me*

As for (93), we can see comparative adverb structures. Let's take a look at the derivation of the comparative adverbial phrase structure *benden daha yavaş (more slowly than me)* as the complement of the verb *koşuyor (runs)*.

(94)   ben-*den daha yavaş (koşuyor)*
         I-*ABL more slowly*
         more slowly than me

```
                           ADVP
                            /\
                           /  \
                          /    \
               PP        /      \
                /\      /        ADVP
               /  \    /       daha yavaş
              /    \  /
             /      \/
            /       /\
           /       /  \
          /       P
         /      ben+den
        /        [ABL]
       PRN
       b̶e̶n̶
```
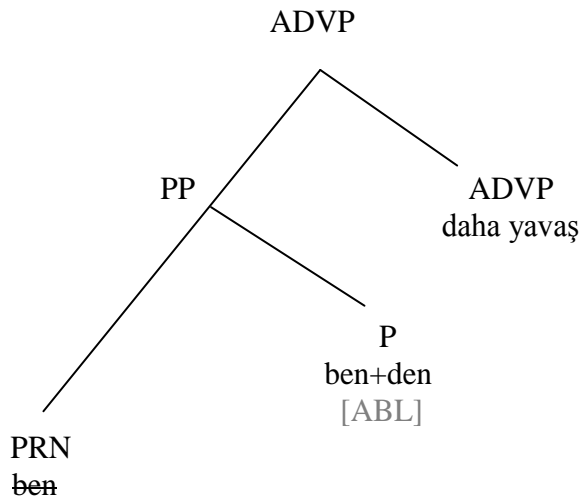
(94) tells us that the affixal ablative postposition P -*dAn* (than) merges with a 1SGP pronoun complement (i.e. PRN *ben*). This P enters the syntax with an ablative case paradigm due to the related comperative-role of the internal argument. Since the P is affixal in nature, it attracts the PRN *ben* to attach to it, forming the PP *benden* (than me). The resulting PP is then merged with the ADVP *daha yavaş (more slowly)* where the adverb *yavaş* has already merged with the specifier adverb of degree *daha* (more), forming the ADVP *benden daha yavaş* (more slowly than me).

In order to compare Turkish and English adverbial derivations in terms of comparative structures, we will illustrate the following cross-lingual M-diagram (95):

(95)   benden daha yavaş/*more slowly than me*

daha yavaş/*more slowly*
[COMP]

+den   *than*
[ACC-Case]

ben

me
[~~ACC-Case~~]
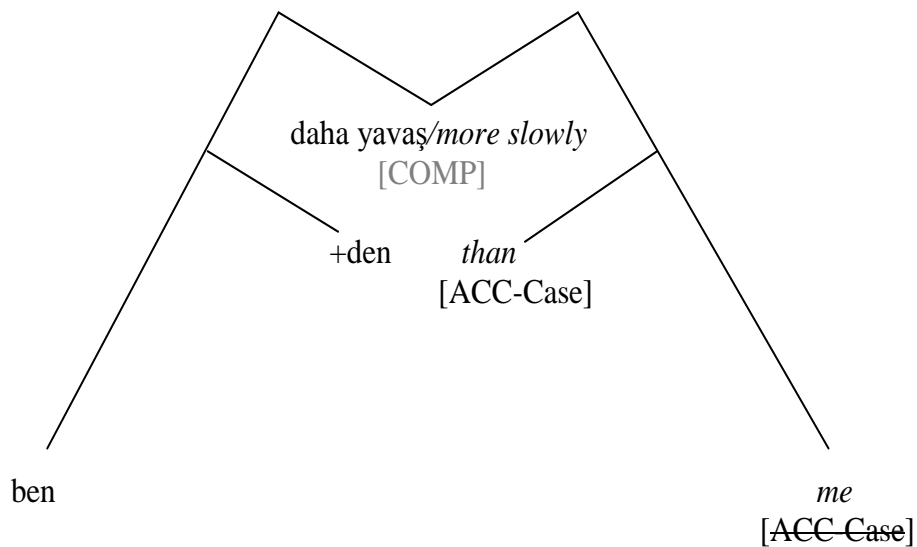
In the derivation of the same semantic content in two different languages, differences (i.e. Turkish and English) are observed in affixal and lexical adpositional case paradigms (i.e. +den vs. than) and interpretable case features of the lexical P categories (i.e. [ACC-Case]), which will be discussed in detail in the coming part below (i.e. 5.4. Adpositions).

5.4. ADPOSITIONAL PHRASES

By *adpositional phrases*, we mean phrases headed by prepositions or postpositions. Adpositions, as we described in the previous part (see 4.1.3) are a closed lexical category of words which typically requires a DP complement to make either a prepositional or a postpositional phrase (PP) to express spatial or temporal relations between words. In this part of the study, we not only refer to syntactical overt adpositions in both languages but also morphological cases expressing spatial or temporal relations since case marking in Turkish corresponds precisely to prepositions in English.

In the following illustrations, we study on the syntactical properties of Ps and PPs in English and Turkish languages. Below are the examples for prepositions merging with DP or pronominal complements in English:[1]

(96)   *for* you, *in* London, *on* Monday, *with* John

In the examples above, we can observe that adpositions such as *for, in, on* and *with* c- selects DPs or pronouns such as *Ankara, Monday, John* or *you.* These adpositions express different semantic relations with their complement DPs. For example, *for* expresses 'purposive' relation by which we mean the complement pronoun *you* is the purpose of the context where the resulting phrase *for you* is used. *In*, on the other hand, expresses 'inessive' relation by which we mean the complement DP *London* is an interior location for the context where the resulting phrase *in London* is used. *On*, in addition, expresses 'temporal' relation by which we mean the complement DP *Monday* is the time of the context where the resulting phrase *on Monday* is used. And *with* also expresses 'sociative' relation by which we mean that the complement DP *John* is in togetherness with another person in the context where the resulting phrase *with John* is used. The terms used to describe these semantic relations to which we refer in our study are the case paradigms described and listed by Asbury.[2]

The sample phrases given above are illustrated through tree diagrams below in order to explain how adpositional phrases are formed in English:[3]

(97)   for you

---

[1] These structures categorized as 'prepositions' by: Audrey J. Thomson- Agnes V. Martinet, *A practical English grammar*, Oxford University Press, Hong Kong, 1986, p. 65-73.
[2] Asbury, "The morphosyntax of case and adpositions", op. cit., p.2.
[3] PP analysis for English is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 76-85.

```
                    PP
                   /  \
                  /    \
                 /      \
                P        PRN
                for      you
```
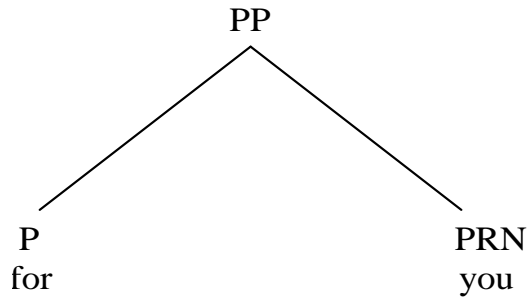
(98)   in London

```
                    PP
                   /  \
                  /    \
                 /      \
                P        DP
                in       London
```
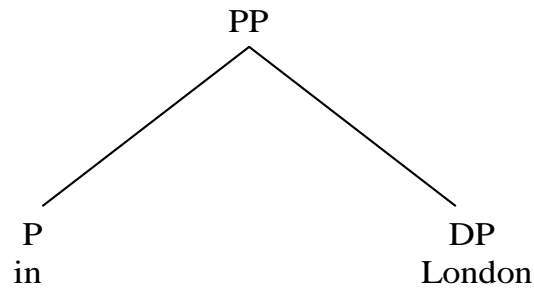
As observed above, the adpositions position before the DPs since English is a head-first language and thus they are called prepositional phrases (PP). On the other hand, structures below are the examples for adpositions merged with DP complements in Turkish:[1]

(99)   sen-*in için*   o-(n)un *kadar*   Ali *ile*
        you-GEN *for* he-GEN *as*   Ali *with*
        for you   *as him*   *with Ali*

In the examples above, we can observe that adpositions such as *için, kadar* and *ile* precede their complement DPs or pronouns such as *senin (2SgP/GEN), onun (he-GEN)* and *Ali.* These adpositions express different semantic relations with the complement DPs. For example, *için (for)* expresses 'purposive' relation by which we mean the complement 2SgP genitive pronoun *senin* is the purpose of the context where the resulting phrase *senin için (for you)* is used. *Kadar (as)* , on the other hand, expresses 'comparative' relation by which we mean the complement pronoun *onun (he-GEN)* is a 'comparable' goal for the context where the resulting phrase *onun kadar (as him)* is used. *İle (with),* in addition, expresses 'sociative' relation by which

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[1]These structures categorized as 'postpositions' by: These structures categorized as 'postpositions' by: Göksel-Kerslake, *Turkish: A comprehensive grammar,* Psychology Press, 2005, p. 214-228.

we mean that the complement DP *Ali* is in togetherness with another person in the context where the resulting phrase *Ali ile (with Ali)* is used. The sample phrases given below are also illustrated through tree diagrams in (100) below in order to explain how adpositional phrases are derived in Turkish:

(100)   senin için *(for you)*

```
              PP
             /  \
            /    \
           /      \
        PRN        P
        senin      için
```
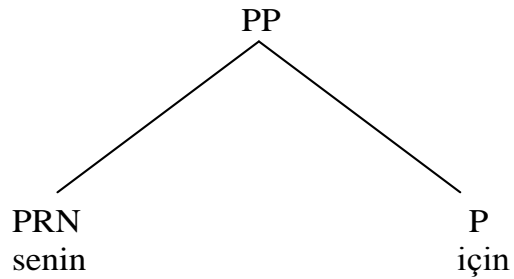
(101)   Ali ile (*with Ali)*

```
              PP
             /  \
            /    \
           /      \
         DP         P
         Ali        ile
```
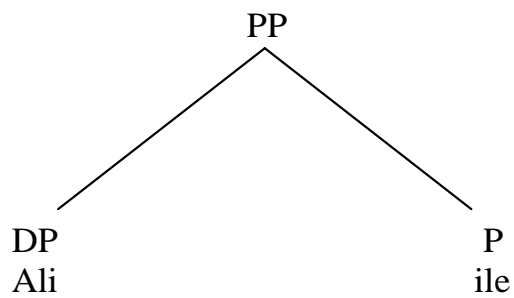
As observed in (100-101), the adpositions position over the DPs since Turkish is a 'head-last language' and thus they are called 'postpositional' phrases (PP). Comparatively, adpositional structures in both languages (whether they are prepositions or postpositions) will be as in the following illustration shown on an unlabelled M-diagram:

(102)   senin için/*for you*
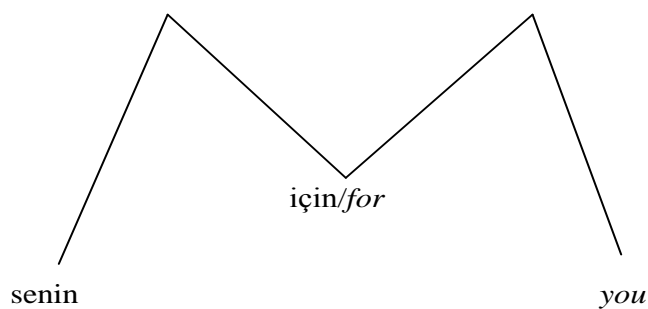
```
      /\              /\
     /  \            /  \
    /    \          /    \
   /      \  için/for    \
  senin                   you
```

The adpositional structures in both languages (whether they are prepositions or post positions) are taken as PPs. Moreover, it should also be noted that adpositions in both languages assign cases to their pronominal complements, which is illustrated in (91) below:

(103)

için / for
[GEN-Case]   [ACC-Case]

sizin   you
onun   him
benim   me
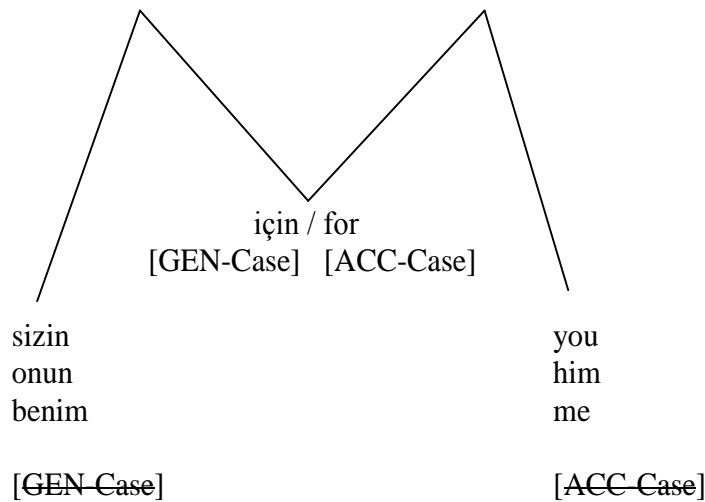
[~~GEN-Case~~]   [~~ACC-Case~~]

As observed in (103), while Turkish postpositions carry interpretable [GEN-Case] feature, English prepositions carry interpretable [ACC-Case] feature. When pronouns enter the derivation with their unvalued case features, their uninterpretable case features undergo case checking with the interpretable features of the adpositions and are valued. However, this is not the case for the other complements such as nouns and other nominal pronouns (i.e. pronouns with nominal affixes such as plural –s (e.g. o-(n)lar/3PlP) in Turkish and possessive pronouns (e.g. seninki/yours) in both languages etc.). These complements are not assigned cases (in Turkish) probably because they may be under a D head which does not allow case checking as in the case of nouns (e.g. onlar için/for 3PlP-NOM, Ali için/for Ali etc.), as shown on the following M-diagram (92). A noteworthy finding for these analyses is that while nouns under DPs in Turkish are assigned cases in derivations where they are complements of θ-roles assigning verbs (e.g. Ankara'ya git/Ankara-DAT go), this is

not the case when they are complements of postpositions (e.g. Ankara gibi/like Ankara). This is interesting for us to question the reason.

(104)

için / for	
[GEN-Case]	[ACC-Case]
onlar	-
bizler	-
sizler	-
onunki	his/hers
bizimki	ours
Ali	John
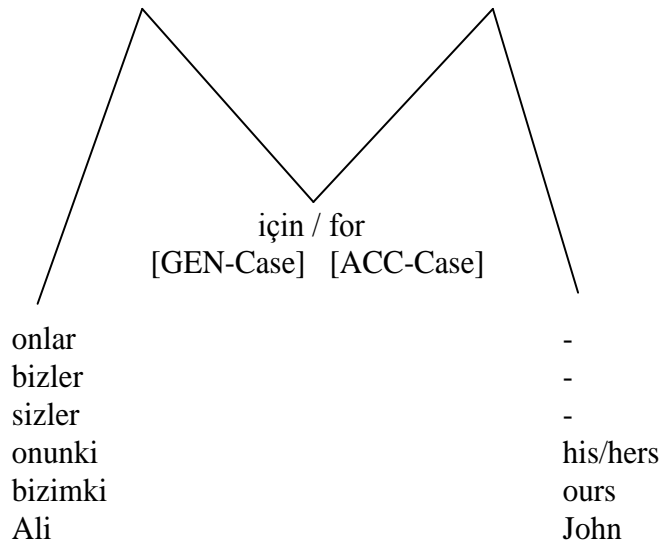
From the structures analyzed above, we can say that in both languages, adpositions (whether prepositions or postpositions) c-command DP complements or pronouns. Therefore, the relation between determiners, cases and adpositions is the primary issue on which we should discuss in this part of our study. Accordingly, we also analyze different patterns of the adpositional phrases in both languages. Now, let's analyze the following examples illustrated in (105) below:

(105)   *on* holiday, *at* home, *in* Turkey, *to* London, *from* Paris, *of* the school

The semantic counterparts of the English PPs illustrated above are corresponded by the following Turkish structures shown in (106):[1]

(106)   tatil-*de*   ev-*de*   Türkiye*'de*   Londra*'ya*   Paris*'ten*
        holiday-*LOC*   home-*LOC*   Turkey-*LOC*   London-*DAT*   Paris-*ABL*
        on holiday   *at home*   *in Turkey*   *to London*   *from Paris*

The comparison in (106) shows us that there are common case paradigms in the lexicon of both languages which are spelled out in different phonetic forms (PF) (i.e. as overt lexical adpositions or morphological cases) but with the same semantic

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[1] The notation of spatial cases as postpositions are adapted from: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p.218-222.

function at LF (i.e. LOC, DAT or ABL). Therefore, we initially need to determine common morphological or lexical case paradigms. On doing so, we refer to the nominal case paradigms listed in a study carried out by Asbury (2008). However, since our aim is not to give a full description of prepositions in both languages, we only make do with some common uses. The following Table 2 shows us these nominal cases:

Table 2: Nominal case paradigms[1]

Case	Description
Nominative (NOM)	subject
Accusative (ACC)	object
Genitive (GEN)	possessor
Dative (DAT)	goal /recipient
Ablative (ABL)	from exterior
Elative (ELA)	from interior
Inessive (INE)	at interior
Superessive (SUP)	at exterior
Adessive (ADE)	at proximity
Instrumental (INS)	means/instrument
Sociative (SOC)	with
Causal (CAU)	for the sake of
Abessive (ABE)	without
Addirective (ADIR)	toward
Terminative (TER)	until/by
Directive (DIR)	to
Temporal (TEMP)	at/in/on (time)
Postesssive (PESS)	at behind
Postdirective (PDIR)	to behind
Postelative (PELA)	from behind
Subdirective (SDIR)	to under
Subessive (SESS)	at under
Subelative (SELA)	from under

---

[1] Asbury, "The morphosyntax of case and adpositions", op. cit., p.2.

Accordingly, (105) and (106) are comparatively illustrated on an unlabelled M-diagram in (107) below:

(107)   evde/*at home*

$[LOC]$
-de/at

ev   home
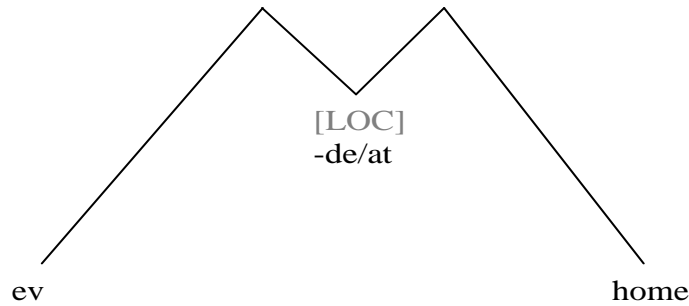
The locative case paradigm is undertaken by an affixal or lexical adpositional constituent for either language, merging with a DP. From the analysis and the Table 2 above, we understand that some cases assigned to the DPs in Turkish correspond to the prepositions in English cross-linguistically, which makes us to question the relation between cases and adpositions. Of course, the idea of a connection between adpositions and case has been discussed by many researchers so far, as has by Bittner and Hale. Their 'KP analysis' posits that there is a general link between cases and the nominal functional structure termed 'KP'[1]. According to Bittner and Hale, "cases represent the maximal extension of the nominal projection while C represents the maximal extension of the verbal projection."[2] as shown in (108) below:

(108)   Bittner and Hale's Head-final KP structure

KP

DP

D

K

N

---
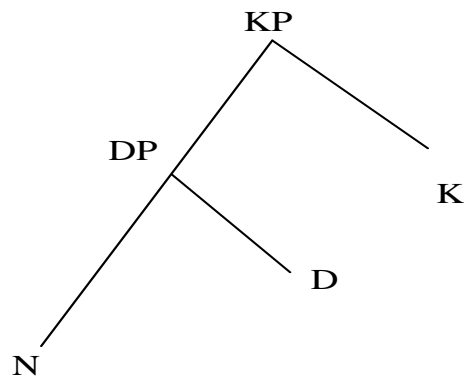
[1] According to Bittner and Hale (1996), 'KP' is a case marked nominal, occupying a position above the DP projection and below the structures such as PP.

[2] Maria Bittner-Ken Hale, "The structural determination of case and agreement", *Linguistic inquiry*, 1996, 1-68, p.6.

In the KP analysis above, the K position is filled by cases as well as a preposition. In our search for the solution to the problem, Asbury's study on the 'Morphosyntax of Cases and Adpositions' which suggests that "there is nothing special about cases at the syntactic level that makes them different from their analytic counterparts such as adpositions and determiners,"[1] and supplies corresponding examples between the two categories in a cross-linguistic perspective guided us and contributed to our study. In her study, Asbury also cited Fillmore who proposed that "cases in languages such as Latin had the same structure as preposition phrases in English, involving an 'empty P' projection."[2] As a proposal, moreover, she suggests 'a nominal projection analysis' involving an 'empty P projection', excluding agreement projections where case is concerned, hypothesizing that "the syntactic structures of both PPs and NPs in morphological cases are PPs,"[3] as shown in (102) below:

(109)   Asbury's Head-final prepositional phrase structure with empty $\varnothing$ P projection
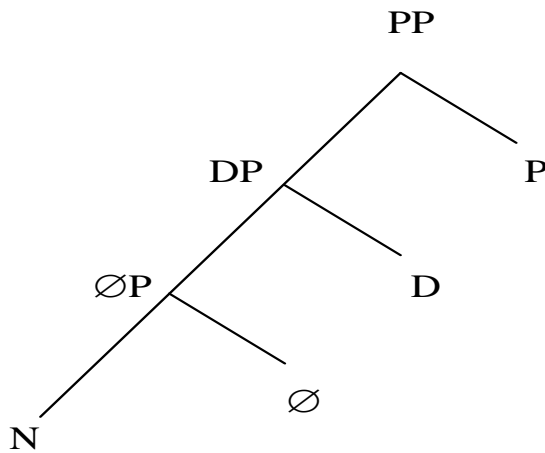
In Asbury's proposal of empty projection ($\varnothing$ P) analysis, the cases expressing spatial relations or semantic roles spell out P heads while the cases associated with definiteness or specificity such as genitive and accusative cases will be associated with the D layer and thus spelling out D heads (on condition that accusative is

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[1] Asbury, "The morphosyntax of case and adpositions", op. cit., p. 10.
[2] Charles J. Fillmore, "The case for case", 1968, in Asbury, A. R, "The morphosyntax of case and adpositions", *LOT*, 2008, p. 180.
[3] Asbury, op. cit., p. 10.

regarded to be only present on pronouns in English).[1] She also regards some grammatical categories or features such as 'negativity', 'agreement' and 'number' as case markers and suggests that other case markers such as negative, agreement and plural cases should be taken as empty intermediate projections $\varnothing Ps$ between the NP and the DP.[2] And finally, nominative case is given no special status in the syntax: a noun phrase 'in the nominative case' will be analysed as spelling out DP and all nouns with bare forms are taken as N in nominative case. Accordingly, the derivation of PP containing a DP can be analyzed as shown below:

(109)   at home
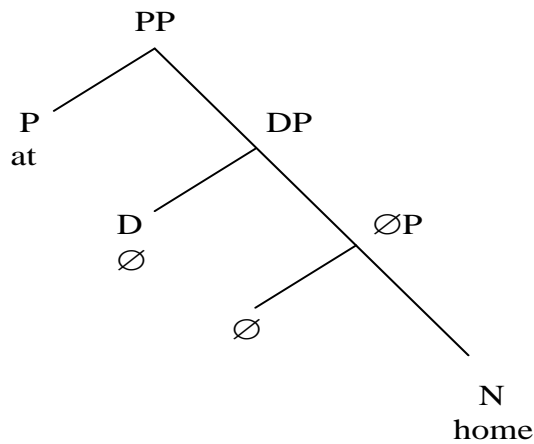
The empty projection analysis, however, is problematic as to minimalist concerns. Initially, this analysis involves an unnecessary representation (i.e. $\varnothing$P) since grammatical features such as case, number and person features (or agreement) are taken as categorial heads. Considering Asbury's and Bittner and Hale's proposals and revising them with minimalist principles, we suggest that cases vary as to their derivational phases in the syntax. While some cases are checked at DPs, others are assigned over DPs as suggested by Asbury. In other words, while some cases are "adpositional, or inherent, cases entering the derivation with their interpretable features and are assumed to be found in positions where θ-role is assigned, others are structural cases with uninterpretable features and are licenced in the syntax by other

---

[1] Asbury, "The morphosyntax of case and adpositions", *LOT*, 2008, p.37.
[2] Ibid.

categories without reference to θ-role."[1] Therefore, "structural cases must be checked and deleted by other categories such as *T*, *D*, *P* or *v*."[2] Then, let's question which cases go where. Accordingly, 'genitive' case, as discussed in the previous part of the study, is assigned to other DPs under D by D itself. DP, on the other hand, is the position where structural cases such as 'nominative', 'accusative' and 'dative' are checked since all NPs are ultimately DPs and all DPs indirectly have uninterpretable case features as well as interpretable person and number features which undergo feature cheching with the other categories. The other cases expressing spatial relations or semantic roles assigned by predicates spell out as P heads filled by affixal or lexical case paradigms such as locative, ablative, possessive, sociative, instrumental etc. Since pronouns are also regarded as DPs based on the assumption that "all nominal and pronominal expressions are D-expressions,"[3] it can be concluded that P c-commands DPs or pronominal expressions. In that case, pronouns enter the derivation with their [u-case] features which are checked by other categories just as in the case of DPs. For the illustrations as of now, we will refer to the case paradigms above in order to describe thematic roles or semantic features of the cases and adpositions in both languages in lighted brackets (i.e. [SOC]) in the study. Now, let's analyze the following English structures in (110) according to the assumptions and conclusions we have reached so far, beginning from the overt primary adpositions in both languages.

(110)   *with* John, *for* me, *as* Tom, *like* him

The semantic counterparts of the English PPs illustrated above are corresponded by the following Turkish structures shown in (111):[4]

(111)   Ali *ile*   ben-*im için*   Murat *kadar/gibi*   o-*nun gibi*
        Ali *SOC*   ben-*GEN CAU*   Murat *COMP*   o-*GEN COMP*
        with Ali   *for me*   *as Murat*   *like him*

[1] Anna Asbury, "The morphosyntax of case and adpositions", *LOT*, 2008, p.10.
[2] Ibid.
[3] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.143.
[4] The notation of these paradigms as postpositions are adapted from: Göksel-Celia, *Turkish: A comprehensive grammar*, op. cit., p.214-215; Lewis, *Turkish grammar*, op.cit., p. 85.

In the illustrations above, we can see that the PP structures in both languages are derived in a similar way in that if the complements are pronouns, they are assigned cases. While Turkish postpositions are of an interpretable [GEN-Case] feature, English prepositions are of an interpretable [ACC-Case] feature, undergoing case checking with the pronominal complements. In the illustrations above, we also use comparative (COMP) case paradigm to describe the thematic roles of the adpositions such as *as and like* (kadar and gibi) in addition to the nominal case paradigms listed in Table 2 above. While Turkish has very few lexical postpositions of this kind, most of the case paradigms we described above are represented as overt lexical prepositions in English. Now, let's analyze the following structures in both languages accordingly. Note that semantic roles, or case paradigms, are illustrated in lighted brackets:

(112)   with John

PP

P
with
[SOC]

DP

D
∅

N
John

(113)   for me

PP

P
for
[CAU]
[ACC-Case]
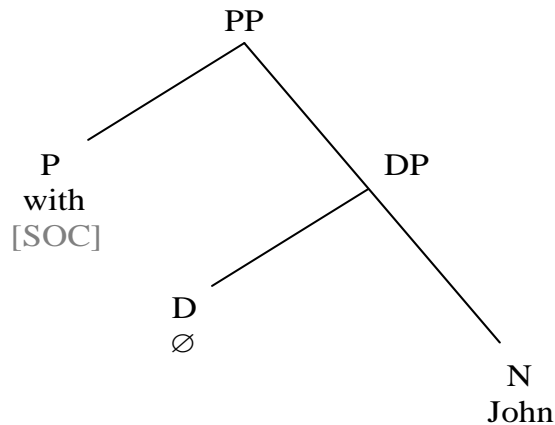
PRN
me
[~~ACC-Case~~]
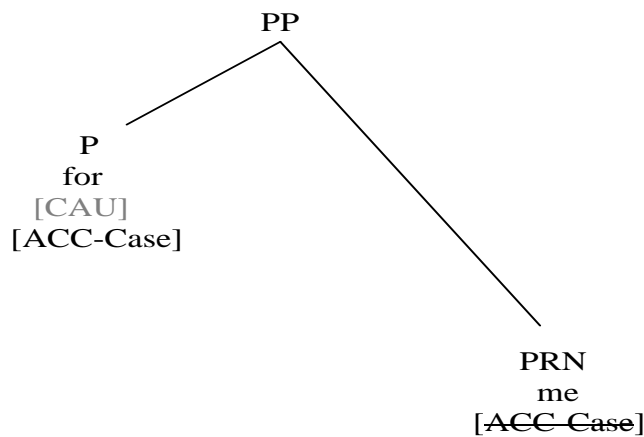
In (113), it should be noted that overt lexical prepositions carry an interpretable accusative case feature, checking the uninterpretable case feature of the PRN (i.e. I [u-Case]) and allowing it to be valued and deleted (i.e. me [~~ACC Case~~]). Nouns under DPs, on the other hand, are not assigned ACC case since the null lexical D may be assumed not to allow them to be assigned cases in English. Now, let's see the Turkish counterparts of these structures:

(114) Ali ile (*with Ali*)

```
                        PP
                       /  \
                      /    \
            DP       /      \
              \     /        P
               \   /         ile
                \ /
                 X
                / \
               /   \
              /     D
             /      Ali+Ø
            N
            A̶l̶i̶
           [+Def]
```

(115) benim için *(for me)*
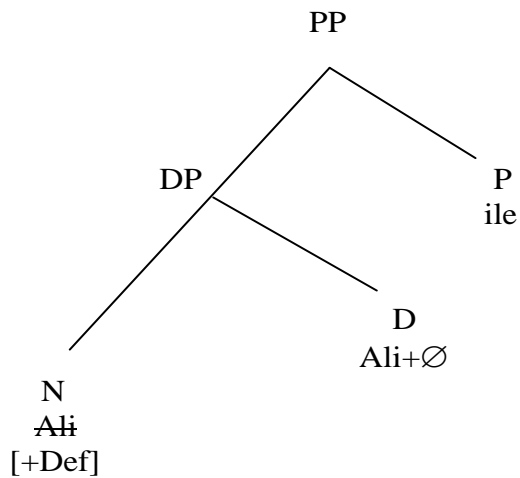
```
                    PP
                   /  \
                  /    \
                 /      \
                /        P
               /         için
              /          [CAU]
             /           [GEN-Case]
           PRN
           benim
          [G̶E̶N̶ ̶C̶a̶s̶e̶]
```
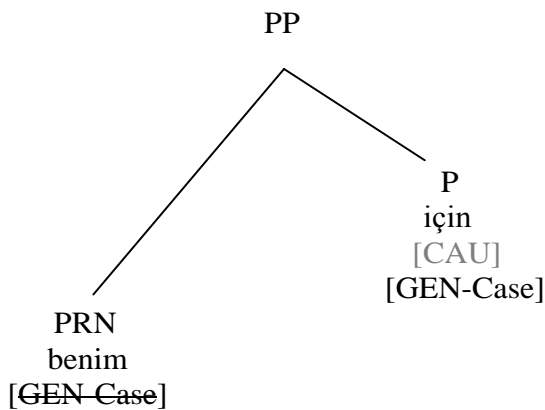
In (115), it should be noted that overt lexical postpositions in Turkish carry an interpretable genitive case feature, checking the uninterpretable case feature of the PRN (i.e. ben [u-Case]) and allowing it to be valued and deleted (i.e. benim [~~GEN-Case~~]). Nouns under DPs, on the other hand, are not assigned GEN case since, as

suggested above, 'genitive' case is assumed to be assigned to other DPs under D by the D itself.

(112-114) and (113-115) are comparatively illustrated on an unlabelled M-diagram in (116) and (117) below:

(117)   Ali ile/*with John*

[SOC]
ile / *with*

Ali   *John*
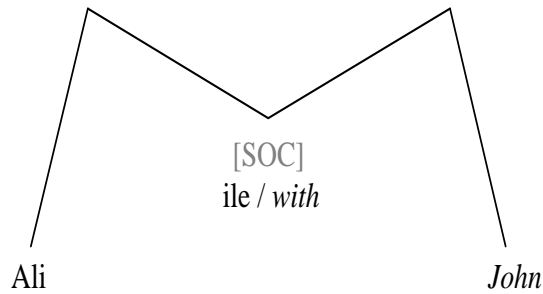
The sociative case paradigm is undertaken by adpositions (either a preposition or postposition) in languages, merging with a DP spelling out a noun and a [+Def] D. Note that DPs in both languages are not assigned case by the adpositions.

(118)   benim için/*for me*

[CAU]
için / *for*
[GEN-Case] [ACC-Case]

benim   *me*
[GEN-Case]   [ACC-Case]
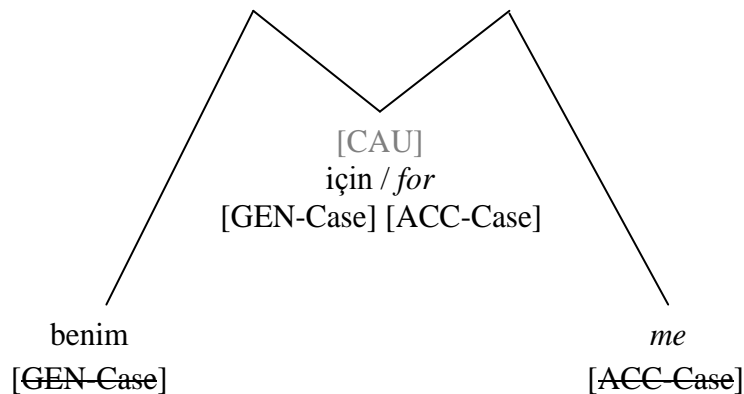
The causal case paradigm is undertaken by overt lexical adpositions (either a preposition or postposition) in both languages, merging with a pronoun having unvalued [u-Case] feature. Note that overt lexical postpositions in Turkish carry an interpretable genitive case feature, while English ones carry an interpretable accusative case feature, undergoing case checking and then valued and deleted, which may be described as a parametric variation between English and Turkish:

- **P Parameter I**

  i. Lexical Prepositions in English have interpretable [ACC-Case] feature.

  ii. Lexical Postpositions in Turkish have interpretable [GEN-Case] feature.

That is, while pronominals are assigned structural ACC case by lexical adpositional P heads in English, they are assigned structural GEN-Case in Turkish. Now, let's see the comparative derivations below:

(119)   from New York
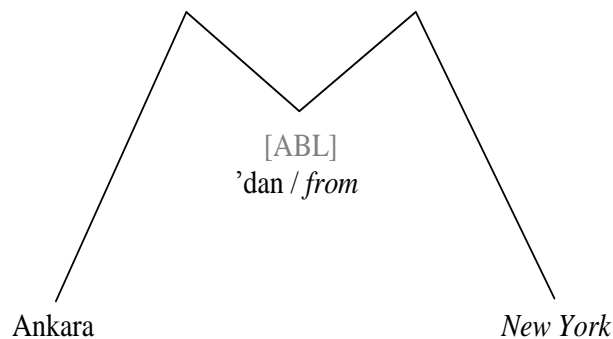
In (119), we understand that some inherent case paradigms such as ablative and locative cases differ as to their categorial nature. While ablative case in Turkish is affixal in nature and attracts the noun and attaches to it, forming the PP *New York'tan*, it is filled with an overt lexical preposition in English, merging with the DP, forming the PP *from New York*, showing us a parametric variation which determines the selectional properties of a given functional category in a given language. Accordingly, a given functional category in a given language may have c-selectional (i.e. categorial selection) properties or m-selectional (i.e. morphological selection) properties.[1] However, this parameter of selectional properties cannot be generalized for all the case paradigms in that category. While all spatial case paradigms in Turkish are of affixal (i.e. m-selectional) properties, others such as causal and comparative case paradigms are of lexical (i.e. c-selectional) properties (e.g. İstanbul'da/*In Istanbul*, İstanbul için/*for Istanbul*). Accordingly, while Turkish P has either m-selectional or c-selectional properties, P in English has c-selectional

---

[1] Ouhalla, *Functional categories and parametric variation*, op. cit., p. 16.

properties for inherent case paradigms, leading to a second parametric variation of P, which can be described as the following:

- **P Parameter II**

  i. Prepositions in English have c-selectional properties.

  ii.Postpositions in Turkish have either c-selectional or m-selectional properties.

It should be noted that m-selectional Ps, like structural cases, do not have interpretable [GEN-Case] feature (e.g. biz-de/we-LOC). However, there is still a problem in identifying the category of P as a lexical or affixal category. P as we categorized in 4.3 is regarded as a lexical category having substantive content. However, regarding that adpositions are of limited number and thus being a closed set of words and they are of m-selectional properties as in the case of Turkish, we may suggest that they are 'functional' categories.

For the illustrations (120) below, on the other hand, we can see phrasal structures composed of two components in both languages, including a 'specifier' which is of adjectival or adverbial origin and a 'complement' which is one of the case paradigms,[1] we described in Table 2 above:

(120)   *next to* me, *due to* the weather, *up to* tomorrow, *prior to* them, *apart from* this

Similar to the English PP projections illustrated above, the following Turkish structures with similar semantic contents (i.e. adverbial uses) are illustrated in (121):[2]

(121)   *o-na rağmen*   ders-*ten sonra*   yarın-*a kadar*
        he-*DAT despite*   weather-*ABL due*   tomorrow-*DAT until*
        despite him   *due to the weather*   *up to tomorrow*

(121) tells us that just as the specifier of the PPs merge with dative or ablative lexical prepositions complements in English (e.g. up *to*, apart *from*),   the adverbial heads (which are regarded as specifiers of P projection in English) merging with
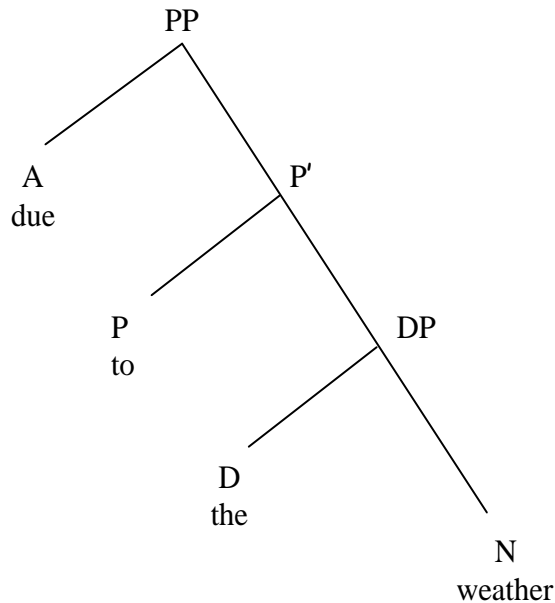
---

[1] The notation of these sturcutres as specifiers of PP projections are adapted from Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 77(28).

[2] These structures are noted as 'postpositions taking ablative or dative complements' by: Göksel-Celia, *Turkish: A comprehensive grammar*, op. cit., p.217-218; Lewis, *Turkish grammar*, op.cit., p. 87.

postpositional phrases containing affixal inherent directive or ablative postpositions (e.g. –a rağmen, -a kadar) in Turkish. Now let's analyze the following structures as the third group of PP structures composed of two components where P′ projects into a PP having an A or ADV as a specifier:

(122)   due to the weather[1]

```
                    PP
                   /  \
                  /    \
                 /      \
                A        P′
               due      / \
                       /   \
                      P     DP
                      to   /  \
                          /    \
                         D      \
                        the      \
                                  N
                               weather
```

For the third group of PP structures composed of two components, the preposition *to* merges with its DP complement *the weather* to form the intermediate adpositional projection P′ *to the weather.* The resulting P-bar (or P′) is then merged with the 'adjective *due*'[2] to form the PP above.[3]

(123)   apart[4] from them

---

[1] The notation of P' projection on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 77.

[2] 'due' is described as 'ADJ' by: Sinclair, *Collins COBUILD, Collins Birgmingham University International Language Database: English language dictionary*, op.cit., p. 438.

[3] P' projection analysis on a tree diagram for English is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 77.

[4] 'apart' is described as 'ADJ' by: Sinclair, *Collins COBUILD, Collins Birgmingham University International Language Database: English language dictionary*, op.cit., p. 438.

```
                    PP
                   /  \
                  /    \
                 /      \
                A        P′
              apart     /
                       /
                      P
                    from
                   [ABL]
                 [ACC-Case]
                              \
                               \
                              PRN
                              them
                            [ACC-Case]
```
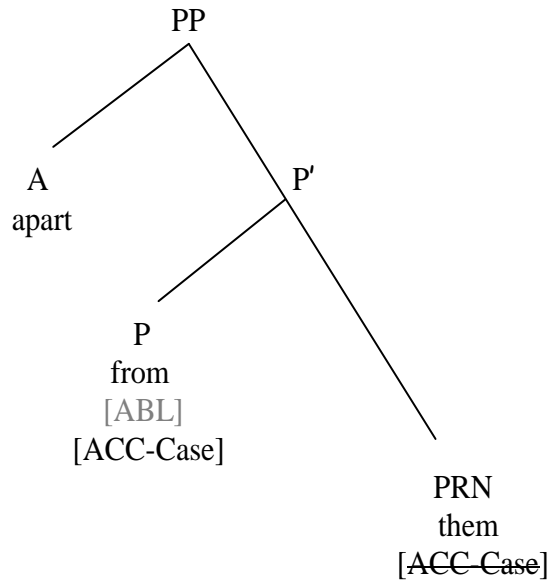
In the illustrations above, phrases such as *due to, owing to, apart from, close to* are PPs projected by prepositions having adjective specifiers. Similar to the English PPs illustrated above, the following Turkish structures are illustrated in (124):

(124)   akşam-*a kadar*
        cold weather-*DIR despite*
        despite the cold weather

```
                        ADVP
                       /    \
                      /      \
                     P        ADV
                    / \     rağmen
                   /   \
                  /     P
                 /   hava+(y)a
                /      [DIR]
               /
              DP
          soğuk hava
```
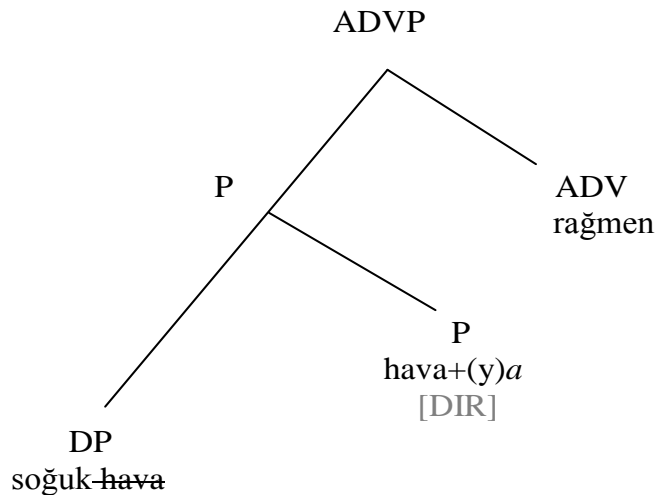
In (124), the DP *soğuk hava* is merged with an affixal P -*(y)a* which has a directive role, and since m-selectional Ps are affixal and attract nouns to attach, the affixal P -*(y)a* attracts the closest noun *hava* and attaches to it to form the PP *soğuk*

havaya. The resulting PP is then merged with the contrastive 'ADV *rağmen*'[1], forming the ADVP *soğuk havaya rağmen.* It should be noted that since Turkish is a 'specifier-first language', the resulting phrase is not a PP projected by an adverb but an ADVP headed by an adverb. Considering the crosslingual, or universal, concerns, from this analysis, it can be concluded that these structures are ADVPs not only in Turkish but also in English (i.e. like the structures analyzed in 122 and 123 above).

(125) yarın-*a kadar*
tomorrow-*DIR until*
by tomorrow
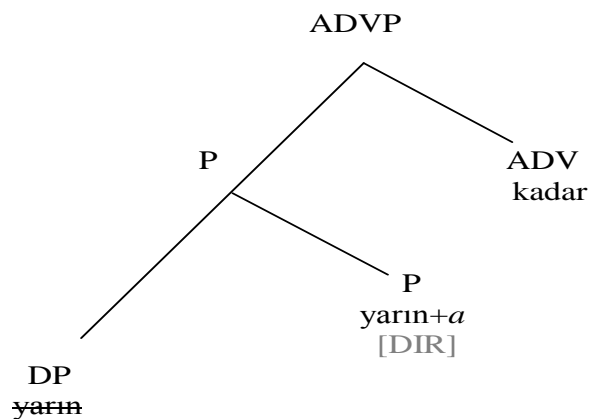
In (125), the DP *yarın* is merged with an affixal P *–A* which has a directive role, attracting the noun *yarın* and attaching to it to form the PP *yarına.* The resulting PP is then merged with the terminative ADV *kadar*, forming the ADVP *yarına kadar.*

In the illustrations above, phrases such as *-dAn dolayı (-ABL due), -A rağmen (-DAT despite)* and *–A kadar (-DAT until)* are regarded as ADVPs having adverbial heads, which shows us that some case paradigms are derived from PPs headed by nominal, adverbial or adjectival specifiers, which may correspond to a single adposition in another language (e.g. üst-ün-de/*on*, -a rağmen/*despite* etc). These structures are comparatively illustrated on an unlabelled M-diagram with their English counterparts in (126) below:

---

[1] Although 'rağmen' is described as 'postposition' having Arabic origin by: Türk Dil Kurumu, *Türkçe sözlük.* Türk Dil Kurumu Yayınları, 1983, we prefer to represent it as ADV since it does not have [GEN-Case] feature like other lexical Ps in Turkish.

(126)   yarın-a kadar/*up to tomorrow*
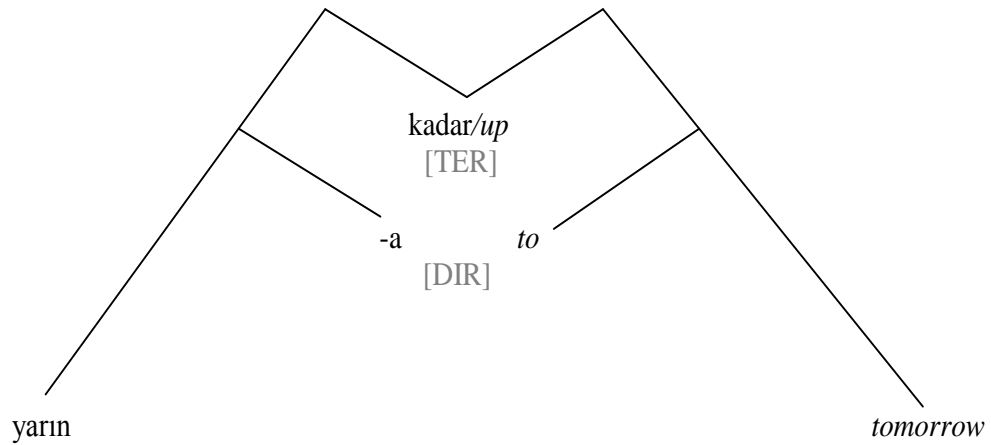
(126) tells us that the terminative case paradigm is undertaken by an ADVP (either derived by a terminative 'ADV *up*'[1] and a directive preposition *to* or *until* or indeed *by a single* preposition *until* in English and the terminative 'adverb *kadar*' and an affixal 'directive postposition –*A*') in both languages, merging with a DP (i.e. *yarın/tomorrow*).

Finally, as the fourth group of PP structures, the following group of adpositional phrases are themselves PPs made up of at least three constituents in both languages, the heads of which are adpositions merging with nouns, the resulting PP merging with a possessive adposition (POSS) as shown in (127) below:

(127)   *in front of* the house, *in spite of* them, *on behalf of* him, *in case of* fire

Similar Turkish structures are illustrated in (128):[2]

(128)   ev-*in ön-ü-(n)de*   okul-*un arka-(s)ı-(n)da*
        house-*GEN front-AGR-LOC*   school-*GEN behind-AGR-LOC*
        in front of the house   *behind the school*

In the adpositional structures above, we can observe that some adpositions in both languages are derived from a nominal part having an internal argument DP and

---

[1] 'up' is also described as 'ADV' for some uses by: Sinclair, *Collins COBUILD, Collins Birgmingham University International Language Database: English language dictionary*, op.cit., p. 1607.

[2] These structures are noted as 'possessive-marked postpositions' or 'secondary postpositions' by: Göksel-Celia, *Turkish: A comprehensive grammar*, op. cit., p.221; Lewis, *Turkish grammar*, op.cit., p. 92.

headed by locative adpositions or affixal locative cases. Since the internal arguments are in possessive relation with the nominal parts, they are merged with a posessessive adpositional head which is filled up with an overt lexical adposition (i.e. of) in English, while it is a genitive case (-(n)In) assigned by D in Turkish DPs, both of which in turn merge with a subsequent LOC adpositional head. These structures are composed of three or more components including a head P and an 'Axial Part' (AxPrt) which is described by Svenonius as "the overt nominal part of the PP in languages such as English."[1] Asbury also describes it as "the position of the nominal element in the PPs and demonstrates many examples from Hungarian PPs."[2] In this study, we adopt this category label in order to explain the nominal projections found in some PPs both in English and Turkish. Besides, the genitive case paradigm also often appears as the complement of the axial parts. While the genitive case paradigm is structural and fulfilled by the suffix *–(n)In* in Turkish, this case is fulfilled by the preposition *of* in English, which emerges as a default counterpart of genitive case.[3] Although Asbury quotes several descriptions of the English *of* as the exponent of structural case, as a copula, as a determiner and then concludes her suggestion of two lexical entries for *of* as P and as D,[4] we prefer to label it as P since, in English, it appears as a possessive adposition (rather than structural genitive case) complement of the axial parts merging with the DPs, while it appears as a genitive assigning DP structure in Turkish. Accordingly, the structure of PPs with nominal parts in English will be as the following illustration (129) below:

(129)   in front of the house[5]

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[1] Peter Svenonius, "Case alternations and the Icelandic passive and middle", *Passives and impersonals in European languages*, 2006.

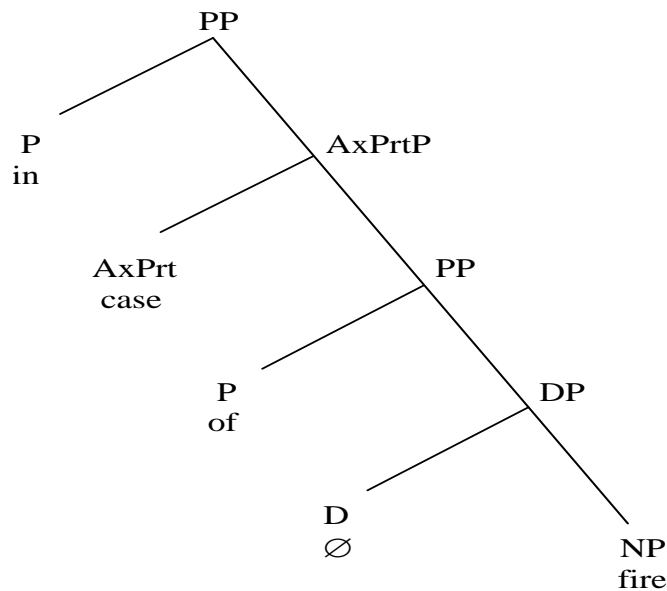[2] Asbury, "The morphosyntax of case and adpositions", op. cit., p.45.

[3] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.367.

[4] Ibid, p.121.

[5] The notation of 'AxPrt' projection on a tree diagram for English is adapted from: Asbury, "The morphosyntax of case and adpositions", op. cit., p.45.

```
                    PP
                   /  \
                  P    AxPrtP
                  in    /  \
                   AxPrt   PP
                   front   /  \
                        P    DP
                        of   /  \
                         D    NP
                         the  house
```

(130)   in case of fire
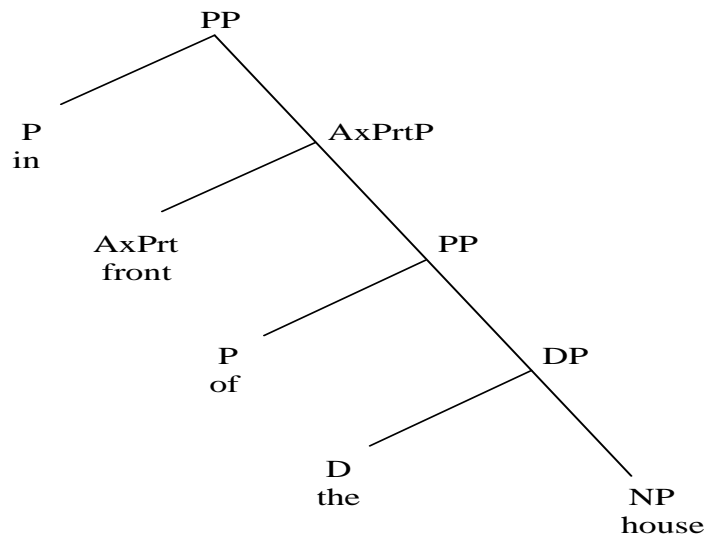
```
                    PP
                   /  \
                  P    AxPrtP
                  in    /  \
                   AxPrt   PP
                   case    /  \
                        P    DP
                        of   /  \
                         D    NP
                         ∅    fire
```

From (129-130), we can conclude that lexical possessive case paradigm *of* is different from the structural genitive case in English in that it locates over the DP and has postpositional function, whereas the structural genitive case is assigned to lower DPs as *'s* by D as explained before and can co-occur with the possessive case. Furtermore, 'AxPrt' phrases are "different from standard noun phrases in terms of nominal properties such as number and definiteness."[1] That is, the nouns in this position may not be defined by determiners or are not pluralized (e.g. *"in *the front*

---

[1] Asbury, "The morphosyntax of case and adpositions", op. cit., p.45.

of" or "in *fronts* of") as observed above. Then, it can be concluded that PP structures with an AxPrtP complement has also a PP complement (usually as a genitive *of* but sometimes changes depending on the axial part, e.g. in addition *to*), which is in turn merged with the head preposition to form PP such as *in case of, in addition to, on behalf of* or *in spite of* etc.

Similar to the English PPs with AxPrtP projections illustrated above, the following Turkish PP structures containing a DP complement with AxPrtP are illustrated in (131):

(131)   ev-*in ön-ü-nde*
        house-*GEN* front-*AGR-LOC*
        in front of the house
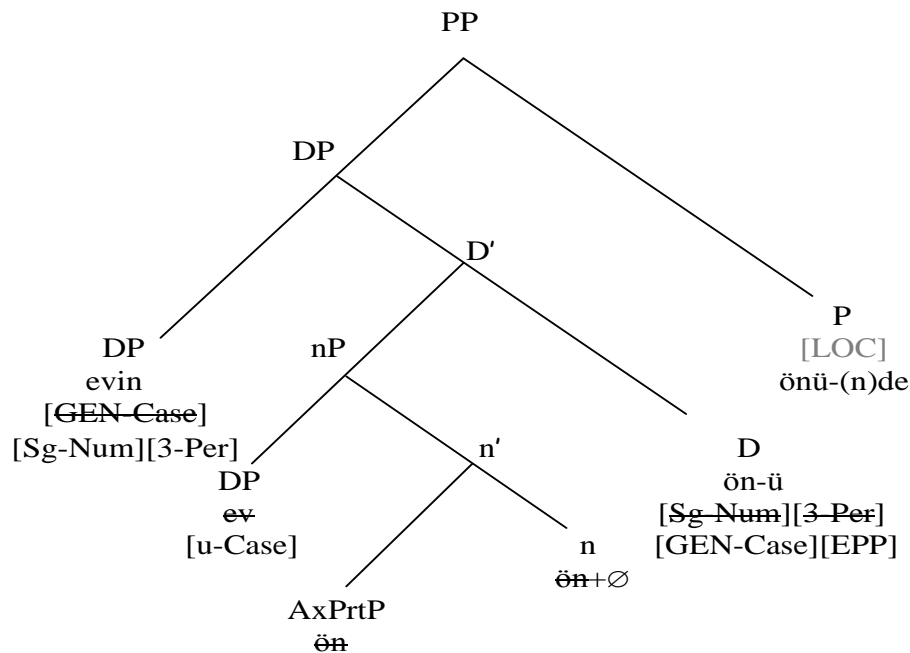
(131) tells us that AxPrt projection is operated as NPs modified by DPs in Turkish. That is, the secondary postposition *ön-ü-(n)de* (in front of) is a syntactic structure made up of an *AxPrtP*, merging with a null light noun (n) and projecting the DP *ev* as its external argument to which it assigns the θ-role of POSSESSOR and to its AxPrtP complement the θ-role of POSSESSEE. Since the null light noun is affixal in nature, it triggers raising of the AxPrt *ön* within the AxPrtP to adjoin to the light noun, deriving the nP *ön+∅*. The resulting nP is then merged with a null φ-complete

determiner which is affixal in Turkish and has interpretable [EPP] and [GEN-Case] and uninterpretable [u-Num] and [u-Per] features. The D triggers raising of the AxPrt from *n* to adjoin to the D which is affixal in nature and projects the closest DP *ev* having matching interpretable person and number features from spec-nP to the spec-DP. The unvalued [u-Num] and [u-Per] features of the affixal D and the unvalued [u-Case] feature of the specifier undergo feature checking with the matching [Sg-Num] and [3-Per] features of the specifier and [GEN-Case] feature of the D. The unvalued features are valued and deleted as [~~Sg-Num~~] and [~~3-Per~~], spelling out as *ön-ü* and [~~GEN-Case~~], spelling out as the suffix *ev-in* for the DPs at PF, forming the DP *evin önü*, which is then merged with the affixal locative postpositional head *–(n)dA* to form the PP *ev-in ön-ü-nde* just as the case in other PPs with axial parts such as *arkasında* (behind), *karşısında* (opposite), *üstünde* (on), *altında* (under) or *adına* (on behalf of) etc, as also shown in the following illustration:

(132)   ev-*im-in ön-ü-nde*
         PRO house-*AGR-GEN* front-*AGR-LOC*
         in front of my house

The complete PP structures with AxPrt in English (129) and Turkish (131) are comparatively illustrated on an unlabelled M-diagram in (133) below:

(133)   ev-in ön-ü-nde/*in front of the house*
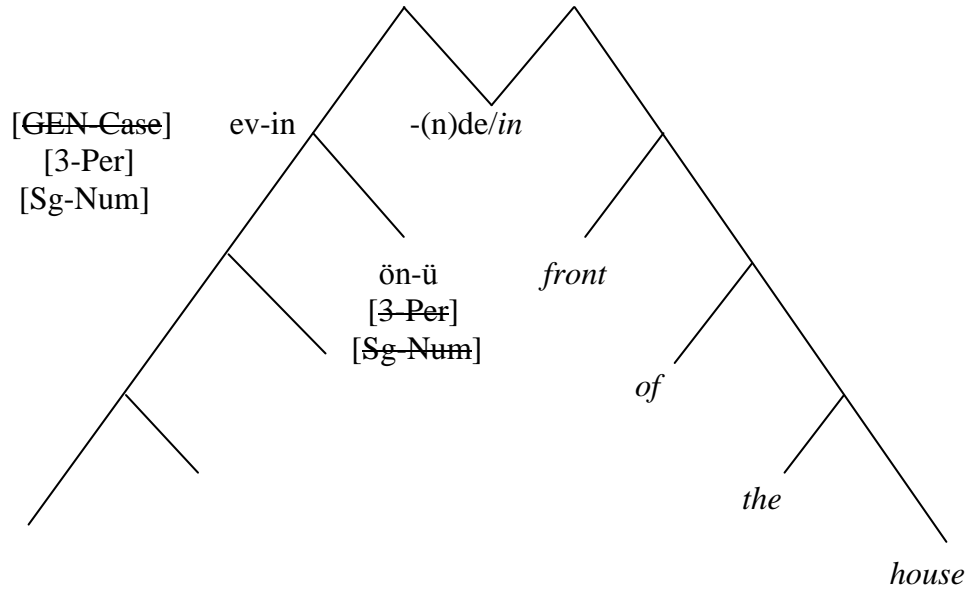
As observed above, for the derivation of the same semantic content, Turkish and English languages derive different structures, one of which is the lexical possessive adposition phrase in English and the other of which is genitive case assigning DP projection, assigning the DP as its external argument specifier in genitive case and the AxPrt as its complement carrying agreement features in Turkish.

Consequently, we listed morphological case paradigms for Turkish in Table 3 and then compared the relations of the common case paradigms with the adpositions and cases in English and Turkish in Table 4:

Table 3: Affixal case paradigms in Turkish

Case	Description	Marker
Nominative	subject/ indefinite object	N-∅
Accusative	definite object	N-*I*
Genitive	possessor	N-*In*
Dative	goal /recipient/direction	N-*A*
Locative	location	N-*dA*
Ablative	source	N-*dAn*
Possessive	relation, affinity	N-*In (GEN)*
Instrumental	means/instrument	N-*lA*
/sociative	/togetherness	N-*lA*
Abessive	without	N-sIz

Table 4: Affixal and Lexical Case Paradigms in English and Turkish

Case	Description	English	Turkish
Nominative	subject	N-∅	N-∅
Accusative	definite object	PRN *(him, me)*	N/PRN-*I*
Genitive	possessor	PRN *(my, his)*	N-*In* PRN *(ben-Im)*
Dative	goal /recipient	*to* N *oblique PRN (me)*	N/PRN -*A*
Ablative/Elative	source	*from* N	N/PRN -*dAn*
Possessive	relation, affinity	*of* N	N/PRN-*In (GEN)*
Inessive	at interior	*in* N	N-*In içinde*
Superessive	at exterior	*on* N	N-*In üstünde*
Adessive	at proximity	*at/on* N	N-*dA*
Instrumental	means/instrument	*by/with/through* N	N *ile* / N-*lA*
Sociative	togetherness	*with* N	N *ile* / N-*lA*
Causal	for the sake of	*for* N	N *için*
Abessive	lack/shortness	*without* N	N-*sIz*
Addirective	orientation	*toward* N	N-*A doğru*
Relative	comparison	*than* N	N-*dAn*
Subessive	at under	*under* N	N-*In altında*
Terminative	until/by	*until/by* N	N-*A kadar*
Postessive	at behind	*behind* N	N-In arkasında
Directive	direction	*to* N	N-*A*
Antessive	at front	*in front of* N	N-*In önünde*
Temporal	at/in/on (time)	*at/in/on* N	N-*dA*

In conclusion, we can say that there are parametric variations (i.e. m-selectional or c-selectional and interpretable genitive or accusative case feature) and derivational differences (i.e. AxPrtP under DP or PP) in grammatical competence of a native speaker of English and a native speaker of Turkish to express semantic roles of case paradigms as to the number of morphological and lexical case paradigms. Whereas overt lexical postpositions in Turkish are very limited in number and most of the semantic roles of adpositions at LF are represented by morphological case markers at PF, prepositions in English are much more in number, corresponding to a wide range of the morphological case paradigms in Turkish.

5.5. VERB PHRASES

By *verb phrases* (VP), we mean phrases merging with verbs. In this part of the study, we study the relations of verbs with their complements and adjuncts such as nouns, adpositions, adverbs etc. We will analyze some functional phrases such as auxiliary (AUXP), tense (TP) and infinitival to and negation (NEGP) phrases where verbs are complements. We will also analyze nominalizer phrases (NomP) which allow verbs to be used as adjectives, adverbs or nouns (i.e. infinitive, gerund or participle forms). In addition, since 'auxiliaries', 'aspect', 'voice' and 'negation' are the functional categories of V under functional tense (T) head, we also need to analyze these derivations as AuxPs, AspPs and ModPs in both languages. Therefore, we will follow the order of bottom-up merging operations in both languages to explain these derivations extending from VPs to TPs. Initially, let's analyze the structures where verbs merge with various complements or functional heads such as DPs as illustrated in (134) below:

(134) *speak* English, *drive* a car, *drink* coffee, *have* a good day, *have* breakfast

These phrases are also illustrated through tree diagrams in (124):

(135) speak English

```
                    VP
                   /  \
                  /    \
                 /      \
                V        DP
              speak    English
```

(136)   drive a car
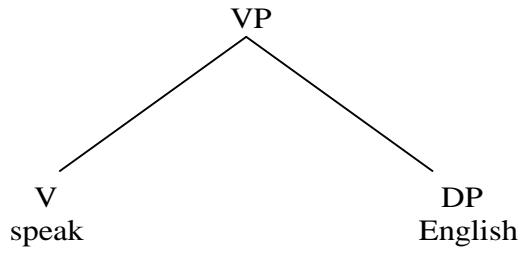
```
                 VP
                /  \
               /    \
              /      \
             V        DP
           drive     / \
                    /   \
                   /     \
                  D       \
                  a        NP
                          car
```
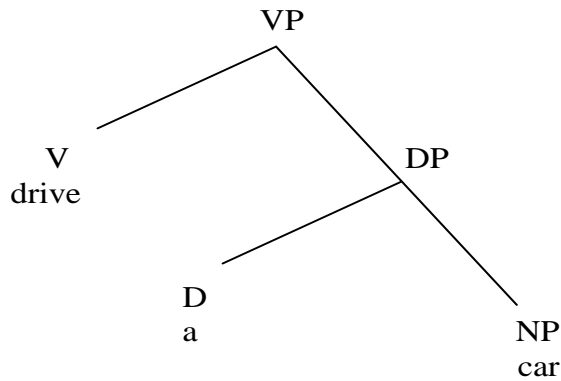
Now, let's see Turkish VPs with DP complements,[1] which are illustrated in (137):

(137)   iş *bu*l　　　İngilizce *konuş*　　kitap *oku*　　ders *çalış*
　　　job *find*　　　English *speak*　　book *read*　　lesson *study*
　　　find a job　　*speak English*　　*read book*　　*study lesson*

These phrases are also illustrated through tree diagrams in (138):

(138)   İngilizce konuş *(speak English)*

```
                 VP
                /  \
               /    \
              /      \
             DP        V
           Türkçe    konuş
```
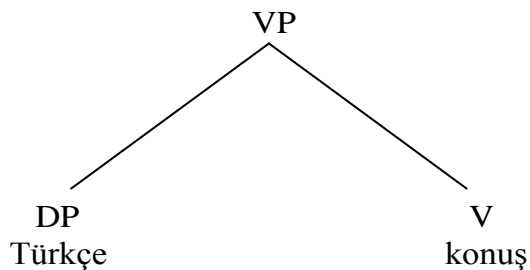
 (139) iş bul *(find a job)*

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[1] Verb phrase structures in Turkish are adapted from: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op.cit., p.127-130.

VP

DP

V
bul

NP
i̶ş̶

D
iş +∅
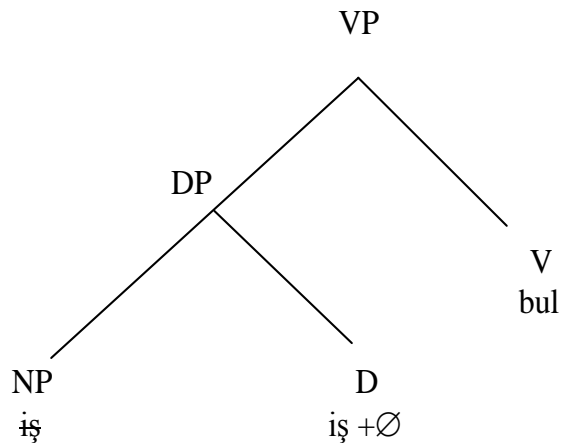
The VP structures in English (135) and Turkish (138) are comparatively illustrated on an unlabelled M-diagram in (140) below:

(140) İngilizce konuş/s*peak English*

konuş*/speak*

İngilizce
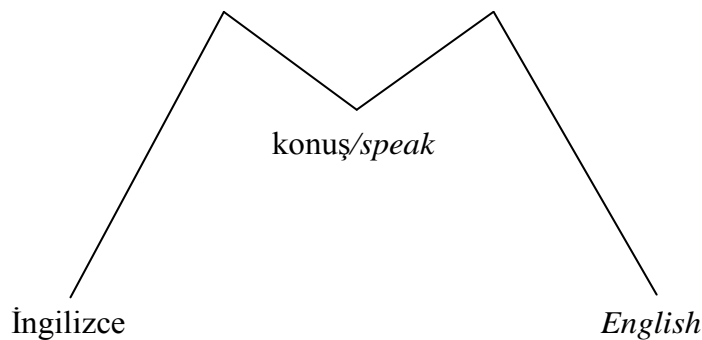
English

Below are the illustrations of VPs, having adjuncts, as illustrated in (141) below:

(141) speak *slowly*, *usually* watch TV, speak English *slowly*, *always* come

As seen in (141), adverbs in English, which is regarded as a 'specifier-first language',[1] may either precede or follow VPs. However, in both positions, they are *adjuncts* which are described "as optional complement typically used to specify time, place or manner, specifying V, or extending VPs.[2] These phrases are illustrated through tree diagrams in (142-144):[3]

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 78.
[2] Ibid, p.433.
[3] Analysis of ADV and verb combinations on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 49-55.

(142) speak slowly

```
                    VP
                   /  \
                  /    \
                 /      \
                V        ADV
              speak     slowly
```

(143) usually watch TV

```
                  VP
                 /  \
                /    \
              ADV     V'
            ususally / \
                    /   \
                   V     \
                 watch    \
                           DP
                           TV
```

(144) speak English fluently

```
                      VP
                     /  \
                    V'   \
                   / \    \
                  /   \    ADV
                 /     \  fluently
                V       DP
              speak   English
```
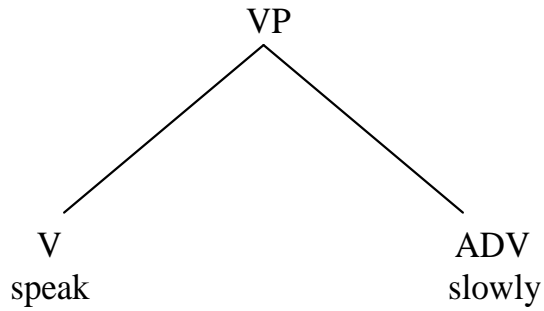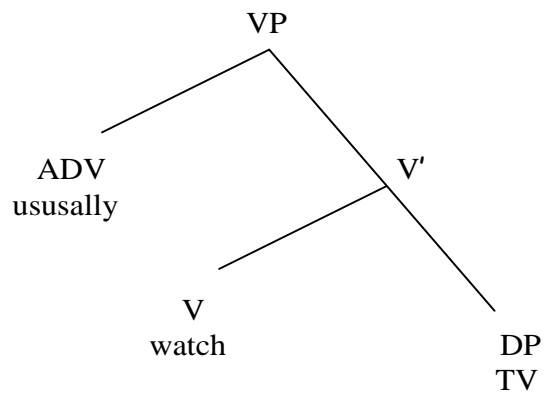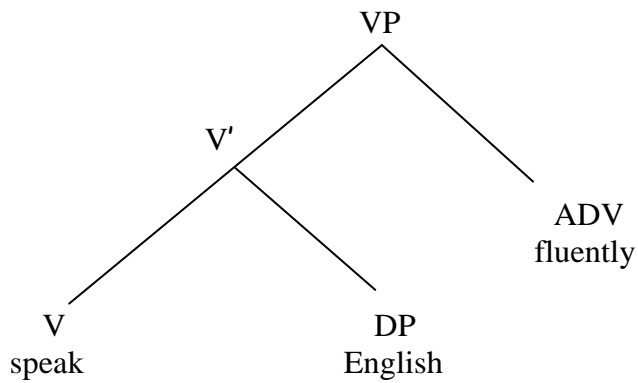
In (142), the adverb of manner *slowly* is adjoined to the VP on the complement direction while, in (143), the adverb of frequency *usually* is adjoined to the VP on the head direction. In (144), the verb *speak* initially merges with its complement noun *English* to form the VP *speak English* and then the adverb *fluently* is adjoined to the VP *speak English* to form the VP *speak English fluently*. Compared

to these structures in English, Turkish VPs demonstrate the following syntactical properties shown in (145):[1]

(145) *yavaş* konuş   *akıcı* İngilizce konuş   *genellikle* radyo dinle
       slowly speak   *fluently* English speak   *usually* radio listen
       speak slowly   *speak English slowly*   *usually listen to radio*

As understood from (145), adverbs in Turkish, which is a specifier-first language, occupy specifier positions in VP projections. As an example, let's see the illustration in (146):

(146) yavaş konuş *(speak slowly)*

```
                    VP
                   /  \
                  /    \
                 /      \
              ADV        V
              yavaş      konuş
```

(147) sıklıkla İngilizce konuş *(often speak English)*

```
                   VP
                  /  \
                 /    \
              ADV      V'
              sıklıkla / \
                      /   \
                    DP     V
                  İngilizce konuş
```
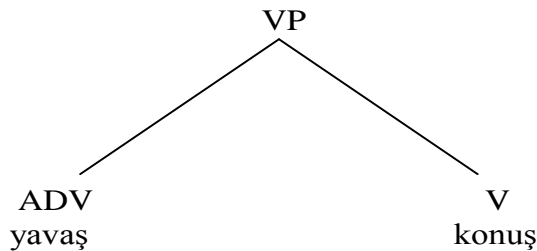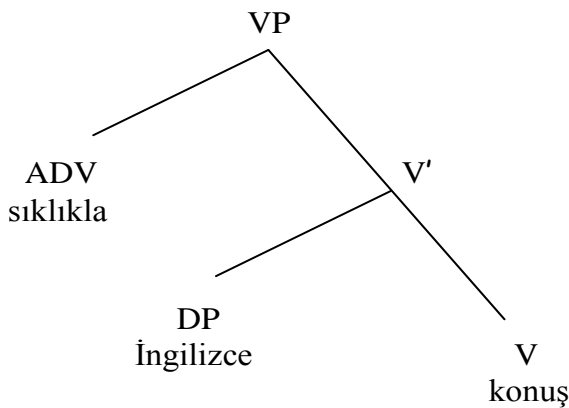
In (146), the adverb of manner *yavaş* (slowly) is adjoined to the VP on the complement direction as does the adverb of frequency *sıklıkla* (often) in (147). In (147), the adverb *sıklıkla* (often) is adjoined to the VP *İngilizce konuş* (speak English*)* to form the VP *sıklıkla İngilizce konuş* (often speak English).

---

[1] ADV and V combinations in Turkish are adapted from: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 130.

The VP structures having ADV adjuncts in English and Turkish are comparatively illustrated on an unlabelled M-diagram in (148) and (149) below:

(148)　genellikle TV izle/*usually watch TV*
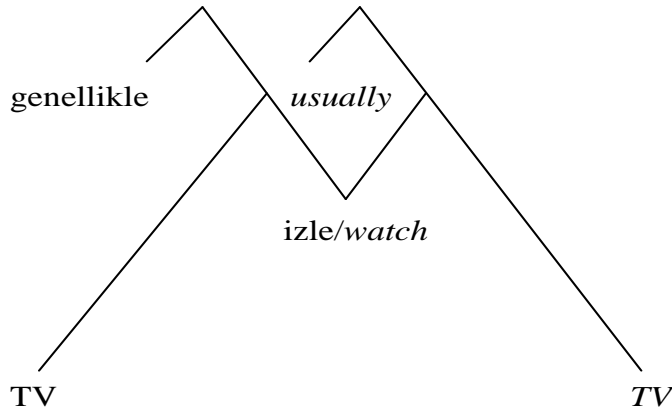
(149)　akıcı İngilizce konuş/*speak English fluently*
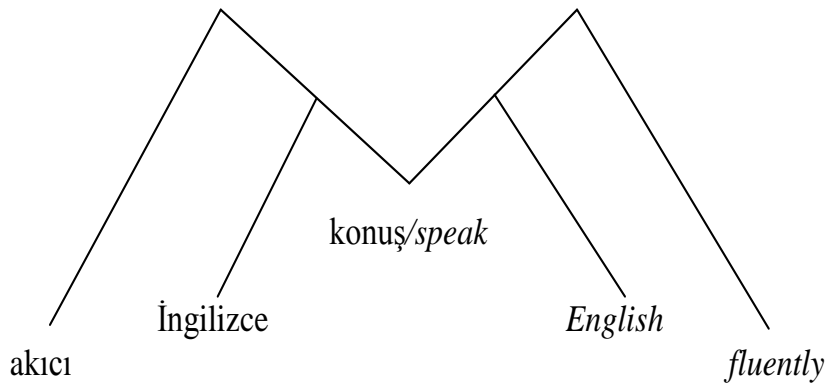
As observed in the illustration (149), adverbs of manner are adjoined to VPs on the complement direction in both languages. However, in (148), it is understood that adverbs of frequency in English are adjoined on the head direction, preceding the verbs. Below are the illustrations of VPs, having prepositional complements:

(150)　*get up* early, *give up* smoking, *carry out* a survey, *take after* his father

In the structures above, verbs are in phrasal structures.　Verbs with their 'adverbial or adpositional'[1] particles have different semantic content from their bare forms without particles. For instance, while the verb *carry* is described as an action

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[1] Sinclair, J. *Collins COBUILD, Collins Birmingham University International Language Database: English language dictionary,* op. cit., p. 25 (after), 1019 (out), 1606 (up).

meaning "to hold something and take it to somewhere"[1] in the lexicon, *carry out* is described as a distinct entry composed of the verb *carry* and the adverb *out,* meaning "to begin doing something and continue until it is finished."[2] Therefore, they may be supposed to enter the derivation as V rather than a VP having adjunct ADV or complement P since prepositions in these structures do not have θ-roles assigned by the verb or they are not used as adverbs having an intransitive adpositional feature modifying the whole VP (e.g. *speak English* fluently). Therefore, they do not enter the derivation independently, as ilustareted below:

(151)   carry out a survey

```
                    VP
                   /  \
                  /    \
                 /      \
                /        \
               V          DP
          carry out    a survey
```
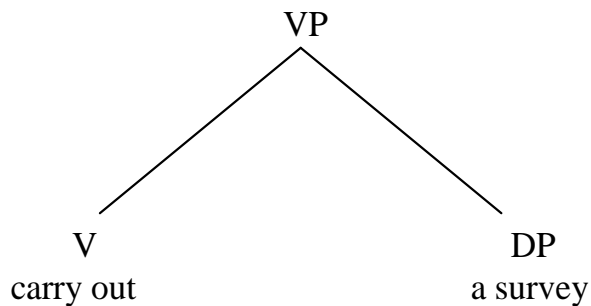
Moreover, phrases such as *go on holiday*, *interested in music*, *talk about politics*, *depend on the weather etc.* merge with prepositional phrases without any change in their semantic content, having θ-roles assigned by the verb. Therefore, the verb *depend,* for example merge with a PP like *on the weather* as shown in (152):

(152)   depend on the weather

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[1] Ibid, p. 208.
[2] Ibid. p. 209.

```
                        VP
                       /  \
                      /    \
                     /      \
                    /        \
                   V          PP
                depend       /  \
                            /    \
                           /      \
                          P        DP
                         on    the weather
```
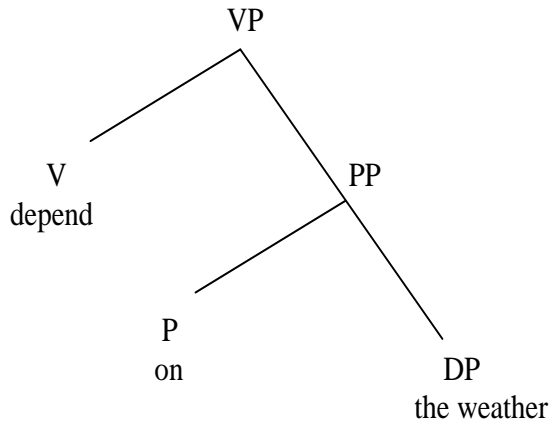
In (152), the DP *the weather* is merged with the P *on* to form the PP *on the weather* and then the resulting PP is merged with the V *depend* to form the VP *depend on the weather.* These structures can be explained by thematic roles required by the predicate verbs. Compared to these structures in English, Turkish VPs have similar phrasal verb structures with nominal parts as illustrated in (151) and PP complements similar to the English illustrations in (152),[1] demonstrating the following derivational properties shown in (153):[2]

(153a) *müzik-le* ilgilen   *politika hakkında* konuş   *metin-den* çıkar
        music-INS interested   *politics about* talk   *text-ABL* conclude
        interested in music   *talk about politics*   *conclude from the text*

(153b) ölüm-*e yol aç*   haksızlığa *karşı dur*   bana *yardım et*
        death *to lead*   injustice *against fight*   me *help*
        lead to death   *fight against injustice*   *help me*

In (153a), verbs merge with morphological case paradigms resulted from the θ-roles assigned by verbs. The verb *ilgilen* (be interested), for example, cannot merge with a PP like *müzik için* (for music). In (153b), phrasal verbs with nominal (i.e. noun or adjective) parts are illustrated, which is analyzed below:

(154)   müzikle ilgilen (*interested in music)*

---

[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 129, 143.
[2] These V combinations in Turkish are adapted from: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 128-143.
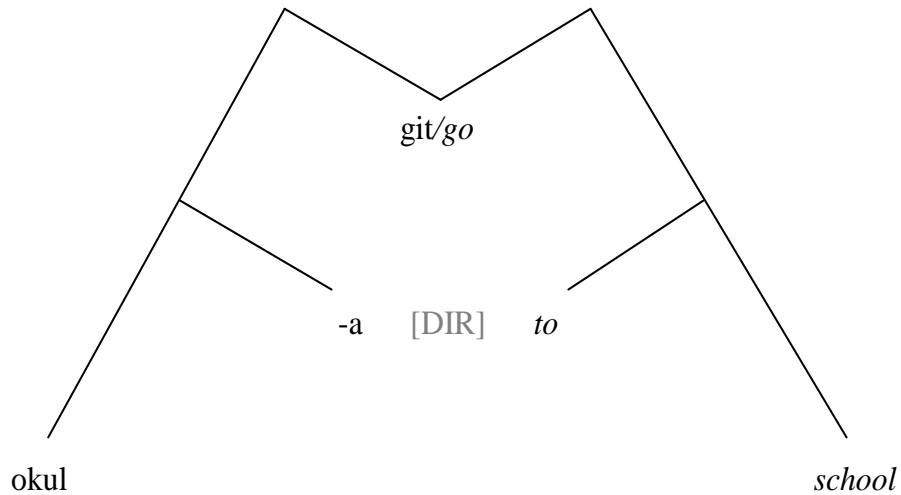
VP
    PP
        V
        ilgilen

DP   P
müzik   -le
        [INS]
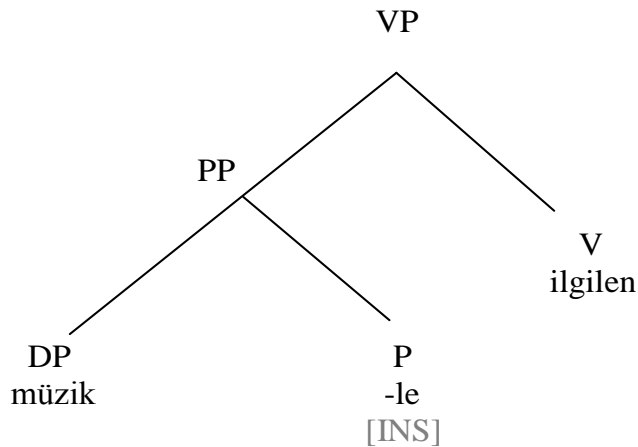
In (154), the DP *müzik* is merged with the affixal instrumental case paradigm *–le,* attracting the DP *müzik* to attach on it to form the PP *müzik-le* (music-INS) and then the resulting PP is merged with the V *ilgilen* (interested) to form the VP *müzikle ilgilen* (interested in music). Note that the participle and passive forms of verbs are ignored. The VP structures having PP complements in English and Turkish are comparatively illustrated on an unlabelled M-diagram in (155) and (156) below:

(155)   politika hakkında konuş/*talk about politics*

konuş/*talk*

hakkında   *about*

politika   *politics*
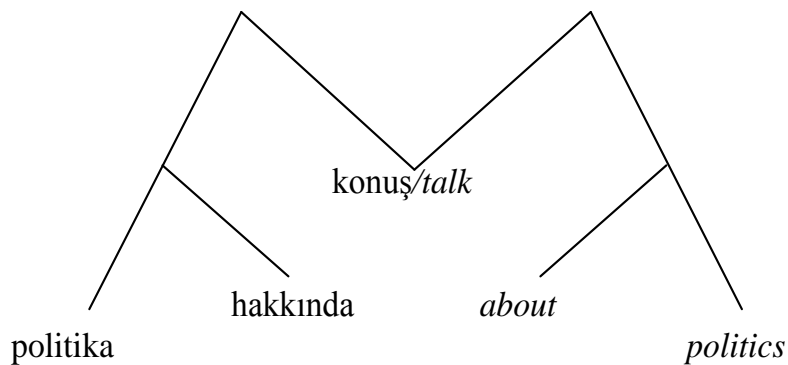
(156)   bana yardım et/*help me*

yardım et/*help*

[GOAL]
bana   [DAT Case]   *me*
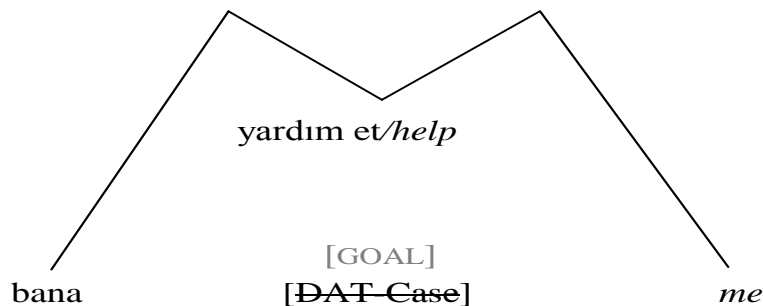
In (156), phrasal verb structures with nominal parts (i.e. *yardım et*) are given as a single verb since they may be assumed to enter the syntax as a single entity as in the case of phrasal structures in English (e.g. carry out). The English VPs in the illustration (157) below, on the other hand, have PP complements, depending on their complement DPs:

(157)   live *in Paris*, started *in 1990*, pass *through the channel*, went *to school*

In (157), the preposition *in,* for instance, has spatial function and is not a compulsory complement for the verb *live* (e.g. live in) but an optional one (e.g. live in/on/with etc.), depending on the spatial relation between the verb and the following noun (e.g. live *in Ankara*, live *on the island*, live *with his family*), as shown in (158):

(158)   live in Paris
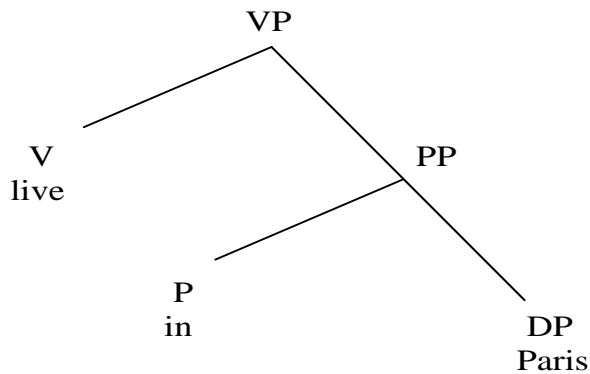
In (158), the DP *Paris* is merged with the P *in* to form the PP *in Paris* and then the resulting PP is merged with the V *live* to form the VP *live in Paris*. Compared to these structures in English, Turkish VPs having lexical or affixal case paradigms depending on the spatial, temporal or other paradigmatic case relations between the verb and the DP demonstrate the following syntactical properties shown in (159):[1]

(159)   *Ankara'da* yaşa   *1990'da* başladı   *okul-a* gitti
         Ankara-INE live   *1990-TEMP* started   *school-DAT* went
         live in Ankara   *started in 1990*   *went to school*

---

[1] These V combinations in Turkish are adapted from: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 130.

In (159), verbs merge with affixal adpositions which have spatial or temporal functions, depending on the preceding verb and the following noun (e.g. *Ankara'da* yaşa, *aile-yle* yaşa etc), as illustrated in (160):

(160)   Ankara'da yaşa *(live in Ankara)*
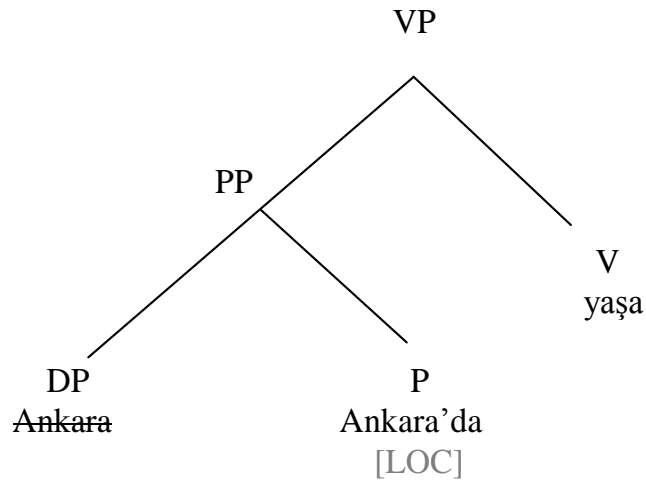
```
                        VP
                       /  \
                      /    \
                 PP  /      \
                 /\ /        \
                /  \          \
               /    \          V
              /      \        yaşa
            DP        P
          Ankara   Ankara'da
                    [LOC]
```

The VP structures having PP complements in English and Turkish are comparatively illustrated on an unlabelled M-diagram in (161) below:

(161)   okul-a git / *go to school*

```
         /\        /\
        /  \      /  \
       /    git/go    \
      /    /      \    \
     /    /        \    \
    /   -a  [DIR]  to    \
   /   /              \   \
  okul                school
```

The English VPs in the illustration (162) below, in addition, have split structures in which sister complements are headed by a single verb, different from the simple VPs headed by a verb with a single complement:[1]

(162)   turn *it off*, give *it up*, pick *me up*, turn *the music down*, break *it into pieces*

In (162), verbs have two complements, one being a DP or a pronoun and the other being a preposition or an adverb.[2] The verb *turn*, for example, merges both with the complement pronoun *it* and with the complement preposition *off* (i.e. *turn it* and *turn off*). If merged from bottom to up, the preposition *off* would initially merge with the pronoun *it* to form a larger projection. If this were the case, the resulting phrase would be *it off,* where the preposition *off* is not the complement of the pronoun *it.* The preposition is neither the adjunct nor the complement of the pronoun. In fact, it is the complement of the verb *turn.* Radford suggests 'split VP Hypothesis' to overcome this problem, adapting the ideas put forward by Larson, Hale and Keyser and Chomsky.[3] According to this suggestion, VPs should split into two distinct projections: an outer 'VP shell' and an 'inner VP core'. The inner VP core is merged as the complement of an abstract causative 'light verb' (v) to form the complex 'outer VP shell' (vP). This causative light verb is assumed to be a null verb which has the same function as the causative verb *make* (e.g. make sb do sth) and to be affixed to the root verb moving from the head V position of the inner VP core to the head *v* position of the outer vP shell (e.g. *make+do sb sth* instead of *make sb do sth).* Now, let's construct the structures in (162) above in (163) below in light of the split VP hypothesis we have explained so far:

(163)   turn it off [4]

---

[1] Oxenden-Latham-Koenig, *New English File,* op. cit., Intermediate, p. 28.
[2] Sinclair, J. *Collins COBUILD, Collins Birmingham University International Language Database: English language dictionary,* op. cit., p. 424 (down), 995 (off), 1606 (up).
[3] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 337-38.
[4] The notation of vP-Shell analysis on a tree diagram for English is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 340 (41).
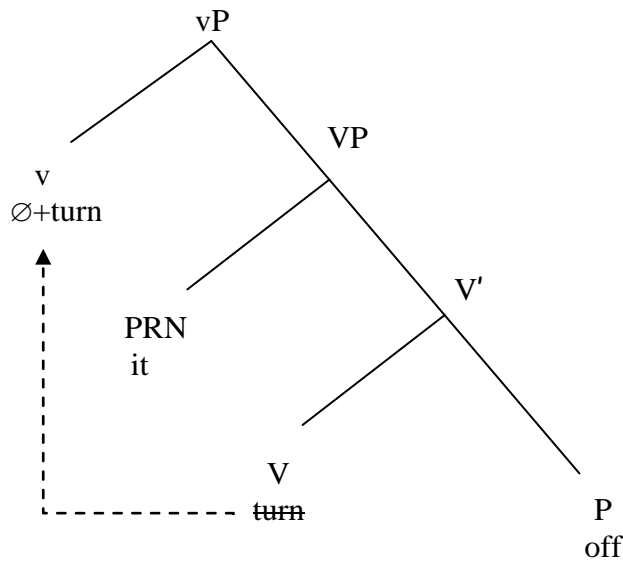
Accordingly, the verb *turn* merges with the prepositional particle *off* to form the V-bar *turn off*, and this V-bar in turn merges with the pronoun *it,* locating it on the specifier position to form the VP *it turn off*. The resulting VP is then merged with a null causative light verb ∅ to which the verb *turn* moves (movement is shown with broken lines) since the causative light verb is affixal, forming the v-bar *turn it off*.[1]

Considering the assumption that linguistic system does not allow superfluous repetitions, the VP shell analysis outlined here is also a good explanation for the three-place predicates which have two complements as shown in (164):[2]

(164)   break *them into pieces*, put *the books on the table*, fill *the tank with water*

These two-complement phrases are also illustrated through tree diagrams in (165-166) below:[3]

(165)   break them into pieces

---

[1] 'vP-Shell' analysis is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 339.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 343.
[3] 'vP-Shell' analysis for two predicate verbs is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 340.
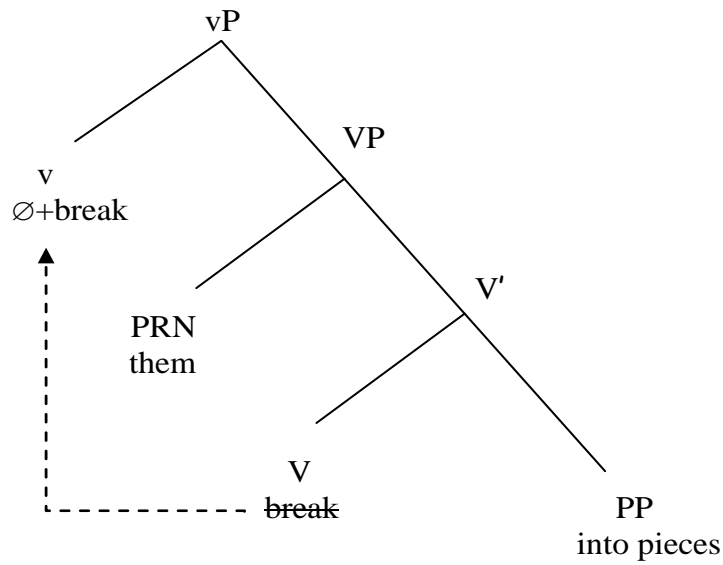
(166)   put the books on the table
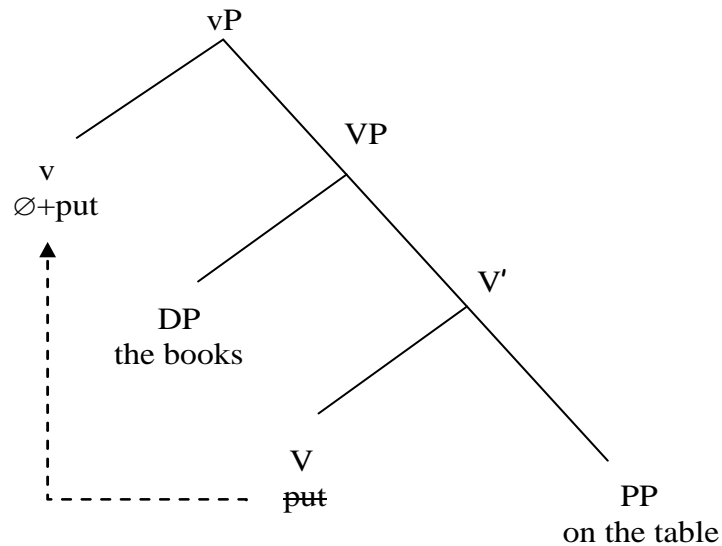
Compared to these structures in English, Turkish split VPs having two complements demonstrate similar syntactical properties shown in (167):[1]

(167) *o-nu yukarıya* kaldır   *depo-yu su ile* doldur   *kitaplar-ı masa-ya* koy
       it-ACC up pull   *tank-ACC water with* fill   *books-ACC table-DAT* put
       pull it up   *fill the tank with water*   *put the books on the table*

These two-complement phrases in Turkish are illustrated through tree diagrams in (168) below:

---

[1] As two or three-place VPs in Turkish, only causative structures are given by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 132.

(168) kitaplar-ı masa-ya koy *(put the books on the table)*
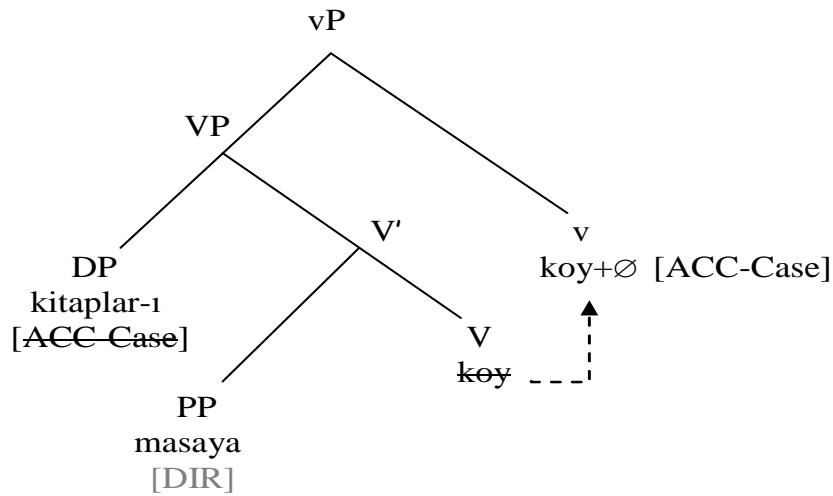
In (168), the verb *koy* (put) merges with the PP *masa-ya* (on the table) to form the V-bar *masaya koy* (put on the table), and this V-bar in turn merges with the DP *kitaplar* (the books), locating the DP on the specifier position to form the VP *kitaplar masaya koy* (the books put on the table). The resulting VP is then merged with a null causative light verb ∅, which is assumed to be affixal in nature and assigns accusative case to the DP *kitaplar-ı* (books-ACC) and since the null causative light verb is affixal in nature, it triggers raising of the verb *koy* (put), deriving the vP *kitapları masaya k̶o̶y̶ koy +∅*, where *k̶o̶y̶* is a null copy of the moved verb *koy*.

The split vP structures in English (166) and Turkish (168) are comparatively illustrated on a cross-lingual unlabelled M-diagram in (169) below:

(169) kitaplar-ı masa-ya koy*/put the books on the table*
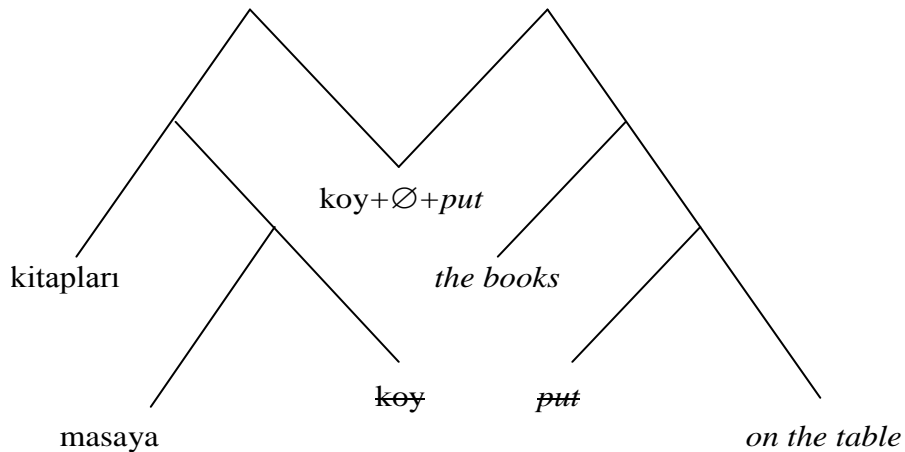
The assymetrical difference in the construction of the structures is observed to be caused by the head parameter and the position of the specifiers. Whereas Turkish is a head-last but specifier-first language, English is both a head-first and a specifier-first language, as we mentioned before. The causative operations in both languages also can be given examples for the split vP structures explained by a null causative light verb, which is shown in the illustration (170) below:

(170)   öğrencilere kompozisyon yaz-dır/*make the students write a composition*
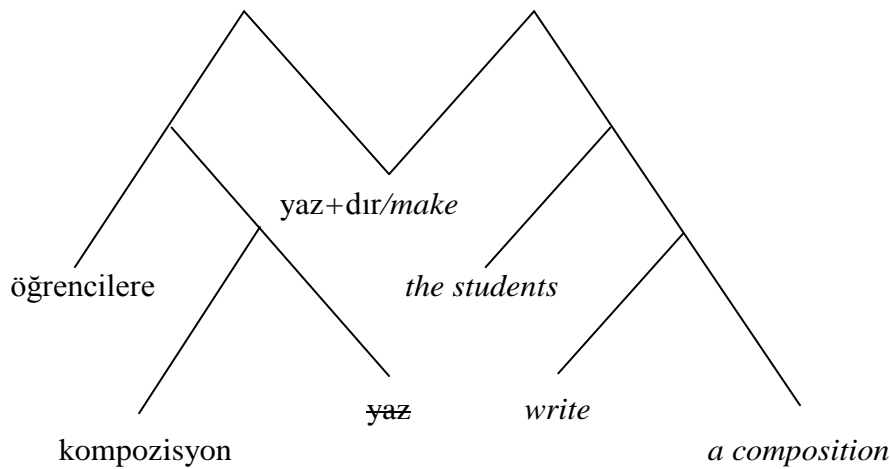
In (170) above, we initially observe that in causative structures, the position of the empty causative light verb $\varnothing$, which we used in the illustrations above to explain two-complement structures, is now filled by overt constituents in both languages. However, whereas English operates the lexical causative light verb *make,* Turkish operates affixal *–dIr* just as we assumed for a null causative light verb to explain the two-complement structures in both languages illustrated above. Accordingly, the verb *yaz/write* merges with the DP *kompozisyon/ a composition* to form the V-bar *kompozisyon yaz/write a composition*, and this V-bar in turn merges with the DP *öğrenciler/the students,* locating the DP on the specifier position to form the VP *öğrenciler kompozisyon yaz/the students write a composition* . The resulting VP is then merged with the causative light verb *make,* which is affixal *–dIr* in Turkish but an overt lexical verb in English and invisibly agrees with the specifier DP, assigning accusative case to the DP in English unlike the dative case (e.g. öğrenciler-e) in Turkish. Since the causative light verb is affixal (i.e. *–dIr)* in Turkish, it triggers raising of the verb *yaz (write),* deriving the vP *öğrencilere*

[kompozisyon ~~yaz]~~ yaz +dır, where ~~yaz~~ is a null copy of the moved verb *yaz.* On the other hand, since the causative light verb is lexical (not affixal, i.e. *make)* in English, the verb *write* is not required to be raised, deriving the vP *make the students write a composition.*

Some verbs, in addition to the phrases we have analyzed so far, require complementisers as complements, as illustrated in (171) below:

(171)   *ask where* I went, *claim that* they will win, *wonder whether* she heard

For the examples in (171), we are not interested in the internal structures of the complementiser phrases (CP) at least for now but in the following parts of the study (see 6.1) where we focus particularly on the structure of CPs. Therefore, we only represent them as complete CPs merged with verbs externally, as shown in the illustrations below. Now, let's see these structures on tree diagrams, as shown in (172):

(172)   *ask where* I went

```
                    VP
                   /  \
                  /    \
                 /      \
                V        CP
               ask    where I went
```

(173)   *claim that* they will win
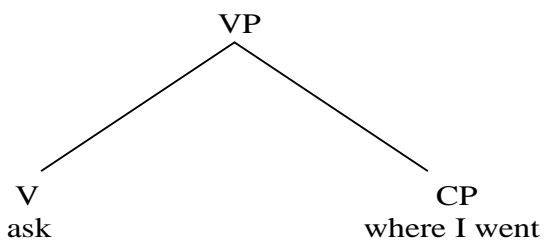
```
                    VP
                   /  \
                  /    \
                 /      \
                V        CP
              claim   that they will win
```
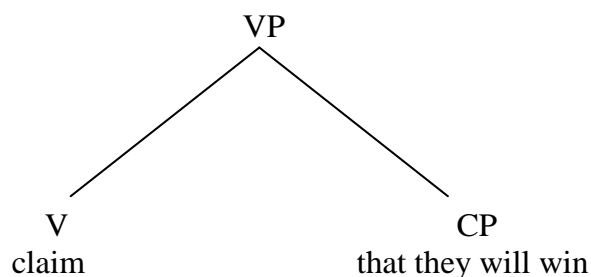
Compared to these structures in English, Turkish VPs requiring CP complements demonstrate the syntactical properties shown in (174):[1]

(174)   ne zaman gel-ecek-ler *diye merak et*
when pro come-FUT-AGR/3PlP *SUB wonder*
wonder when they will come

yağmur yağ-acak *gibi görünüyor*
Pro rain-FUT-AGR/3SgP *SUB seems*
It seems that it is going to rain

These two-complement phrases in Turkish are illustrated through tree diagrams in (175) below:

(175)   ne zaman gelecekler *diye merak et (wonder when they will come)*

```
                    VP
                   /  \
                  /    \
                 /      \
               CP        V
    ne zaman gelecekler diye    merak et
```
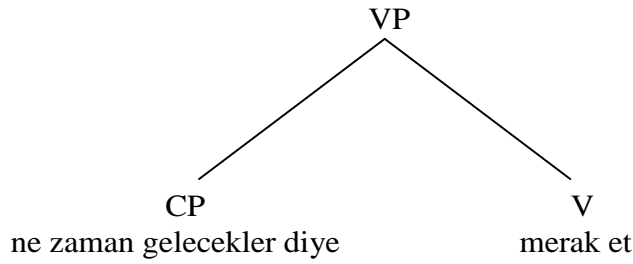
(176)   yağmur yağacak *gibi görünüyor (it seems that it is going to rain)*

```
                    VP
                   /  \
                  /    \
                 /      \
               CP        V
     yağmur yağacak gibi      görün
```
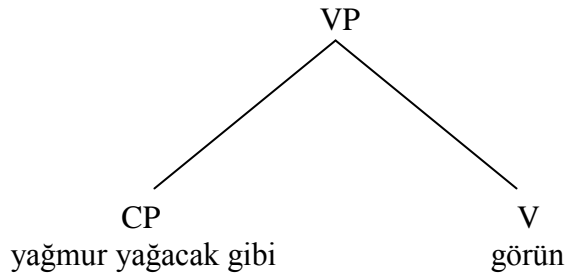
The VP structures having CP complements in English and Turkish are comparatively illustrated on an unlabelled tree diagram in (177) below:

(177)   ne zaman gelecekler *diye merak et/wonder when they will come*

---

[1] These structures are noted as 'finite noun clauses with a subordinator' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 354.

merak et/*wonder*

ne zaman gelecekler diye   *when they will come*
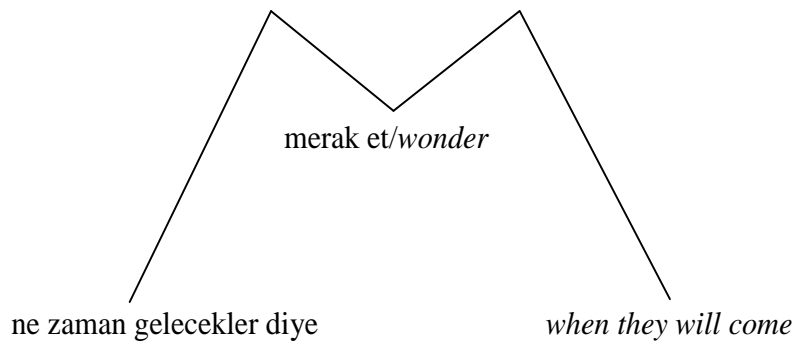
In the examples so far, we have analyzed different complements and adjuncts which can be merged with or adjoined to verbs in order to form VPs. Among these, verbs which require a DP as an object complement are called *transitive verbs*.[1] However, there are also some verbs which do not require or allow direct noun or DP complements. These are called *intransitive verbs.*[2] Let's see the examples below:

(178)   sleep *well*   *suddenly* fall   happen *everyday*
        *sleep *him*   *fall *the book*   *happen *it*

As understood from the examples above, intransitive verbs do not have or allow direct object complements but adjuncts such as adverbs or adjuncts expressing manner, time or place. On the other hand, transitive verbs require object complements, as shown below:

(179)   a.   break wood *well*   take *up* English   do *homework* everyday
        b.   *break well   *take up   *do everyday

Phrases in (179b) are grammatically deficient since they require object complements. Likewise, verbs also require subjects in order to represent a substantive semantic content, or to form a maximal projection, which can be tied up with the assumption that subjects originate within VPs.[3] In other words, verbs require not only complement objects but also specifier subjects in order to form a *propositional phrases*, or say *sentences*. In this respect, verbs are described as

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[1] Robert Lawrence Trask, *A dictionary of grammatical terms in linguistics*, Routledge, 1993, p.283.
[2] Ibid, p.145.
[3] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 48.

"*predicates* requiring a set of *arguments* and this aspect of meaning is called *argument structure*."[1]

The arguments of a verb are its subject as a specifier and objects as complements, known as the UG principle PISH (Predicate-Internal Subject Hypothesis).[2]The argument structure of a predicate can tell us how many and what kind of arguments are required. The verb *break*, for example, requires one argument doing the action of *breaking* and the other involving whatever is *broken*. These semantic roles, whether they are undertaken by subject or object arguments, are called 'Thematic Roles' (θ-roles), according to which the "performer of the action is an 'AGENT-role', while the thing effected by the action is a 'PATIENT-*role*'."[3] Radford states that "these semantic roles do not have a definite list although a universal typology of these θ-roles have been suggested by different researchers such as Gruber (1965), Fillmore (1968) and Jackendoff (1972)."[4] Moreover, predicates can also restrict the kind of arguments in terms of semantic roles. For example, the predicate *fall* does not require a PATIENT, but a THEME which describes the things moved by the action, which is like the semantic roles of the case paradigms and adpositions we explained in the previous part of the study. This is called 'semantic selection (S-selection).[5] Apart from S-selection properties, predicates also have 'category selection' (C-selection) properties, which are described as "the ability to determine the type of the complement,"[6] which can be illustrated by the examples we supplied for the verbs such as *wonder, ask* and *question* requiring CP complements above (e.g. *ask where* I went, *wonder whether* I know etc.). In the following tree diagrams, we re-illustrate some of the VPs on unlabelled M-diagrams we have analyzed so far in terms of these predicate and argument relations to form maximal verb phrases, representing the θ-roles of the arguments in lighted brackets:

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[1] Cook-Newson, *Chomsky's Universal Grammar*, Oxford, 1996, p. 160.
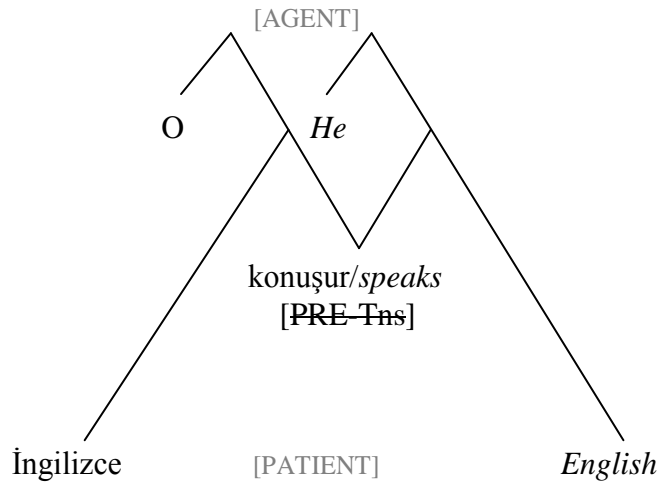[2] Norbert Hornstein-Jairo Nunes-Kleanthes K. Grohmann, *Understanding Minimalism,* New York, 2005, p. 80.
[3] Cook-Newson, *Chomsky's Universal Grammar*, op.cit., p.161.
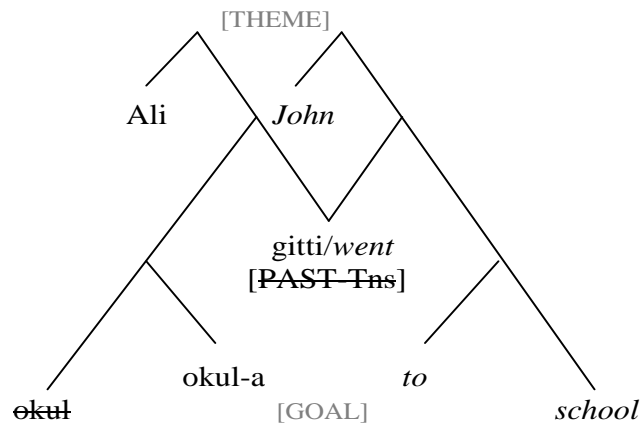[4] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.250.
[5] Cook-Newson, op. cit., p.162.
[6] Ibid.

(180)   O İngilizce konuş-ur/*He speak-s English[1]*

[AGENT]

O   *He*

konuşur/*speaks*
[~~PRE-Tns~~]

İngilizce   [PATIENT]   *English*

(181)   Ali okul-a gitti/*John went to school*

[THEME]

Ali   *John*

gitti/*went*
[~~PAST-Tns~~]

~~okul~~   okul-a   *to*
[GOAL]   *school*

In (180-181), we can observe that when DPs merged with V, they are assigned AGENT, THEME or EXPERINCER etc θ-roles by the verb, occupying the specifier position of the VP. It should be noted that different predicates may require different arguments in different numbers and categories, having different semantic roles. For example, in (180), while AGENT is used to describe the external arguments instigating some action, PATIENT is used to describe internal arguments denoting an entity undergoing effect of some action. In (181), while THEME is used to describe the arguments undergoing the effect of some intransitive action, GOAL is used to describe arguments representing the destination. Furthermore, it should be noted that

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[1] The notation of θ-Roles in brackets is adapted from Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 250-251.

in all phrases illustrated above, when verbs are merged with their subjects, they require inflection not only for agreement in number and person with their subjects but also for tense (e.g. o konuş-ur/*he speak-s*). Accordingly, we understand from the explanations and bilingual analyzes above that for a predicate verb to develop into a propositional phrase, it should not only be merged with its subject and object arguments but also inflected for functional purposes such as tense, person or number.

In the analyses illustrated so far, verbs have been the head of the phrases (i.e. VPs). However, for the rest of this part in our study, we will analyze phrases where verbs are complements of other lexical categories such as verbs and adpositions or functional categories such as auxiliary, modal, aspect, voice or tense etc.

5.5.1. NOMINALISER PHRASES

Verbs may also be merged with another verb, one being the head of the phrase and the other being the object complement or subject specifier, or adjoined to a verb or a noun as an adjunct as embedded structures. While external structures of these verbs function as Ns, ADVs or As, their internal structures function as verbs having DP or PP complements or adverbial adjuncts, as illustrated in (183) below:

(183)   a.   like read-*ing*   admit do-*ing*   enjoy watch-*ing* TV   go shop-*(p)ing*
         b.   *Shop-(p)ing* online requires caution.

In (183), we observe that when verbs function as arguments of other verbs (whether as objects or as subjects), they are affixed by –*ing*. In (183a), the verb *read* is affixed by *-ing* and then it is merged with the head verb *like,* being the object complement. In (183b), *on* the other hand, the VP *requires caution* is merged with another VP *shopping online,* being the subject of the resulting phrase and thus occupying the specifier position. In addition, when verbs are merged with prepositions being the complement of PPs as in the case of nouns (e.g. for *the lesson*, for *studying* etc.), they are assigned –*ing*. Furthermore, when verbs are merged with possessors being the complement as in the case of nouns (e.g. my *book*, my *reading* etc.), they are assigned –*ing,* which is illustrated in examples (184) below:

(184)   *on* read-*ing*   *in* watch-*ing*   *my* speak-*ing*   *their* run-*ning*

(183) and (184) show us that when verbs occupy the positions where there would be nouns in an otherwise case, they are affixed –*ing*, which functions as nominal derivational suffixes like –*tion, -ment* etc (e.g. develop-*ment*, elect-*ion*). This relation is interpreted by Lebeaux, suggesting that "these affixes can raise at LF, which in turn creates a NP, having verbal properties since the root is still a verb."[1] However, the affix -*ing* does not appear to function like other nominal affixes as shown in (185) below:

(185)   a. develop-*ing a strategy,* admit-*ting a proposal,* amus-*ing the children*
        b. *develop-*ment* a strategy, *admit-*(t)ance* a proposal
        c. develop-*ment of* a strategy, admit-*(t)ance of* a proposal

From the illustrations, we understand that while verbs with the affix-*ing* can merge with noun or DP complements in (1854a), verbs with other nominal affixes such as -*sion, -ment* etc. cannot merge directly with nouns or DPs as shown in (185b). However, they have prepositional *of-phrases* as shown in (185c). Therefore, we understand that verbal nouns with the suffix –*ing* are nouns still having verbal properties. These uses of verbs having nominal features (verbal nouns) are called *gerunds.*[2] On this issue, Abney compared and contrasted the suggestions for the syntactical representation of gerunds proposed by Jackendoff, Pesetsky, Lebeaux and Baker. Jackendoff, in Abney's words, describes gerunds as "verbs headed by a phonologically dependent morpheme (-ing) behaving like an independent morpheme and syntactically appearing as a head N which is then lowered to V."[3] According to Baker, Abney says, "the morpheme –*ing* is categorized as an inflectional head in an inflectional phrase (IP) and proposed as the head of gerunds."[4] Abney, on the other hand, suggests a DP structure for gerunds. He describes the –*ing* as "a 'nominalising affix' which takes a verbal projection and converts it into a nominal category, as a result of which DP or NP inherit the nominal features from the affix."[5] In Abney's

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[1] David Lebeaux, "The interpretation of derived nominals",*Chicago, Linguistic Society,* 1986, p. 231-247.

[2] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p.118.

[3] Cited by: Abney, *The English noun phrase in its sentential aspect*, op. cit., p.133.

[4] Cited by: Abney, op. cit., p.139.

[5] Abney, *The English noun phrase in its sentential aspect*, op. cit., p.139.

DP analysis of gerunds, one of the important discussions is on whether the nominalizer *-ing* is of lowering or raising nature. Pointing out Chomsky's more recent works replacing *Affix Hopping,* which suggests that an unattached tense affix is lowered onto the closest head c-commanded by the affix, by verb-raising and the assumption that all movements are raising movements, Abney regards the affix as a raising one at LF.[1]

Furthermore, when verbs are adjoined to nouns as adjectives and to VPs or TPs as adverbs, i.e. as adjuncts, they are also driven by an affixal head, but this time they are not only affixed by the nominalizer *-ing* but also by the affixal nominalizer *-ed/-n* or, for some verbs traditionally known as *irregular verbs,* by an abstract irregular inflectional nominalizer (*V3),* known as *participles,*[2] which is shown in (186) below:

(186)   a. an interest-*ing book*, a tir-*ing job, the man* run-*ing,* develop-*ing countries*
         b. *Being* ill, *he* did not go to school.
         c. the *window* broke-*n*, the stole-*n car*, develop-*ed countries*
         d. *Lost* in the forest, *the man* called the police.

In (186a) the noun *book* is modified by the participle adjective *interest-ing* to form the NP *interesting book* which is in turn merged with the indefinite determiner *an* to form the DP *an interesting book*. Likewise, in (186b), the infinite adjunct clause *being ill* is adjoined to the tense phrase *he did not go to school*, modifying it with the cause of the action. These participles affixed by the nominalizer *-ing* are traditionally called *imperfective participles (or present participles).*[3] On the other hand, in (186c) the noun *car* is modified by the participle adjective *stole-n* to form the NP *stolen car* which is in turn merged with the indefinite determiner *the* to form the DP *the stolen car*. Likewise, in (186d), the infinite adjunct clause *lost in the forest* is adjoined to the tense phrase *the man called the police*, modifying it with the cause of the action. These participles affixed by the nominalizer *–ed/-n* are traditionally called *passive participles (or past participles).*[4] What causes the use of

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[1] Ibid, p.151-52.
[2] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p.200.
[3] Ibid.
[4] Ibid.

passive participles in (186c) and (186d) unlike the use of present participles in (186a) and (186b) is the voice relations (active or passive) between the verbs adjoined and the nouns modified.

From the examples and explanations we have analyzed so far and considering the tense, and voice features such as present, past, active and passive features of these nominal structures as well as their relations with the subject and also considering the minimalist concerns to avoid unnecessary representations, we will analyze adjectival and adverbial participles as embedding infinite CP structures, in the following parts of the study (see 6.1). As for gerunds, on the other hand, a category of Nom which is headed by an affixal nominalizer head carrying interpretable [+,-Def], non-finite tense [Non-TNS] and a STRONG V feature, triggering the raising of the complement to attach to it, checking the matching features and forming the NomP *V+ing*. This resulting NomP is ultimately merged with a D as in the case of NPs, forming a DP. We prefer to use 'non-finite' tense feature so as to avoid confusion with infinital (INF) structures. In our illustrations below, we will follow this NomP analysis. We illustrate NomP structures in English in (187-190) below:
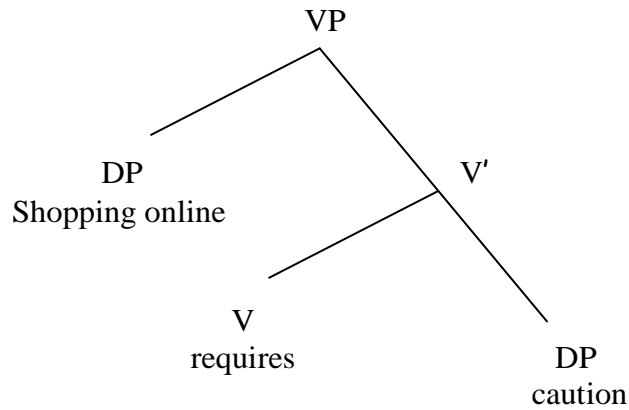
(187) like reading
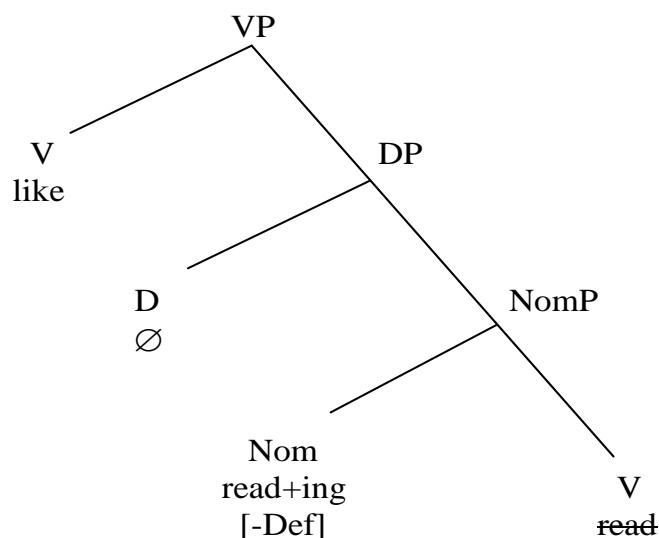
In (187), the verb *read* is merged with the affixal nominalizer *-ing*, carrying interpretable [-Def], non-finite tense [Non-TNS] and a STRONG V feature. The
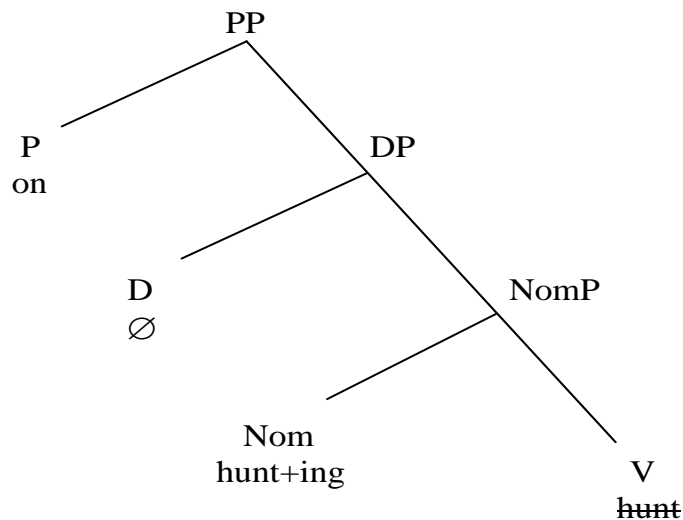
affixal Nom head triggers the raising of the complement verb to attach to it, forming the NomP *reading.* This resulting NomP is ultimately merged with an indefinite null D to form the DP ∅ *reading.* The DP is then merged with the V *like* to form the VP *like reading.*

(188)   Shopping online requires caution

In (188), the verb *requires* merges with the DP *caution* to form the V-bar *requires caution.* The resulting V-bar is then merged with the DP *shopping online,* occupying the Spec-VP, to form the VP *Shopping online requires caution.* Note that T is ignored.

(189)   on hunting

In (189), as in (187), the verb *hunt* is merged with the affixal nominalizer -*ing*, carrying interpretable [-Def], non-finite tense [Non-TNS] and a STRONG V

feature. The affixal Nom head triggers the raising of the complement verb to attach to it, forming the NomP *hunting*. This resulting NomP is ultimately merged with an indefinite null D to form the DP ∅ *hunting*. The DP is then merged with the P *on* to form the PP *on hunting*.

(190)   my speaking
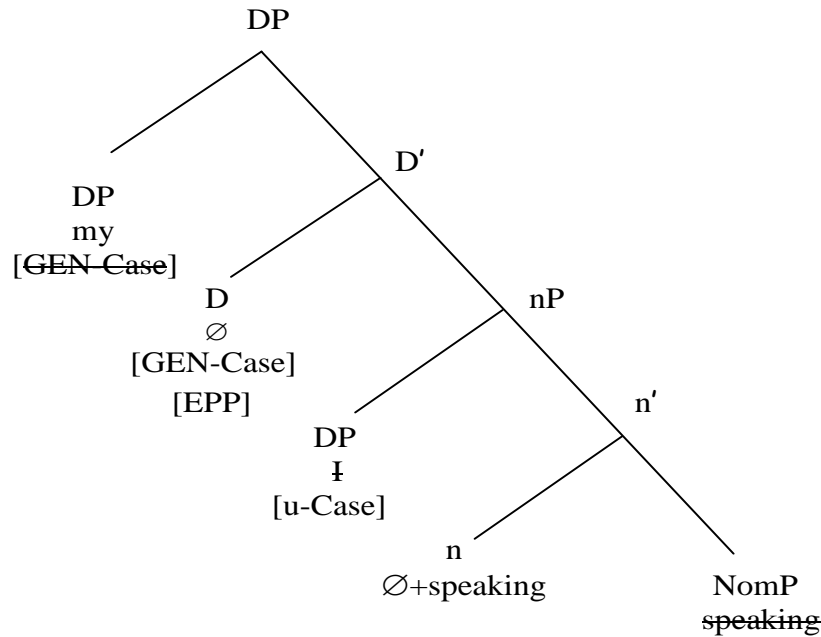
(190) tells us that when the NomP *speaking* is modified by the pronoun *I*, it undergoes a genitive case assigning DP derivation containing nP-Shell to form the DP *my speaking*, as in the case of other NP structures (see analyses 24-25).

In order to see how nominaliser phrases are derived in Turkish, we illustrate the examples in (191) below, which are in line with the semantic and structural context illustrated for English above:[1]

(191)   oku-*ma-yı* sev   futbol oyna-*ma-yı* bil
        read-*NOM-ACC* like   football play-*NOM-ACC* know
        like reading   *know playing football*

---

[1] These structures are noted as 'infinite subordinating suffixes used as verbal nouns' or 'verbal nouns' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 87; Lewis, *Turkish grammar*, op.cit., p. 167-170.
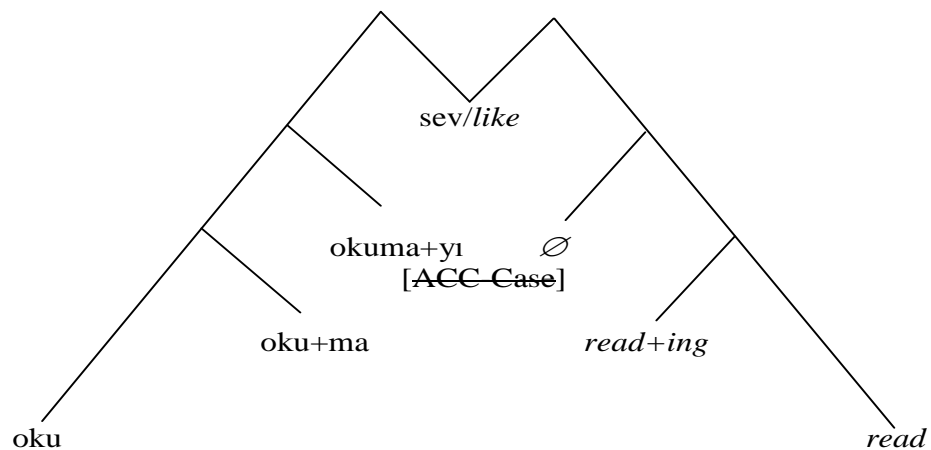
(191) illustrates us the structure of Turkish nominalizers used as object complement of verbs, one of which is illustrated through a tree diagram in (192) below:
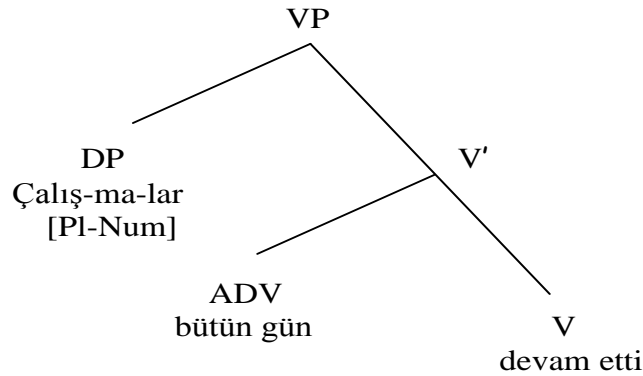
(192)   oku-*ma-yı* sev *(like reading)*

```
                              VP
                             /  \
                       DP         \
                      /  \          V
                 NomP     \         sev
                 /  \       \
                /    \        D
               /      \     okuma-yı
              /        \    [A̶C̶C̶ ̶C̶a̶s̶e̶]
             V          Nom
            oku        oku+ma
```
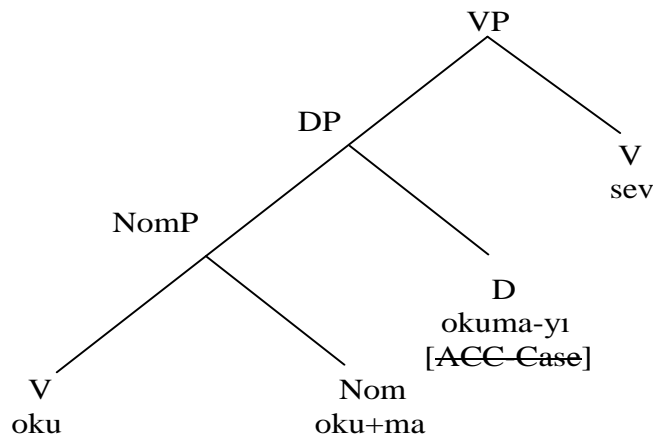
In (192), the verb *oku* (read) is merged with the affixal nominalizer *-mA*, carrying interpretable [-Def], non-finite tense [Non-TNS] and a STRONG V feature. The affixal Nom head triggers the raising of the complement verb to attach to it, forming the NomP *okuma* (reading). This resulting NomP is ultimately merged with an indefinite affixal null D to form the DP *okuma+∅* (reading). The DP is then merged with the accusative case assigning verb which values and deletes its ACC case feature, forming the VP *okumayı sev* (like reading). Now, let's see both languages on an unlabelled cross-lingual M-diagram:

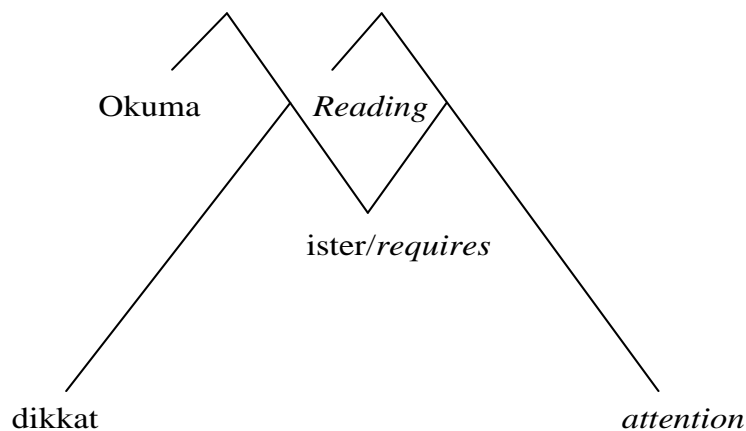(193)   oku-*ma-yı* sev/*like reading*

```
                    /\        /\
                   /  \      /  \
                  /    \    /    \
                 /      sev/like  \
                /      /      \     \
               /      /        \     \
              /   okuma+yı       ∅    \
             /    [A̶C̶C̶ ̶C̶a̶s̶e̶]    /\    \
            /      /        \   /  \    \
           /   oku+ma      read+ing    \
          /                              \
        oku                             read
```

In (193), we can see that DPs are assigned over or covert ACC case in both languages (i.e. *-yı* in Turkish and null ∅ in English). The external structure of Turkish NomPs as the specifier of VPs is illustrated through a tree diagram in (194) below:

(194) Çalış-*ma-lar* bütün gün devam etti (The *operations went on all day)*

```
                          VP
                        /    \
                       /      \
                     DP        V′
               Çalış-ma-lar    /  \
                 [Pl-Num]     /    \
                           ADV      \
                         bütün gün   V
                                  devam etti
```

In (194), the verb *devam etti* (went on) merges with the ADV *bütün gün* (all day) to form the V-bar *bütün gün devam etti* (went on all day). The resulting V-bar is then merged with the DP *çalışmalar* (labouring), occupying the Spec-VP, to form the VP *çalış-ma-lar bütün gün devam etti* (labouring went on all day). Note that T is ignored. We also understand from (194) that nominazed verbs also carry plural or singular number features in Turkish. Below is a cross-lingual unlabelled M-diagram comparing Turkish and English DPs with NomPs at the specifier position of the VPs:

(195) Okuma dikkat ister/*Reading requires attention*

```
              /\        /\
             /  \      /  \
         Okuma   \   Reading \
                  \  /\   /
                   \/  \ /
              ister/requires
              /              \
             /                \
          dikkat            attention
```

In (196) below, in addition, NomPs are under PP derivations:

(196)　anla-*ma-da*　　　konuş-*ma-sı-(n)dan*　gel-*me-si-yle*
　　　understand-*NOM-LOC*　speak-*NOM-GEN-ELA*　come-*NOM-GEN-TEMP*
　　　*on understanding*　　*from his speaking*　　*upon his coming*

In (196), we can observe that NomPs may also be complements of postpositions and assigned genitive case under DPs, as illustrated through a tree diagram in (197) below:

(197)　anlamada (*in understanding*)
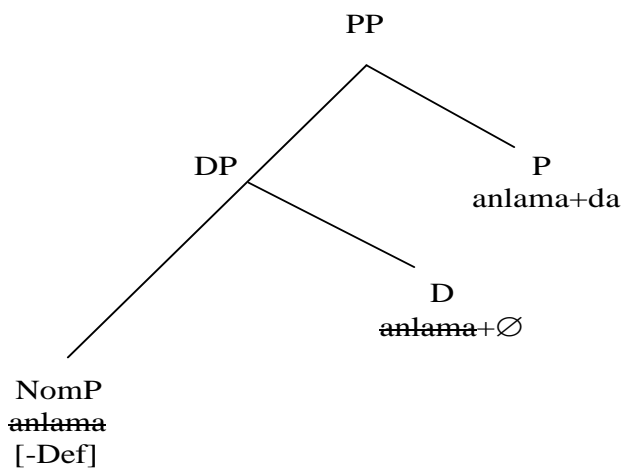
In (197), we can observe that NomPs, like NPs, are attracted by an affixal D and then raised to an affixal P in order to project a PP.

(198)　(Onun) konuşması (*his/PRO speaking*)
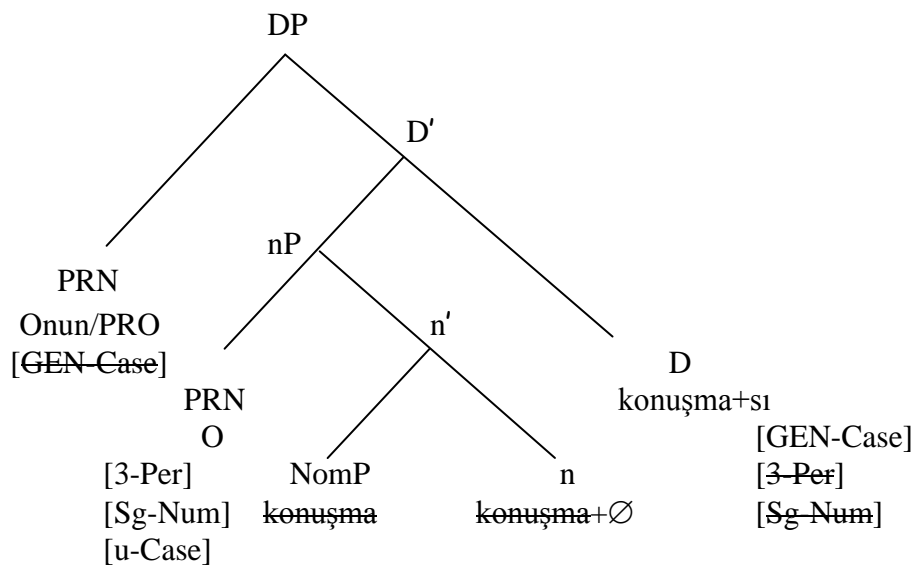
The following illustration is a cross-lingual unlabelled M-diagram comparing Turkish and English NomPs mofified by DPs or Pronouns (i.e. possessors) to form a DP and successively being the complement of a postposition and forming a PP:

(199) konuşmasından */from his speaking*
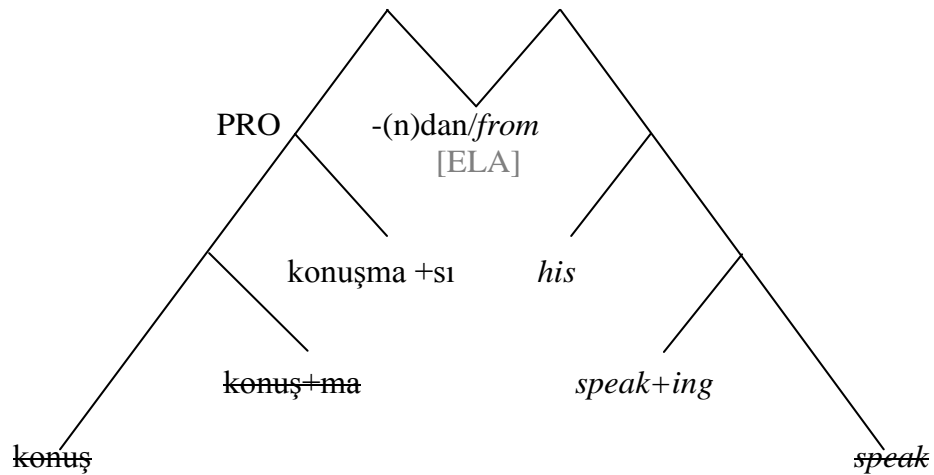
From (199), we understand that in both languages NomPs demonstrate similar properties in terms of derivations. However, they differ in that while Turkish NomPs carry [Pl/Sg-Num] properties and assigned overt morphological cases and agreement features at DP, NomPs in English are of uncountable singular feature and are not assigned overt case and do not carry agreement features at DP as in the case of other NPs. But these differences are not caused by the parametric variations in NomP structures but in DP as mentioned before.

5.5.2. TENSE PHRASES

Verbs are also headed by an overt or null category of tense, which "correlates directly with distinctions of time,"[1] forming "a maximal projection of TP which is regarded to be contained by all finite clauses."[2] Tense is described as "the temporal location of the situation being talked about, indicating whether this is before, at, or after a particular reference point, or the time of speaking."[3] Jespersen describes it as

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[1] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p. 276.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.111.
[3] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p.283.

"the linguistic expression of time relations."[1] Verb tenses are traditionally divided into three parts: 'past', 'present' and 'future'. One of the well-known classifications of tenses into past, present and future is Jespersen's classification, which suggests that "time is divided into two parts; the past and the future, the point of division being the present moment and suggests a time table describing tenses."[2] Under each of the two main temporal divisions (i.e. present and past), he also refers to some points before or after the main points of time at which we are actually speaking, finally getting seven points of time; before past, past, after past, present, before future, future, after future "although this division is not valid for every language (e.g. the Hebrew language)."[3] Accordingly, he describes English tenses in particular and suggests that English has only two inflectional tenses: the present and the past (which he calls the preterit), which is also supported and illustrated in our study. However, in our minimalist analysis perspective, we also suggest that this is the case not only for English but also for Turkish. From our analyses in this part of the study, we understand that verbs are headed only by two distinct tenses both in English and Turkish; present, which indicates 'the time of speaking', and past, indicating 'before the time of speaking'. In other words, in universal terms, verbs in both languages are headed by a functional category of tense having two different inflectional or affixal properties, either of which indicates present or past. We will also try to describe their functions and question their universal properties in terms of the UG, by looking comparatively into Turkish inflections mentioned above as well in order to lay out how human innate language knowledge organizes the category of tense, aspect and mood, in light of the discussions above and the MP which suggests that "there are no redundant elements in the structure of the sentence and each element plays some role whether semantic, syntactic or phonological and must be interpreted in some way."[4] In order to test this functional category of tense, we will analyze some frequently

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[1] Otto Jespersen, *Essentials of English Grammar, 1987*, Routledge, 2003, p.181.
[2] Jespersen, *Essentials of English Grammar, op.cit.*, p.181.
[3] Ferdinand De Saussure, Genel Dilbilim Dersleri, *Çev.: Berke Vardar, İstanbul,* 1998.
[4] Cook-Newson*, Chomsky's Universal Grammar*, Oxford, 1996, p. 312.

used inflectional forms of the verbs with their syntactical or morphological structures involved in TPs of both languages as illustrated in (200) and (201) below:

(200)   a. she *plays,* they *speak*
              she *played*, they *spoke*

         b. he *has* been, they *have* been
              he *had* been, they *had* been

         c. I *am* a student, we *are* at home
              I *was* a student, *were* at home

         d. I *say* (that) I *will* come, I *say* I *may* come, I *say* I *can* speak
              I *said* (that) I *would* come, *I said* I *might* come, *I said* I *could* speak

In (200), we can see that all finite verbs in English (200a) including aspect auxiliaries such as *have* (200b), *be* (200c) and modal auxiliaries such as *may*, *will* and *can* (200d) are inflected either for present, that is, bare or third person singular *–s* form of the verbs and auxiliaries (e.g. am, is, are, speak-s, speak, have, ha-*s*, say, will, may, can) or past tense, that is, the *–ed,* or second irregular form (or *preterit* form)[1] of the verbs and auxiliaries (e.g. was, were, spoke, had, said, would, could etc.). From the illustrations above, we understand that T in English is affixal (i.e. +(e)s/+ed*)* or inflectional (i.e. *bare/preterit* form) in nature 'having weak person and number morphology'[2] (only for a limited number of inflections). However, "finite main verbs are assumed to occupy head V position of VP, whereas finite auxiliaries occupy the head T position of TP."[3] In addition, "while affixes are lowered onto the main verb by an 'affix hoping' operation which suggests that an unattached tense affix is lowered onto the closest verbal host,"[4] inflections such as *bare present* or *preterit* form are assumed to undergo 'tense checking' operation suggesting that "existing tense value of the V is checked against interpretable features of T and then spelled out in the PF component."[5]

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[1] Jespersen, *Essentials of English Grammar, op.cit.*, p. 182.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.164.
[3] Ibid, p.119.
[4] Ibid, p. 121.
[5] Ibid, p. 287.

Now, let's see the finite verbs inflected for various purposes to form TPs in Turkish as illustrated in (201) below:[1]

(201) a.   konuş-(*u)yor*, konuş-*ur*
        speak-*PROG.ASP-PRE/3SgP,* speak-*PRE-3SgP*
        is speaking, speaks

        konuş-(*u)yor-du*, konuş-*ur-du*
        speak-*PROG.ASP-PAST-3SgP*, speak-*HAB.ASP-PAST-3SgP*
        was speaking, would speak

  b.   yap-*mış-tır,* yap-*makta-dır*
        do-*PER.ASP-PRE-3SgP*, do-*PER.PROG.ASP-PRE-3SgP*
        has done, has been doing

        yap-*mış-tı*, yap-*makta-(y)dı*
        do-*PER.ASP-PAST-3SgP*, do-*PER.PROG.ASP-PAST-3SgP*
        had done, had been doing

  c.   gel-*ecek*, yap-*abil-ir*[2]
        come-*FUT.MOD-3SgP*, do-*ABIL.MOD-HAB.ASP-PRE-3SgP*
        is going to come, is able to do

        gel-*ecek-ti*, yap-*abil-di*
        come-*FUT.MOD-PAST-3SgP*, do-*ABIL.MOD-PAST-3SgP*
        was going to come, was able to do

  d.   öğrenci-*yim*, evde-*dir*
        student-*PRE-1SgP,* home-LOC-*PRE-3SgP*
        I am a student, He is at home

        öğrenci-(*y)di-m*, evde-(*y)di*
        student-*PAST-1SgP*, home-LOC-*PAST-3SgP*
        I was a student, He was at home

In (201), we understand that all finite verbs in Turkish including aspect markers such as *-mIş* (in 201b), *-yor* and *-Ar* (in 201a) and modal heads such as *-AbIl* and *-AcAk* (in 201c) are inflected either for present, that is, bare aspect and modal phrases as well as their forms inflected for person and number by the affixes such as *-dIr/-yIm etc.* (e.g. evde-*yim/am at home*, öğrenci-*dir/is a student,* konuş-*ur/speaks*, yap-*ıyor/is doing*, git-*miş(-tir)/has gone*, yap-*acak/is going to do*, yap-*abilir/ is able to do)* or past tense, that is, the *–dI* form of the verbs or *-ydI (idi)* forms

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[1] These structures are noted as 'tense, aspect and modality' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 283-310; Lewis, *Turkish grammar*, op.cit., p. 96-140.
[2] '-AcAk' is noted as as both 'future tense' and 'future modality' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 295.

of the aspect and modal phrases (e.g. evde-(*y)di/was at home*, öğrenci-*ydi/was a student,* konuş-*tu/spoke,* yap-acak-*tı/was going to do*, yap-abil-*di/was able to do*). From the illustrations above, we understand that T in Turkish is affixal (i.e. +dı) in nature having rich agreement morphology. We also understand that T is affixal in nature, which attract the verb to attach to it. Accordingly, it is assumed that "the affixal T in English and Turkish has 'm-selectional' properties, that is, since it is affixal, it specifies the verb as the category to which it can attach,"[1] which may be described as a common parametric property suggesting that *in English and Turkish, T has 'm-selectional'properties.* This common parameter, in turn, means that the *'m-selectional'* properties of T in English and Turkish allow verbs to move to T. However, "a parametric variation with respect to the relative strength of a given type of head, which is known as 'Head-Strength Parameter',"[2] is still needed to be set between the two languages due to the rich agreement morphology in Turkish and do-insertion (or do-support) in negative and interrogative structures in English, which may be set as a parametric variation between English and Turkish languages, described as the following:

- **T Parameter**

  i. In English, T has a weak affixal feature.

  ii. In Turkish, T has a strong affixal feature.

Accordingly, while T in English has weak affixal morphology, T in Turkish has strong affixal morphology. This variation, in turn, will be referred to explain the verbal expletive insertion (i.e. auxiliaries such as do, does, did) in English for the further analyses of negative and interrogative structures in English. That is, since the category of T is weak in English, it cannot attract the verb but lower the affix/or inflected past form (i.e. irregular forms) on to the main verb. It should also be noted that while English has weak agreement morphology, Turkish has rich person and number agreement morphology, which is also resulted from the 'Head-Strength Parameter' described above.
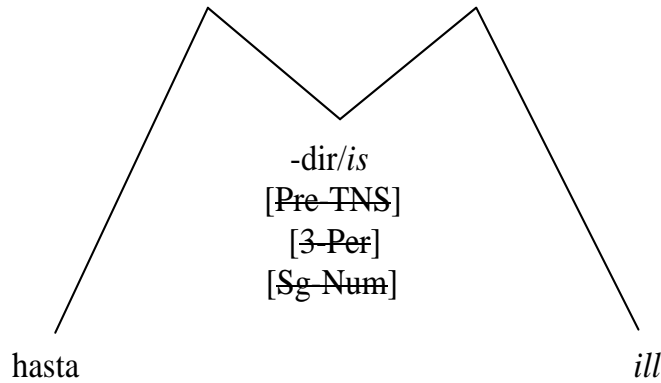
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[1] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 15.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.164.

Now, let's observe these properties on a comparative cross-lingual unlabelled M-diagram in (202) below. In these analyses, 'affix lowering' for English is ignored.
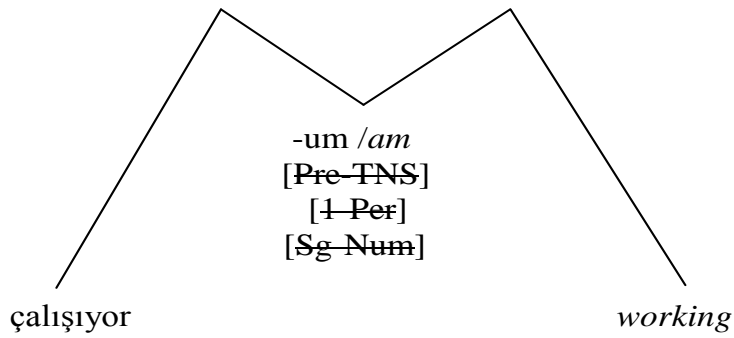
(202)   (O) hastadır/ (He) *is ill*

-dir/*is*
[~~Pre TNS~~]
[~~3 Per~~]
[~~Sg Num~~]

hasta   *ill*

In (202), it is understood that the A *hasta/ill* is headed by present T filled by the copular suffix –*dIr* in Turkish and the copular verb *be (i.e. is)* in English since the complement is nominal (i.e. auxiliary insertion). It is also understood that both heads also have agreement features (i.e. person and number) in both languages.

(203)   (O) öğrenci-(y)di/(She) *was a student*

-(y)di/*was*
[~~Past TNS~~]
[~~3 Per~~]
[~~Sg Num~~]
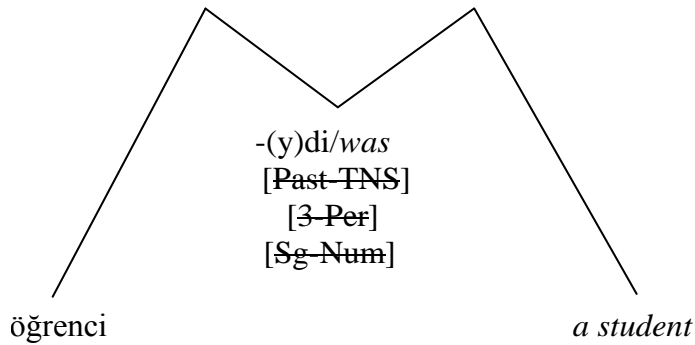
öğrenci   *a student*

In (203), the DP *öğrenci/a student* is headed by past T by the affixal copula –*(y)di* in Turkish and by the lexical copula (i.e. auxiliary) *was* in English, also being in agreement with a third person singular subject in both languages.

(204)   (Ben) çalışıyor-um/(I) *am working*

```
              -um /am
              [Pre-TNS]
              [1 Per]
              [Sg Num]

çalışıyor                          working
```

(204) shows us that the verbs already inflected for progressive aspect in both languages (i.e. çalışı-yor/work-ing) are headed by an overt or null copular verb finally inflected for present tense, being in agreement with their first person singular subject. The analysis of the inner structures of the AspPs and the specifier positions are neglected in this section of the study since we only focus on the T heads of the intermediate TPs.

(205)   (O) çalışıyor-du/(He) *was working*

```
              -du /was
              [Past-TNS]
              [3 Per]
              [Sg Num]

çalışıyor                          working
```
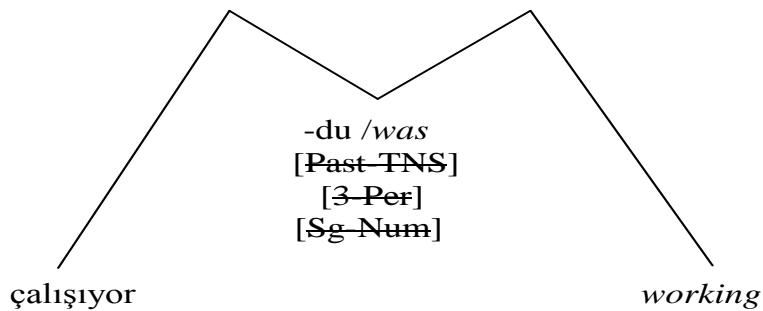
In (205), in addition, the same verbs with the same aspectual structure as in (204), for this time, are headed by either an affixal or lexcal copula finally inflected for past tense, being in agreement with an expected third person singular person.

(206)   Pro yaparım/*I do*

Pro   *I*

-ım /∅
[~~Pre TNS~~]
[~~1 Per~~]
[~~Sg Num~~]

yapar   *do*
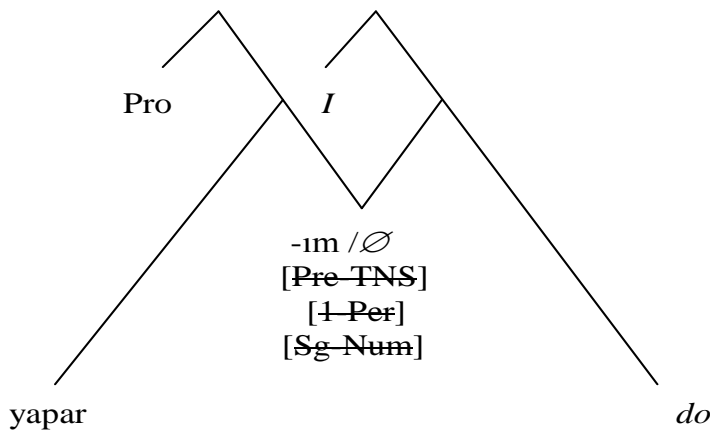
In (206), it is understood that habitual present differs in structure in both languages. While Turkish operates affixal present 'habitual aspect',[1] which is traditionally called 'aorist'[2], attaching the suffix *–Ar* with a null affixal present, in English, habitual present form of the verb is not derived by any habitual aspect marker but a null inflectional present tense which is the same as the bare form of the verb. Moreover, whereas the Turkish T-bar *yapar (do)* undergoes person and number feature checking with the 1SgP pronoun (Ben) and allows the subject pronoun to be dropped (Pro) thanks to the strong agreement features, forming the maximal TP *pro yaparım,* the English TP *do* directly undergoes inflection for tense and feature checking for person and number, which is also null at PF (or covert feature checking at LF), forming the T-bar *do* and then the resulting TP is merged with the specifier pronoun *I* to form the TP *I do,* which is described as a Pro-Drop Parameter (or Null-Subject Parameter) which determines "whether any language allows a null-subject conventionally known as small 'pro', a silent or phonologically invisible counterpart of pronouns"[3]:

- **Null-Subject Parameter**

    i. Null- Subject (Pro) is allowed

    ii. Null- Subject (Pro) is not allowed

Accordingly, whereas the Turkish T undergoes person and number feature checking with a given subject pronoun and allows the subject pronoun to be dropped

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[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 290.
[2] Lewis, *Turkish grammar*, op.cit., p. 117-118.
[3] Radford, *Minimalist Syntax: Exploring the Structure of English*, op. cit., p. 18.

(Pro) thanks to the strong agreement features, the English T undergoes inflection for tense and feature checking for person and number, which is a covert feature checking at LF but silent at PF and thus not allowing the subject pronoun to be dropped. The following illustration (207), however, shows us a habitual present TP headed by an affixal T in agreement with the third singular person:

(207) Pro yapar/*He does*

Pro   *He*

-∅ /-es
[Pre TNS]
[3 Per]
[Sg Num]
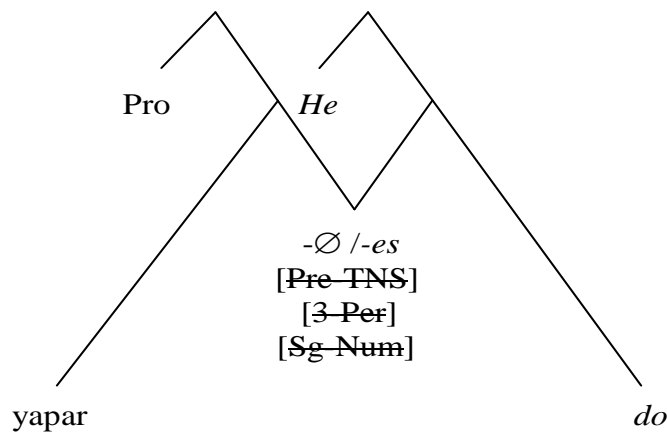
yapar   *do*

Accordingly, note that the Turkish habitual aspect verb *yap-ar (do)* is merged with the null affixal present T -∅, attracting the verb to the higher position and suffixed onto it to form the TP *yapar (do-PRE/3SgP)* with no overt agreement morphology at PF for 3SgP (i.e. Pro/O) but for other persons and numbers. In contrast, the English verb *do* is merged with the inflectional T to form the TP *does,* carrying overt agreement morphology (i.e. *–es*) at PF for 3SgP (i.e. He) but for other persons and numbers.

(208) (O) oyna-dı/ *(He) play-ed*

oyna+dı / *play+ed*
[Past TNS]
[3 Per]
[Sg Num]

oyna   *play*
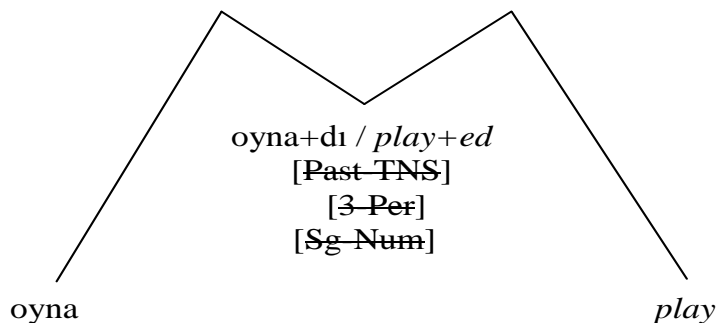
In (208), verbs in both languages are directly headed by an affixal past T which are suffixed onto the verb to form the TPs *oynadı* and *played*.

(209)   (O) gitmiş-tir/ *(She) has gone*

gitmiş+tir / *has*
[P̶a̶s̶t̶ ̶TNS]
[3̶ ̶Per]
[S̶g̶ ̶Num]

~~git-miş~~   ~~have~~ *gone*
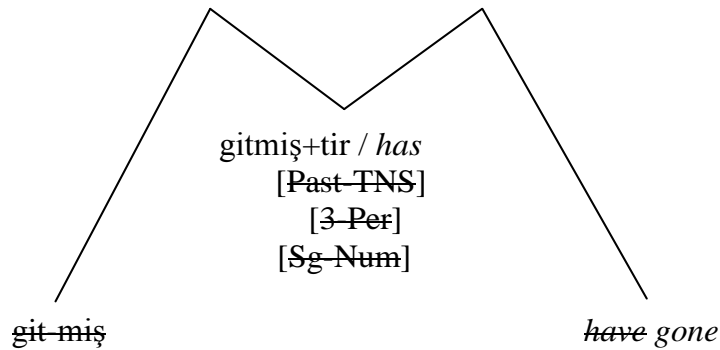
(209) shows us that the verbs already inflected for perfect aspect in both languages (i.e. git-miş/have gone) are headed by the category of T, denoting present tense and having 3SgP agreement features (i.e. git-miş-tir/has gone).

(210)   (O) gitmiş-ti/ *(He) had gone*

gitmiş+ti / *had*
[P̶a̶s̶t̶ ̶TNS]
[3̶ ̶Per]
[S̶g̶ ̶Num]
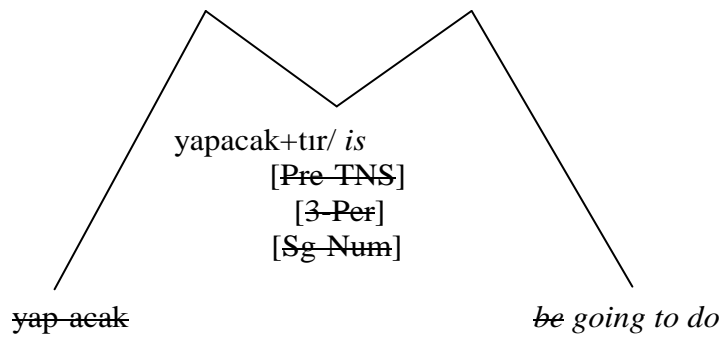
~~git-miş~~   ~~have~~ *gone*
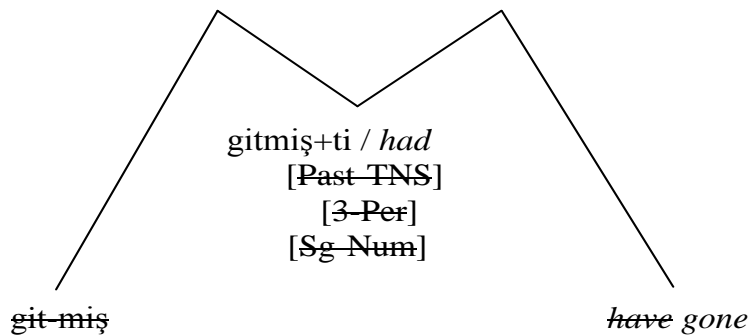
In (210), however, the same verbs with the same aspectual structures as of (209) in both languages are also headed by the category of T, denoting past and having 3SgP agreement features (i.e. gitmiş-ti/had gone).

(211)   (O) yapacatır[1]*/(He)is going to do*

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[1] Lewis, *Turkish grammar*, op.cit., p. 113.

```
        yapacak+tır/ is
          [Pre TNS]
          [3 Per]
          [Sg Num]


  yap acak                    be going to do
```

As for the structures illustrated in (211), the verbs already inflected for prospective aspect in both languages (i.e. yap-*acak*/*be going to* do) are successively headed by a lexical or affixal auxiliary finally inflected for present tense, being in agreement with their third person singular subject (i.e. yapacak-*tır*/*is* going to do).

(212)   (Ben) yapacaktım*/(I)was going to do*

```
        yapacak+tım/ was
          [Past TNS]
          [1 Per]
          [Sg Num]


  yap acak                    be going to do
```
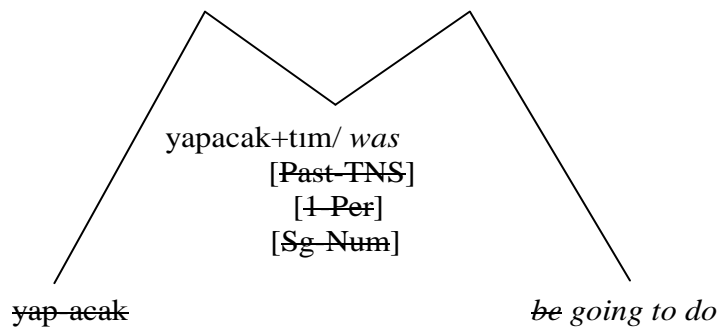
In (212), in addition, prospective AspPs in both languages (i.e. yap-*acak*/*be going to* do) are headed by either a lexical or affixal auxiliary[1] inflected for past tense, being in agreement with 1SgP (i.e. Pro yapacak-*tım* /(I) *was* going to do).

(213)   (Ben) yapabilir-im*/(I) can do*

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[1] 'idi' is not only noted as as lexical 'past tense auxiliary' or 'past copula', but also as 'affixal auxiliary or copula' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 320; Lewis, *Turkish grammar*, op.cit., p. 99.

yapabilir+im/ *can*
[~~Pre-TNS~~]
[~~1-Per~~]
[~~Sg-Num~~]
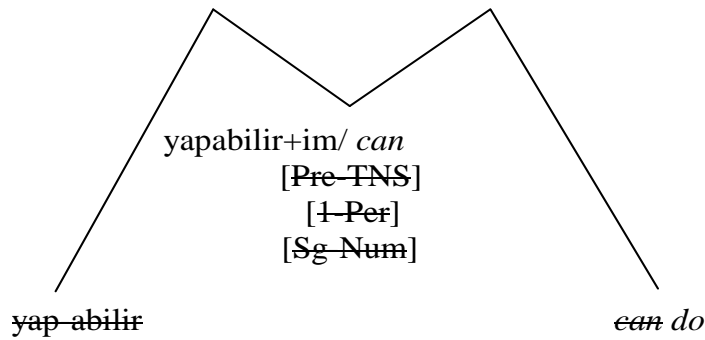
~~yap-abilir~~   ~~can~~ *do*

For the derivations in (213), the verbs headed by a lexical or affixal modal head (Mod), in both languages (i.e. yap-*abilir*/ *can do*) are successively headed by a present T, being in overt or covert agreement with their first person singular subject (i.e. yapabilir-*im*/*can* do). The analyses of the inner structures of the ModPs are neglected in these illustrations since we only focus on the T heads of the maximal TPs.

(214)   (O) yapabilir-di*/(He) could do*

yapabilir+di/ *could*
[~~Past-TNS~~]
[~~3-Per~~]
[~~Sg-Num~~]
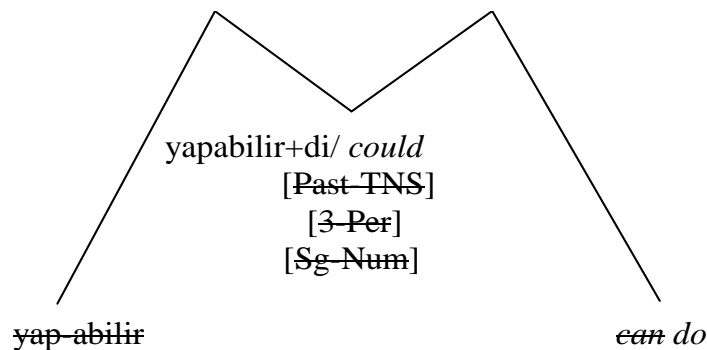
~~yap-abilir~~   ~~can~~ *do*

In (214), the ability ModPs in both languages (i.e. yap-*abilir*/*can* do) are headed by an affixal or lexical modal auxiliary finally inflected for past tense, being in agreement with a third person singular subject (i.e. yap-*abilirdi*/*could* do).

In the illustrations above, it is understood that verbs in English and Turkish are inflected into two tenses: present and past. The category of tense in both languages can also be observed to be affixal or inflectional in nature, which can be either suffixed onto the complement verbs or inflect them into their present or past forms. In addition, the maximal TP projections in both languages are observed involving some other functional categories such as auxiliary (Aux), aspect (Asp) and

modality (Mod) and denoting grammatical features such as person and number agreements.

5.5.3. PASSIVIZATION PHRASES

In this part of the study, we analyze passive structures in English and Turkish languages. In order to analyze the bottom-up order of functional categories within TPs, let's look into the following examples shown in (215) below:

(215)　a. had *been done / had done*
　　　　b. *is played / plays*
　　　　c. was not going to *be done /*was not going *to do*
　　　　d. would not have *been done/* would not have been *doing*
　　　　e. will not have *been done/* will not *have done*

(215) shows us that in a bottom-up order, TPs derivations start from *passivization* phrases (PASSP) containing a verb and an affixal voice head which attracts the verb to the upper position and inflects it into a passive participle form which has nominal features,[1] revealing that in English, "PASS c-selects VP."[2] It is also observed that since the PASS has nominal feature, a verbal expletive (i.e. auxiliary verb) is inserted under T. Therefore, passive participle form of the verb is merged with the *auxiliary* (Aux) *be* (or sometimes *get*) to form the AuxP, which we will analyze in the following sections of the study. Now, let's analyze the derivation of PASSP, as illustrated in tree diagrams below:

(216)　stolen[3]

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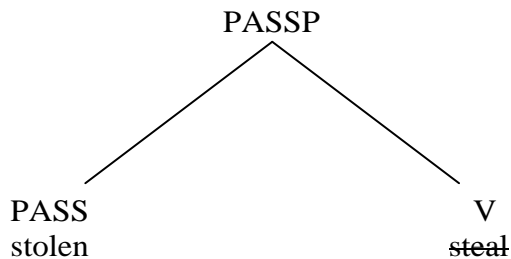
[1] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 94-95.
[2] Ibid, p. 94.
[3] 'PASS' category analysis through a tree diagram is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 94 (62).

In (216), the verb *steal* is merged with the PASS head inflectional in nature, attracting the verb to the upper position and inflecting it into passive participle form to form the PASSP *stolen.* Now, let's analyze the derivation starting from the VP structure, as illustrated in (217) below:
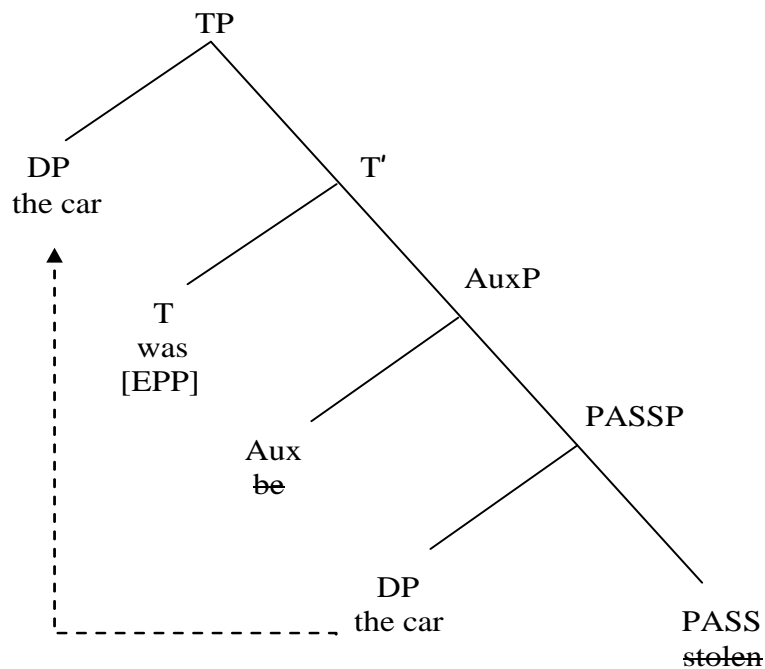
(217)   the car stolen[1]
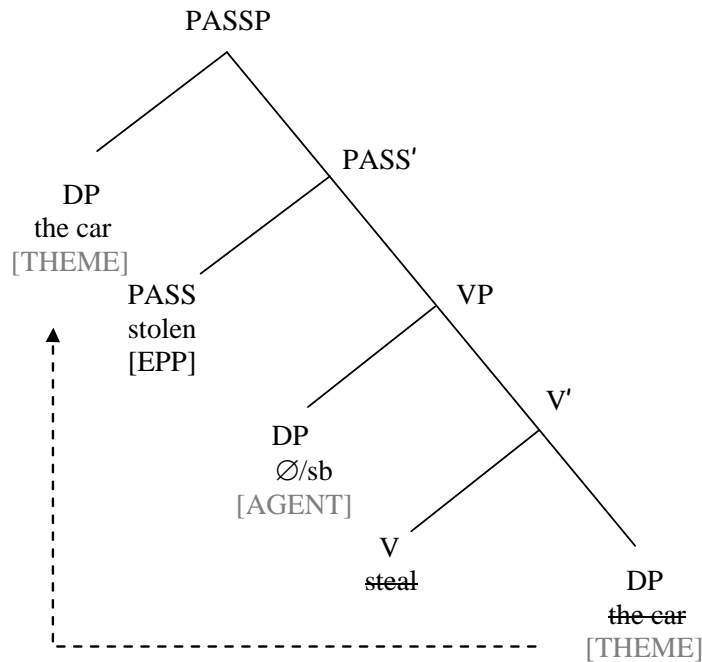
In (217), the verb *steal* enters the derivation with its overt or null thematic AGENT subject ∅*/somebody (sb)* and the THEME object DP *the car*.[2] The VP is then merged with the affixal PASS head inflectional in nature, attracting the verb to the PASS position and inflecting it into passive participle form to form the intermediate PASS-bar *stolen.* The category of PASS carrying EPP feature and a thematic agreement feature (i.e. THEME) projects the DP *the car* having a THEME-role but not the thematic subject having an AGENT-role as its 'structural subject' and then triggers raising it from spec-VP to the spec-PASSP, forming the PASSP *the car*

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[1] 'PASSP' projection analysis through a tree diagram is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 94 (62).

[2] The hypothesis that the thematic subject is an empty category is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 96.

stolen.[1] According to Ouhalla (1991), Spec-PASSP is regarded as a structural subject but not a thematic subject. Thematic subjects are either regarded as PRO or empty, or they are assumed to be silent in their original spec-VP position in passive structures.[2]

(218)   the car was stolen[3]

In (218), it is understood that the nominalized verb *stolen* remains in PASS and the passive Aux *be* which has a thematic agreement feature with THEME subjects enters the derivation to form the AuxP *be (the car) stolen*. The AuxP is then merged with the inflectional T having interpretable past tense feature, checking the unvalued tense feature of the Aux and attracting the Aux to form the T-bar *was (the car) stolen*. Since T has EPP feature, it projects the DP as its apecifier, triggering its movement from spec-PASSP to the spec-TP, forming the TP *the car was stolen*.

The following examples in (219), on the other hand, illustrate Turkish PASSP derivations:[1]

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[1] The idea of thematic agreement feature is developed from the 'agreement relation between the participle and the moved object' adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 99-100.

[2] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 100-101.

[3] 'AuxP' projection analysis through a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 112 (18).

(219) a. *kapa-n*-ma-mış-tı
    close-PASS-NEG-PER.ASP-PAST

     b. *sat-ıl*-mı-yor-du
    sell-PASS-NEG-PROG.ASP-PAST

     c. *yap-ıl*-ma-yabil-iyor-du
    do-PASS-NEG-ABIL.MOD-PROG.ASP-PAST

     d. *oyna-n*-ma-yacak-tı
    play-PASS-NEG-FUT.ASP-PAST

From the illustrations in (219), we understand that Turkish TP derivations also start from PASS phrases having a verb and an overt affixal head which attracts the verb, attaching *-ıl/-n* to it, which shows us that like in English, "PASS c-selects VP"[2] in Turkish. It should also be noted that since the affixes *–ıl /-n* are affixal heads used to derive passive verbal structures,[3] they are of verbal feature, which yields up a parametric variation between English and Turkish languages. Accordingly, "in languages which have morphological passives, the PASS morpheme has verbal features, whereas in languages which have periphrastic passives, that is, "passives which consist of an auxiliary and a participle,"[4] it has nominal features."[5] In this context, in Turkish which has morphological passivization head, the PASS morpheme has verbal feature, while in English which has periphrastic passive, it has nominal features, which may be described as the following parametric variation:

- **PASS Parameter**
    i. In English, PASS is nominal (i.e. [+N]).
    ii. In Turkish, PASS is verbal (i.e. [+V]).

This variation, in turn, means that while the verbal feature of PASS in Turkish allows the passive verb to move to T having m-selectional properties, the nominal property of the PASS morpheme in English does not allow the nominalized verb to move to T having m-selectional properties, due to which a verbal expletive

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[1] These structures are noted as 'passive voice' or 'passive verb' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 72; Lewis, *Turkish grammar*, op.cit., p. 149-150.
[2] Ibid, p. 94.
[3] Muharrem Ergin, *Türk dil bilgisi,* İstanbul, 1962, p. 202-204; Tahsin Banguoğlu, *Türkçenin grameri*, Ankara, 1974, p. 281-283.
[4] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 88.
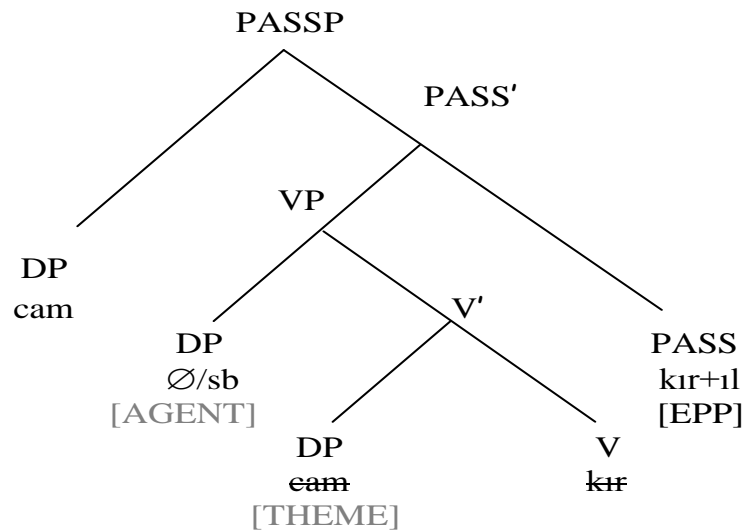[5] Ibid, p. 95.

(i.e. Aux) is inserted under T (e.g. *be stolen*). As a consequence, we can say that in TPs containing a passive structure, the derivations in Turkish, just like in English, start with PASSPs in a bottom-up fashion as illustrated in tree diagrams below:

(220) kırıl (broken)

```
                PASSP
               /     \
              /       \
             /         \
            V          PASS
            k̶ı̶r̶        kır+ıl
```
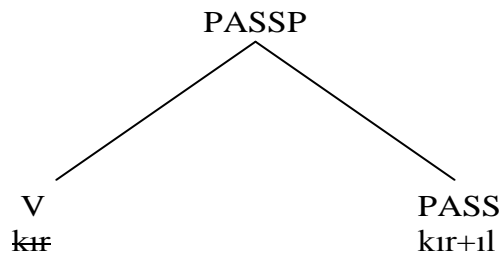
In (220), the verb *kır (break)* is merged with the PASS head affixal in nature, attracting the verb to the upper position and attaching to it to form the PASSP *kırıl (broken)*. Now, let's analyze the derivation starting from the VP structure, as illustrated in (221) below:

(221) cam kırıl *(the window broken)*

```
                    PASSP
                   /     \
                  /      PASS′
                 /       /   \
                /      VP     \
               /      /  \     \
              DP     /    \     \
              cam   DP    V′    PASS
                    ∅/sb  / \   kır+ıl
                  [AGENT]/   \  [EPP]
                        DP    V
                       c̶a̶m̶   k̶ı̶r̶
                     [THEME]
```

In (221), the verb *kır* enters the derivation with its overt or null thematic AGENT subject *∅/somebody (sb)* and the THEME object DP *cam (the window)*. The VP is then merged with the affixal PASS *-ıl*, attracting the verb to the PASS position to attach to it, forming the intermediate PASS-bar *kırıl (broken)*. The category of PASS carrying EPP feature and a thematic agreement feature (i.e. THEME) projects the DP *cam (the window)* having a THEME-role but not the thematic subject having

an AGENT-role as its 'structural subject' and then triggers raising it from spec-VP to the spec-PASSP, forming the PASSP *cam kırıl*.

PASSP derivations headed by T in English and Turkish are illustrated on an unlabelled M-diagram in (222) below:

(222)   cam kırıldı/*the window was broken*
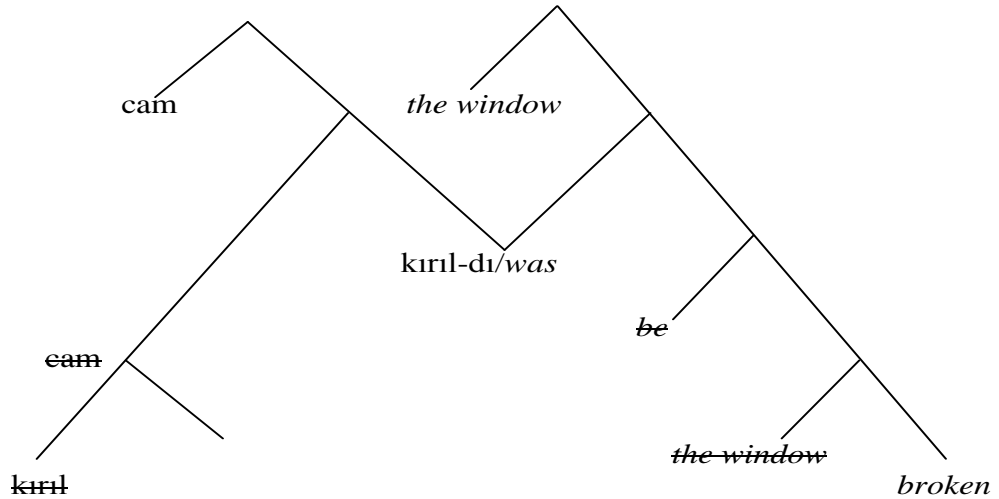
We understand from the illustration above that Turkish does not operate auxilaries for the PASSP since PASS affix is verbal and attracted by m-selectional T. However, since PASS is a nominal inflection in English, the m-selectional T cannot attract the passive nominalized verb. Instead, an auxiliary verb is inserted into the derivaton to fulfill the verbal requirement of the T in English.

5.5.4. ASPECT PHRASES

Within TPs, the following examples shown in (223) below also show us that verbs are driven by an affixal category of functional head denoting the internal temporal structure of the action, which is described as *aspect (Asp)*.[1] Although, as stated by Holisky, described in such a diversity that it has as many descriptions as the number of the linguists describing that term,[2] aspect will be analyzed in our study as to the traditional aspectual categories such as *habitual (or dispositive)*, *prospective*,

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[1] Trask, Robert Lawrence. *A dictionary of grammatical terms in linguistics*. Psychology Press, 1993.p.21.

[2] Dee Ann Holisky, *Aspect and Georgian medial verbs,* in Benzer, *Fiilde Zaman, Görünüş, Kip ve Kiplik*, İstanbul, 2009, p. 40.

perfective and *imperfective (or progressive)* which indicate whether an event is completed (perfective), uncompleted (imperfective), on-going (progressive) or yet to be performed (prospective) according to the point of time indicated by the verb tense (present or past), or in other words, whether an action is performed before, until, by or up to the time of speaking, up to and during the time of speaking, after the time of speaking or habitually repeated before, during or after the time of speaking.[1] However, this categorization is a semantic one. Languages may range as to their aspectual categories in syntactical derivations. That is, while a given aspectual paradigm (among those we listed above) has an affixal Asp head in a given language (e.g. progressive aspect: ENG go-*ing* or TR git-*(i)yor*), it may be derived in a ModP (e.g. prospective aspect: ENG *will* go or TR gid-*ecek*) or VP (e.g. habitual aspect: ENG *use to* do or TR yap-*ar*) in another. Therefore, rather than describing what exactly 'aspect' is or analyzing all the aspectual paradigms, we try to compare the derivation of this projection in terms of aspectual structures identified in traditional grammar and explain them in universal terms through the MP. The following examples demonstrate the aspectual structures in English:[2]

(223)   a. *had* do*ne/*play*ed*
        b. *has been* do*ing*
        c. *is* play*ing*

(223) shows us that verbs in English TPs are headed by different auxiliary verbs finally inflected for tense and agreement to express different aspects of time. We also observe that auxiliaries merge with different forms of participle verbs as described in NomP and PASSP structures. Then, we can say that perfect (PER) auxiliary *have* in (223a) requires or merges with a perfect participle (or, traditionally, past participle) verb which is an inflected form for irregular verbs (e.g. go/gone, do/done, see/seen, break/broken, steal/stolen, drink/drunk etc) or an affixal *–ed* form for regular verbs (e.g. play-ed, watch-ed, wash-ed, call-ed, invite-d etc.). It can also

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[1] These aspectual categories are identified as to the classifications suggested by: Jespersen, *Essentials of English Grammar, op.cit.*, p. 180-181; Ahmet Benzer, *Fiilde Zaman, Görünüş, Kip ve Kiplik*, İstanbul, 2009, p. 39-89; Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 288-291.

[2] These structures are identifed as perfect and progressive structures by: Jespersen, *Essentials of English Grammar, op.cit.*, p. 186.

be said that progressive (PROG) auxiliary *be* in (223b) and (223c) requires or merges with an imperfective participle (or, traditionally, present participle) verb which is an affixal *–ing* form suffixed onto the verbs (e.g. play-ing, watch-ing etc). Accordingly, it is understood that in a bottom-up order, TPs derivations illustrated in (223) start from *aspect* phrases (AspP) containing a verb and an affixal aspect head having perfective [PER] or progressive [PROG] features, attracting the verb to the upper position and inflects it into a present participle form (i.e. -ing as in NomP) or past participle form (i.e. –ed/-n as in PASSP), both of which have nominal features,[1] revealing that in English, "Asp c-selects VP." It is also observed that since the resulting Asp has nominal feature and it cannot move to T, a verbal expletive (i.e. auxiliary verb) is inserted under T, which somehow has perfective [PER] (i.e. have) or progressive [PROG] (i.e. be) agreement relations with the Asp. Therefore, while progressive AspP is merged with the *auxiliary* (Aux) *be,* perfective AspP is merged with the *auxiliary* (Aux) *have,* to form the AuxP, which we will analyze in the following sections of the study. Now, let's analyze the derivation of AspP, as illustrated in tree diagrams below:

(224)   had done[2]
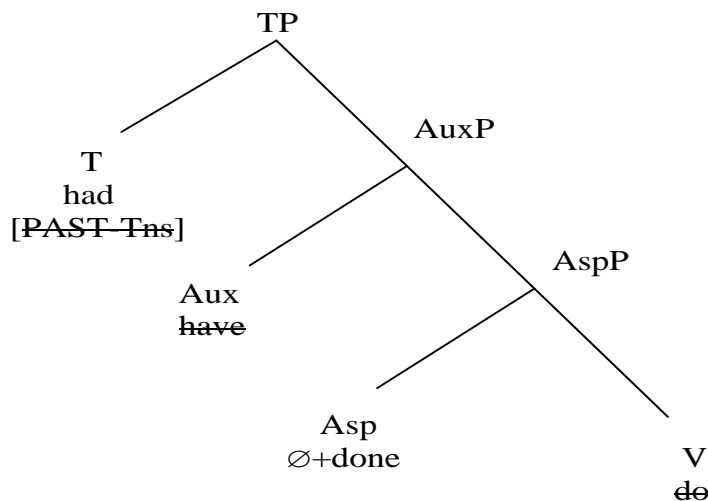
In (224), the verb *do* is merged with the affixal perfective aspect head, attracting the verb to the upper position and inflecting it into perfective participle

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[1] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 79-80.
[2] 'Asp' category analysis trough a tree diagram is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 77 (35).

form to form the AspP $\varnothing + done$ and the resulting AspP is merged with the perfect auxiliary *have*, forming the AuxP *have done*. The resulting AuxP is then merged with the inflectional past T to form the past perfect TP *had done*. Auxiliaries with valued tense features are also regarded as 'syncretised' (i.e. collapsed into a single T head)[1] auxiliary occupying the head T positions of TP, as shown below:

(225) is doing[2]
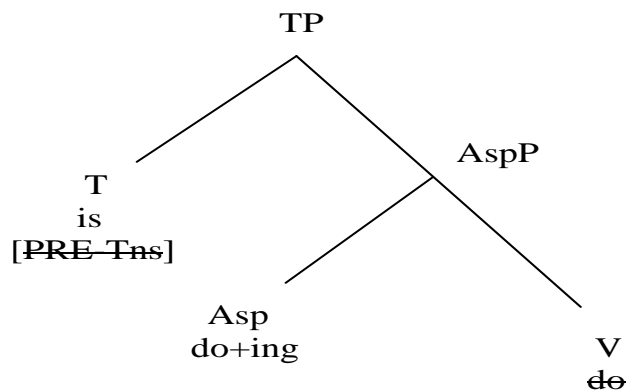
In (225), the verb *do* is merged with the imperfective aspect head affixal in nature attracting the verb to the upper position and suffixed onto the verb as *–ing* form to form the AspP $\varnothing + doing$ and the resulting AspP is merged with the progressive auxiliary *be*, forming the AuxP *be doing*. The resulting progressive AuxP is then merged with the inflectional present T to form the present progressive TP *is doing*.

The following examples, on the other hand, demonstrate the aspectual structures in Turkish:[3]

(226) a. yap-*mış-tı*
     done-*PER.ASP-PAST-3SgP*
     had done

    b. yap-*makta-dır*
     done-*IMPERF.ASP-PRE-3SgP*
     has been doing

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 170.
[2] The analysis of 'Aux' in T position on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 116 (30), 127 (60).
[3] These structures are noted as 'aspect' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 288-294.

c. konuş-(*u*)*yor*
   speak-*PROG.ASP-PRE-3SgP*
   is speaking

d. gel-*ecek*
   come-*PROS.ASP-3SgP*
   is going to come

e. konuş-(*u*)*yor-du*
   speak-*PROG.ASP-PAST-3SgP*
   was speaking

f. yap-*ar-dı*
   do-*HAB.ASP-PAST-3SgP*
   used to do

g. ev-de-*dir*
   home-LOC-*PRE-3SgP*
   was at home

(226) shows us that verbs in Turkish TPs are headed by affixal aspectual heads finally inflected for tense and agreement to express different aspects of time. Accordingly, we can say that perfective suffix -*mIş* in (226a) is attached to the bare verb *yap* when the verb is merged with the affixal perfective aspect head, which is finally headed by the affixal past T –*tı*. It can also be said that imperfective suffix -*mAktA* in (226b) and progressive suffix–*(U)yor* in (226c and 226e) are attached to the verb when the verbs *yap* and *konuş* respectively are merged with affixal imperfective or progressive aspect heads which are finally headed by an overt or null affixal present copular T –*dIr* (e.g. yap-*makta-dır*, konuş-*uyor(-dur)* etc)[1] or past T –*DI* (e.g. konuş-*uyor-du* etc). In addition, we also understand that habitual aspect in (226f) and prospective aspect in (226d) are headed by affixal heads (e.g. yap-*ar*-dı, gel-*ecek* etc) unlike the case in English where these aspectual paradigms are derived by VP or ModP structures (e.g. *used to* do, be *going to* do etc). In (226g), on the other hand, we understand that since the affixal aspect heads –*mIş, -yor, -Ar, -AcAk and -mAktA* are headed by affixal present copular T as in the case of the nominal complement *evde (home-LOC)*, they are of nominal feature, which yields up a

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[1] These structures are noted as 'the suffixes of the verb to be' or 'copular marker' by: Lewis, *Turkish grammar*, op.cit., p. 109-113; Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 293-294.

common parametric property rather than variation between English and Turkish languages. Actually, this fact is contradictory with the suggestion that "in languages which have morphological aspect constructions, the Asp morpheme has verbal features, whereas in languages which have periphrastic construction, that is, 'aspect heads which consist of an auxiliary and a participle',[1] it has nominal features."[2] In this context, we should either decline this suggestion or admit that these affixes are originally nominalizers and derive nominal structures like participles in English. We are in favor of the former since this assumption is not implausible considering some derivational suffixes used to derive adjectives or nouns such as '*kes-er* (cut-HAB → adze), *oku-r yaz-ar* (read-HAB write-HAB → literate), *geç-miş* (pass-PER → past), *er-miş* (mature-PER → matured) or *gel-ecek* (come-PROS → future/next)'[3] etc. in Turkish. Accordingly, we suggest that the affixal Asp morphemes in English and Turkish have periphrastic aspect, that is, they have nominal features, which may be described as a common parametric property suggesting that *in English and Turkish, Asp is nominal (i.e. [+N])*. This common parameter, in turn, means that the nominal property of the Asp morpheme in English and Turkish does not allow the nominalized verb to move to T having m-selectional properties, due to which a verbal expletive (i.e. Aux) is inserted under T (e.g. *have* broken or *is* doing). However, the nominalized verb in Turkish moves to T having m-selectional properties, as illustrated on the following tree diagrams below:
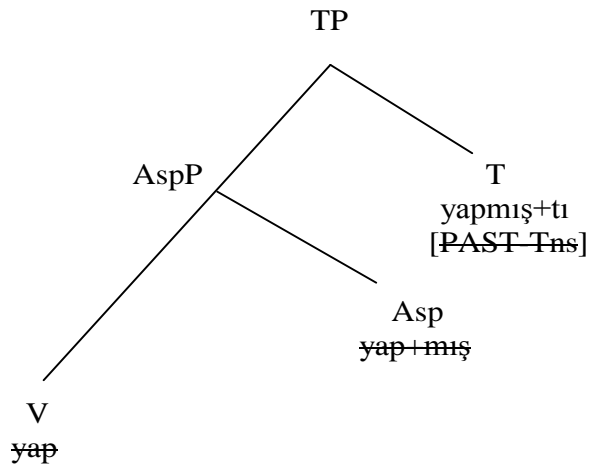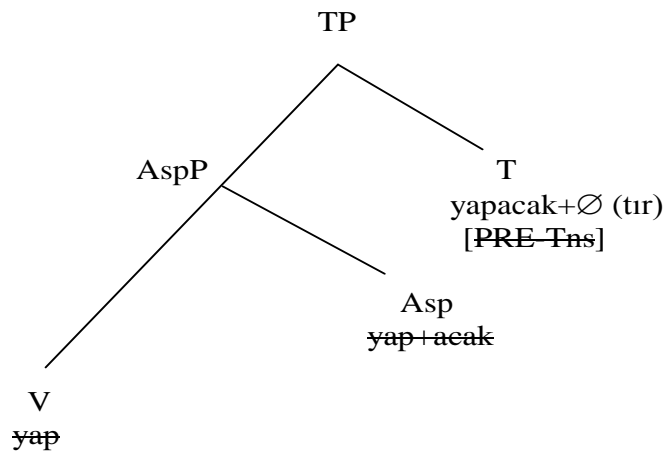
(227) yap-mış-tı *(had done)*

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[1] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 72.

[2] Ibid, p. 79.

[3] These structures are noted as 'derivational suffixes attaching to verbs' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 54-55.

```
                              TP
                         /          \
                        /            \
           AspP       /               \
              \      /                  T
               \    /                 yapmış+tı
                \  /                  [PAST-Tns]
                 \/
                  \
                   \
                    Asp
                   yap+mış

           V
          yap
```

(228) yap-acak *(is going to do)*

```
                              TP
                         /          \
                        /            \
           AspP       /               \
              \      /                  T
               \    /               yapacak+∅ (tır)
                \  /                 [PRE-Tns]
                 \/
                  \
                   \
                    Asp
                   yap+acak

           V
          yap
```

In the illustrations (227) and (228) above, we understand that aspectual categories are directly merged with overt or null affixal T to form TPs unlike the case in English where AspPs are headed by auxiliaries, the reason of which is explained above (i.e. nominal Asp). These illustrations may seem problematic when we consider the fact that aspectual category in Turkish also has a nominal feature as in the case of English (e.g. *be* doing, *have* seen etc). Categories having [+N] features cannot be merged with [+V] functional categories (i.e. *hasta-*dı* / ill-*PAST* etc). However, it should be noted that such categories need to be headed by a verb or a lexical auxiliary to be headed by [+V] functional categories (i.e. hasta *ol-du* / ill *be-PAST or* etc), as shown below:

(229) hasta oldu *(got ill)*
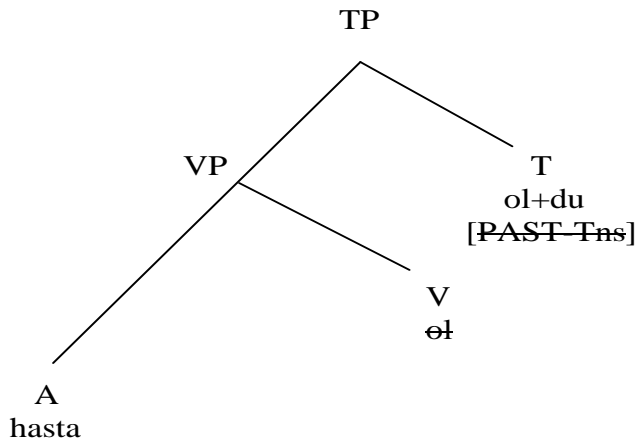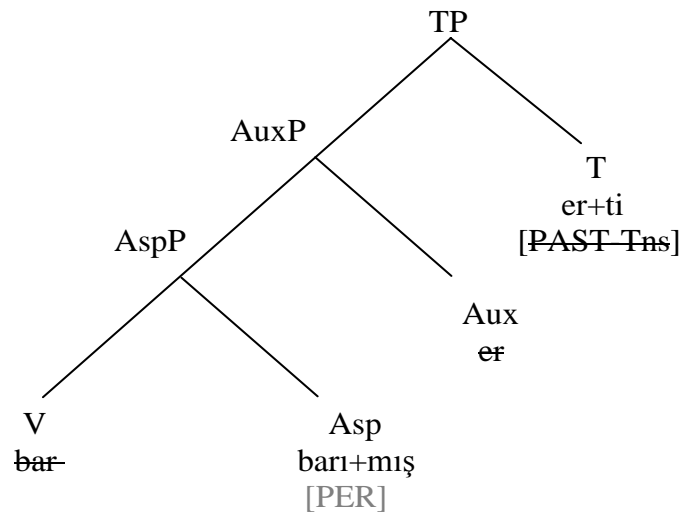
(230) yapıyor ol *(be doing)*
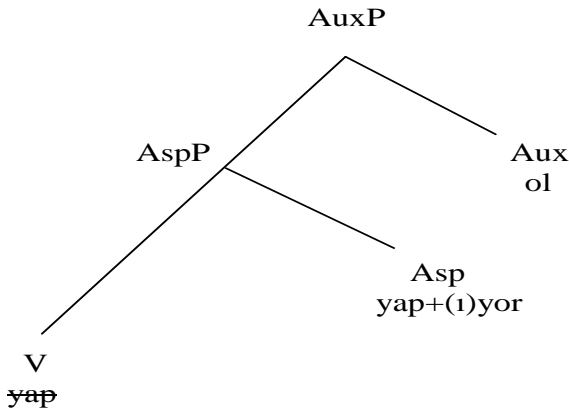
From (229) and (230), we understand that AspP in Turkish has nominal features although they are of affixal feature since they are headed by a lexical or affixal 'syncretised' auxiliary to form TP projections, as also illustrated for English in (225). Therefore, in order to illustrate alternative analyses for the structures in (227) and (228) above, we suggest that aspect phrases are headed by a lexical or affixal 'syncretised' auxiliary to form TPs which can also be supported by the evidence from Orkhon Turkic illustrated below:

(231) yorı-*yur er-ti*[1]
       walk-*PROG be-PAST*
       was walking

---

[1] Ata Aysu, *Orhun Türkçesi*, Anadolu Üniversitesi, 2011, p.129.

TP

AuxP

T
er+ti
[~~PAST-Tns~~]

AspP

Aux
~~er~~

V
~~yorı~~

Asp
yorı+yur
[PROG]
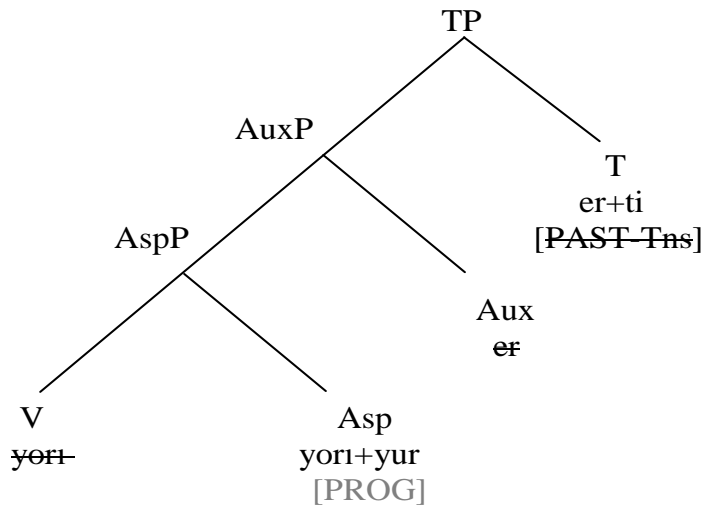
(232) bar-*mış er-ti*[1]
go-*PER* *be-PAST*
had gone

TP

AuxP

T
er+ti
[~~PAST-Tns~~]

AspP

Aux
~~er~~

V
~~bar~~

Asp
barı+mış
[PER]
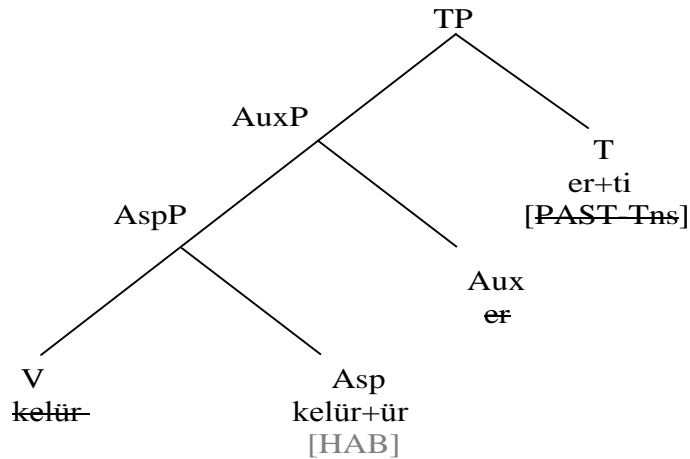
(233) kelür-ür er-ti[2]
bring-HAB be-PAST
used to bring

---

[1] Ata Aysu, *Orhun Türkçesi*, op. cit., p.130.
[2] Ibid, p.129.

```
                        TP
                       /  \
                      /    \
                 AuxP       \
                /   \        \
               /     \        T
          AspP        \      er+ti
         /    \        \    [PAST-Tns]
        /      \        \
       /        \        Aux
      V          Asp      er
   kelür      kelür+ür
              [HAB]
```

(234) bol-taçı er-ti[1]
       become-PROS be-PAST
       was going to become

```
                        TP
                       /  \
                      /    \
                 AuxP       \
                /   \        \
               /     \        T
          AspP        \      er+ti
         /    \        \    [PAST-Tns]
        /      \        \
       /        \        Aux
      V          Asp      er
    bol        bol+taçı
               [PROS]
```
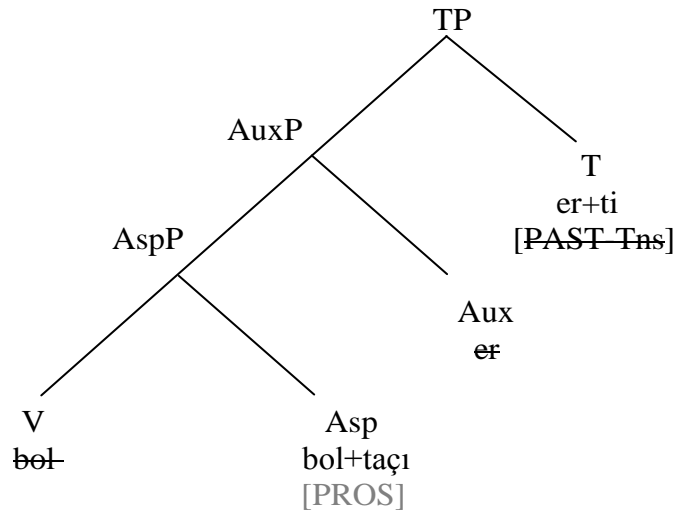
From the illustrations (231-234) above, we understand that in old Turkish (i.e. Orkhon Turkic) *er* was used as an overt lexical aspectual auxiliary which has been lost in the course of time and cliticized onto tense affixes, that is, "Aux and T have been syncretised (i.e. collapsed into a single T head)"[2] as illustrated in (2235) below. Since Asp in Turkish is affixal and it has nominal features and since the category of T is m-selectional, the category of T in Turkish is filled either by a

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[1] Ata Aysu, *Orhun Türkçesi*, op. cit., p.130.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 170.

lexical syncretised T constituent (e.g. idi, imiş, ise etc)[1] as in the case of English (e.g. is, was, been etc.) or by an affixal syncretised T constituent (e.g. -dIr, -(y)dI etc)[2] as shown in (236) below, which is illustrated by unlabelled tree diagrams comparing old and modern Turkish TP structures below:

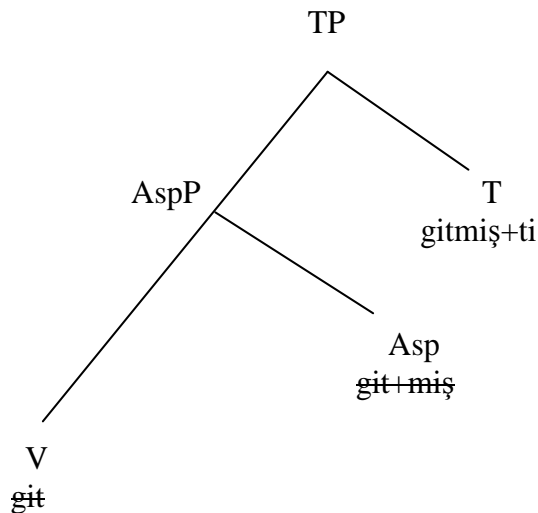(235) yorıyor erti/yürüyor idi
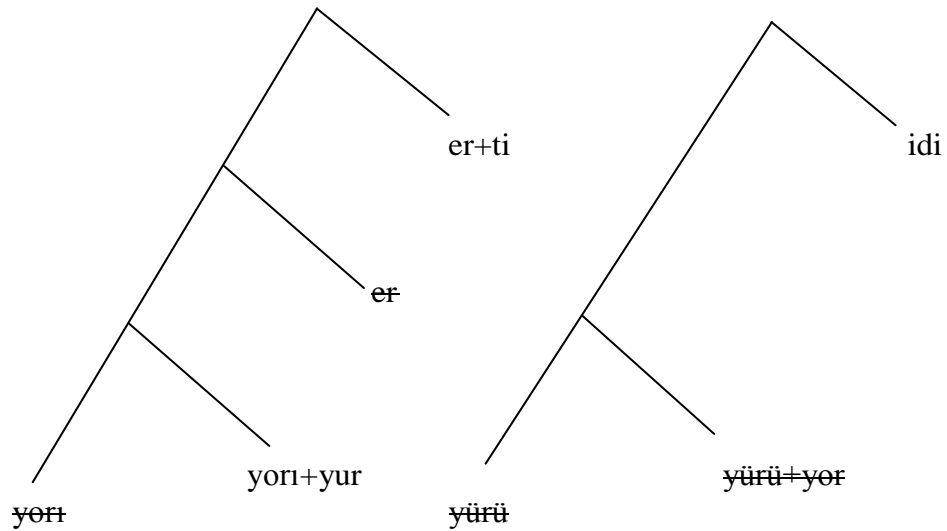
(236) yürüyor idi/yürüyordu

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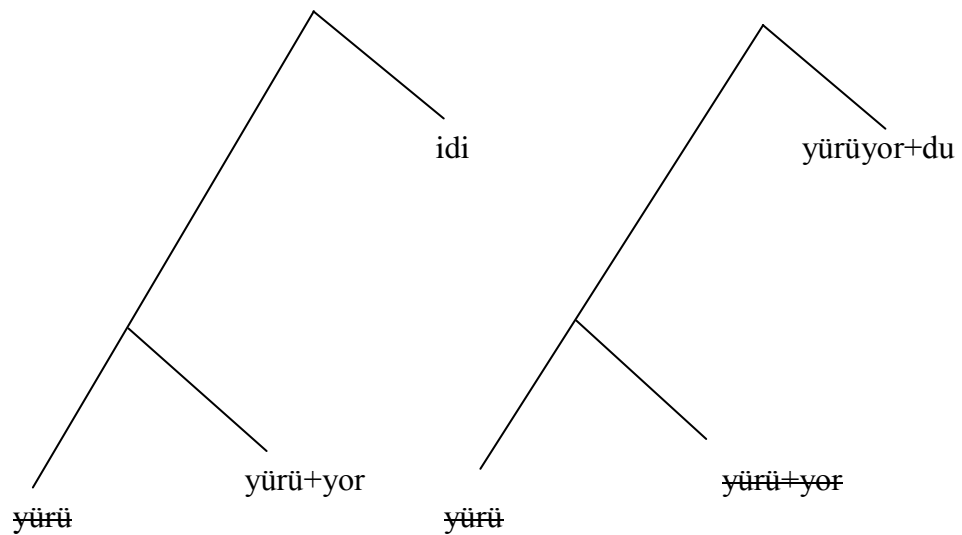
[1] These structures are illustrated as lexical 'the past or perfective forms of the verb to be' or 'copular verb' by: Lewis, *Turkish grammar*, op.cit., p. 114-128; Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 79.

[2] These structures are illustrated as affixal 'forms of the verb to be' or 'copular marker' by: Lewis, *Turkish grammar*, op.cit., p. 114-128; Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 79.
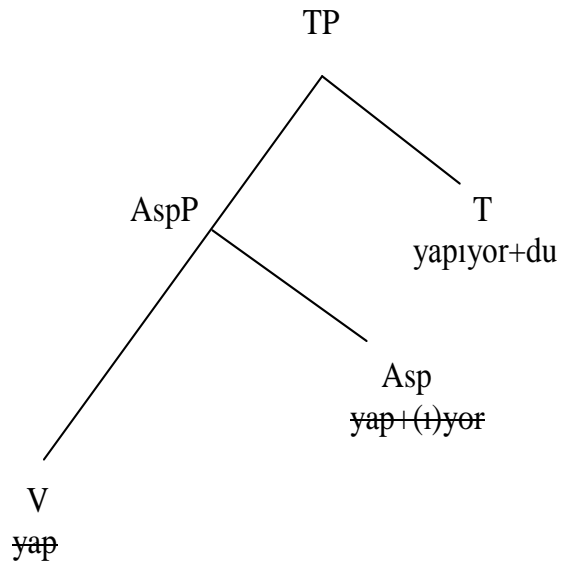
Therefore, it should be noted that the AspPs require lexical (e.g. ol/be) or affixal (e.g. –dIr, idi) auxiliary heads, having c-selectional properties thus c-selecting A (e.g. hasta-*(y)dı*/was ill), DPs (öğrenci-*dir*/ is a student), PPs (e.g. başarı için-*dir*/ is for success), NomPs (e.g. okuma-*dır/*is reading) or AspPs (e.g. yap-(ı)yor-*du*/was doing) to form TPs in Turkish. Accordingly, disregarding the unnecessary elements in the syntactical operations and considering only the necessary ones at PF and LF in minimalist sense, we may not demonstrate an independent category of Aux but only TP head by lexical or affixal syncretised T heads in our comparative bilingual analyses, as shown in the following illustrations below:

(237) gitmişti *(had gone)*

```
                        TP
                       /  \
                      /    \
                     /      \
               AspP /        \    T
                 \ /          gitmiş+ti
                  \
                   \    Asp
                    \  g̶i̶t̶+̶m̶i̶ş̶
                     \
                      \
                 V
               g̶i̶t̶
```
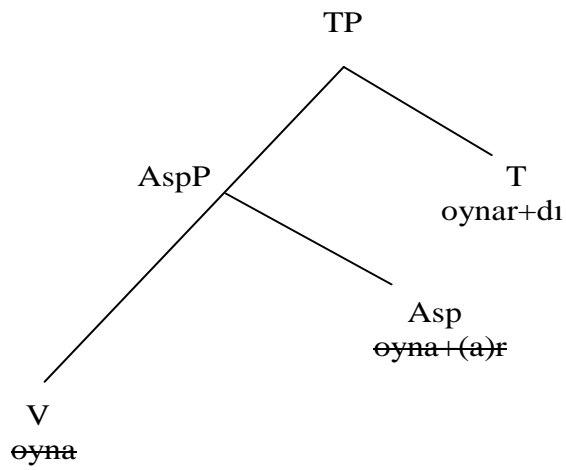
In (237), the verb *yap* is merged with the affixal perfective aspect head *-mIş* which attracts the verb to the upper position and attaches to it to form the AspP *yapmış* and the resulting AspP is merged with the affixal syncretised (i.e. Aux+T) past T *-ti,* triggering the AspP to move to the affixal T position to form the past perfective TP *yapmıştı*. These operations are also available for imperfective, habitual and prospective AspPs illustrated below:

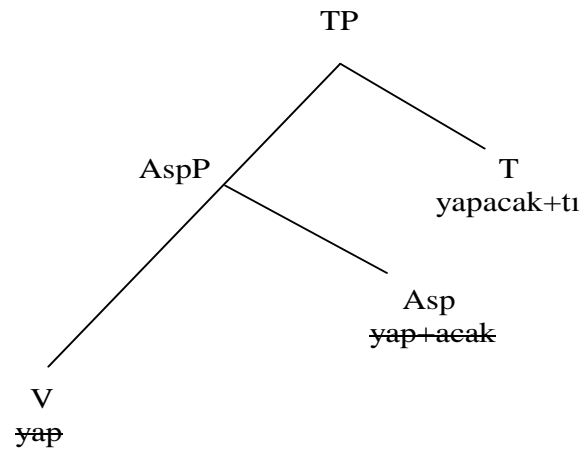(238) yapıyordu *(was doing)*

TP

AspP

T
yapıyor+du

Asp
~~yap+(ı)yor~~

V
~~yap~~

(239) oynardı *(used to play)*

TP

AspP

T
oynar+dı

Asp
~~oyna+(a)r~~

V
~~oyna~~

(240) yapacaktı *(was going to do)*

TP

AspP

T
yapacak+tı

Asp
~~yap+acak~~

V
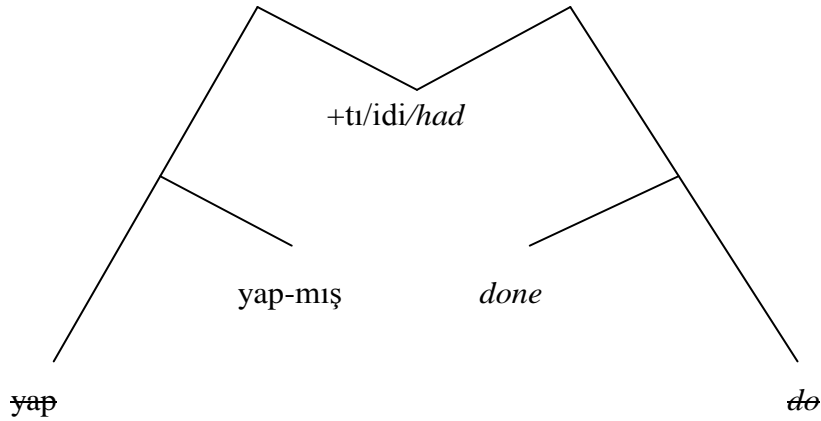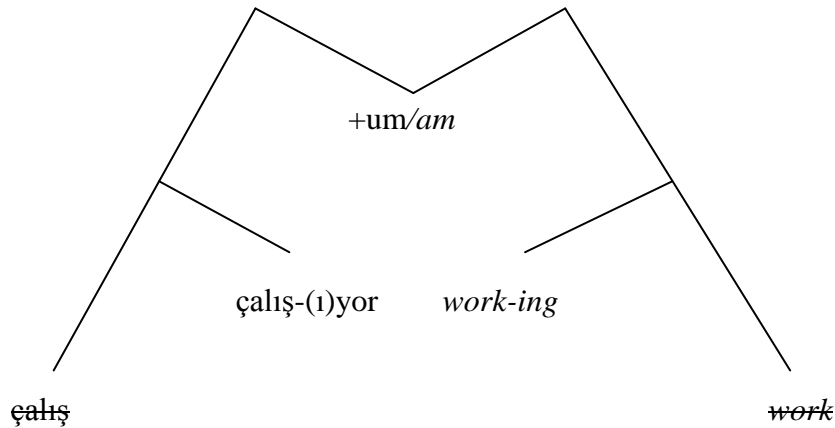~~yap~~

Now, let's observe these illustrations on comparative cross-lingual unlabelled M-diagrams in (241) and (242) below:

(241) yapmıştı/*had done*

+tı/idi/*had*

yap-mış   *done*

~~yap~~   ~~do~~

(242) çalışıyorum/*am working*

+um/*am*

çalış-(ı)yor   *work-ing*

~~çalış~~   ~~work~~

(242) tells us in minimalist terms that the verb *çalış/work* is merged with the progressive aspect head which attracts the verb to the upper position to attach to it or inflects it into an appropriate aspectual form to form the AspP *çalışıyor/working*. The resulting AspP is then merged with the affixal or overt lexical category of syncretised auxiliary occupying T –*um*/*am* to form the TP *çalışıyorum/am working*. Note that we ignored spec-T and agreement features in the illustrations above.

As a consequence, from (241) and (242), we understand that Asp is observed to be nominal both in English and Turkish. However, while aspectual categories in English (i.e. perfective and progressive) are inflectional or affixal (e.g. ∅+*done* or

do+ing etc) in nature, they are only of affixal nature (e.g. yap*mış*, yap-*ıyor*) in Turkish. While Aux and T in modern Turkish are syncretised as an affixal or lexical T head, Aux in English is filled by aspectual auxiliaries carrying perfective or progressive features (e.g. *be* doing, *have* done) in English, which is finally attracted and inflected by the m-selectional T (i.e. lexical T head like in Turkish). Furthermore, in terms of aspectual paradigms, English operates two inflectional aspects as Asp head (i.e. perfective and progressive aspects) in contrast to Turkish which operates five affixal aspects: perfective, progressive, prospective and habitual aspects as well as an imperfective aspect which is a multi layered (i.e. perfect progressive) derivation in English which we will analyze in multi layered derivations.

5.5.5. MODAL PHRASES

At the beginning of this section (5.5.2) of the study, TPs in English and Turkish derivations were observed to be headed by an inflectional or affixal category of T which attracts the lower Aux, inflecting it to form syncretised lexical or affixal T constituents having valued present or past features, forming TPs. We also introduced the category of Aux as a distinctive feature to categorize certain heads as nominal categories as in the case of the category of aspect which we analyzed in both languages. As a reminder, the AspP is merged with a higher Aux, forming the projection of AuxP, or it is merged with T which hosts syncretised (i.e. Aux+T) constituents (e.g. idi/was). In addition, there are some lexical constituents having functional properties which are assumed "to have had transitions from full verbs to auxiliary and have gone many restrictions."[1] Once having been full verbs, "they gradually lost their full verb meanings and some of their morphological features (i.e. they lost their infinitival, participial and full tense forms) and transformed from full verbs to auxiliary status as in the case of modal auxiliaries (Mod) such as will/ can/ must/ ought/ dare /needn't etc. (e.g. the prospective modal auxiliary *will* is the modern form of *willan* in the sense of 'want' and *must* used in modern English comes from the original full verb *mot* in the sense of 'to have the power' and so is

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[1] Jean Aitchison, "Review of Lightfoot (1979)", *Linguistics*, 1980, 18: 137-146.

can from *cunnan*, *may* from *magan* etc.).[1] The following examples demonstrate modal structures in English:[2]
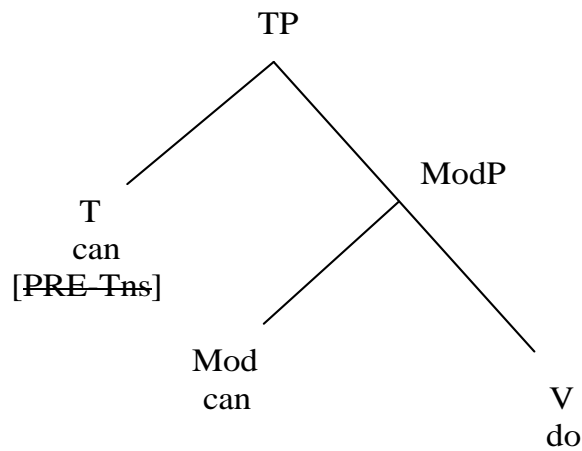
(243)   a. *can* do, *may* go, *might* come, *must* do, *should* study, *will* be
        b. *could* do, *would* go

In (243a), *will* denotes 'prospective aspect' with its complement verb *be*, an action which is to be executed in the future or to happen at any time from this moment. *Can,* with its complement verb *do,* denotes an action within the capability of the performer happening at present or in the future. *May* is used to denote a possible action likely to be at present or to happen in the future, which also expresses a modal action with its complement verb *go.* In (243b), *would* is used not only to denote a conditional action which is intended to be executed or expected to happen in an otherwise case at present but not yet executed but also to denote a repeated action in the past. *Could* is past-inflected form of the modal auxiliary *can,* thus, with its complement verb *do,* denoting an action within the capability of the performer in the past, or expressing a repeated ability happening in the past. Just as *could* is used as the past form of present ability modal auxiliary *can* in order to denote ability in the past, *would* is also used as the past form of future modal auxiliary *will* in order to denote aspectual future in the past, which demonstrate us that the category of 'modal' in English is assigned tense within TP. This category has been valued either as 'present' or 'past' feature, but does not have 'person' and 'number' features in agreement with the specifier at PF (e.g. He/They/I can do). From the illustrations above, it is understood that Mod is a functional category having a verbal [+V] feature since it moves to T to have present or past value and an aspect feature since it denotes a repeated or habitual action at present or in the past (e.g. can, could or would) and prospective actions (e.g. will, may, might, can etc). Now, in light of these properties, let's analyze this functional category of words in English as illustrated below:
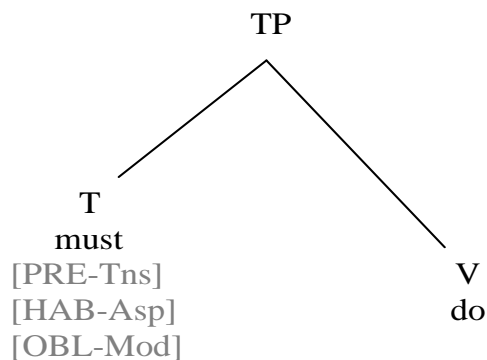
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[1] Olga Fischer, *The development of the modals in English: Radical versus gradual changes*, Amsterdam, 2004, p. 17.
[2] These structures are identifed as 'modal auxiliaries' by: Audrey J. Thomson-Agnes V. Martinet-Eileen Draycott, *A practical English grammar*, Hong Kong, 1986, p. 77; Betty S. Azar, *Understanding and Using English Grammar,* New York,1999, p. 151.

(244) can do[1]

```
                      TP
                     /  \
                    /    \
                   /      \
                  /      ModP
                 /       /  \
                T       /    \
               can     /      \
            [P̶R̶E̶-T̶n̶s̶]  /        \
                    Mod        \
                    can         V
                                do
```

In (244), the verb *do* is merged with the ability (ABIL) Mod *can* to form the ModP *can do* and then the ModP is merged with the inflectional present T and checked against inflectional present form to form the TP *can do*. However, considering all the features identified in (243) above and minimalist concerns with economy of derivation and representation, it is plausible to analyze modals as syncretised T constituents rather than individual Aux or Mod nodes since they have aspect, mood, auxiliary and tense properties collapsed into a single T head (i.e. Asp+Mod+Aux+T), thus selecting verbs as complements. Below is the analysis of modals as T heads:

(245) must do[2]

```
                      TP
                     /  \
                    /    \
                   /      \
                  T        \
                must        V
             [PRE-Tns]      do
             [HAB-Asp]
             [OBL-Mod]
```

---

[1] The analyses of 'Mod' node and 'ModP'projection on a tree diagram is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 71 (27).
[2] The analyses of modals as 'T' on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 111-112 (18).

In (245), the verb *do* is merged with T *must* having valued present tense, obligation (OBL) mood and habitual aspect to form the TP *must do.*

(246)   would go

TP

T
would
[PAST-Tns, HAB-Asp] /
[PRE-Tns, COND-Mod]

V
go
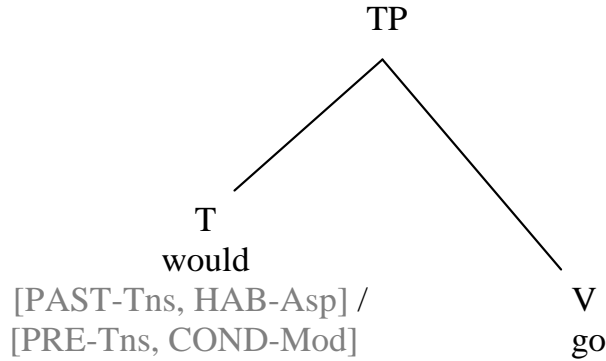
In (246), the verb *go* is merged with T *would,* having valued past tense and habitual aspect (or present tense and conditional mood), forming the TP *would go*.

Corresponding to the modal structures in English above, the following structures can be illustrated as modal structures in Turkish:[1]

(247)   a. yap-*malı-ydı*
            do-*SUG-PAST-3SgP*
            s/he should have done

        b. ol-*abil-ir*
            do-*UNCERT-HAB-PRE-3SgP*
            s/he may be

        c. yap-*abil-ir*
            do-*ABIL-HAB-PRE-3SgP*
            s/he can do

        d. yap-*abil-iyor-du*
            do-*ABIL-PROG-PAST-3SgP*
            s/he could do

        e. bitir-*meli-sin*
            finish-*OBL-PRE-2SgP*
            you must finish

        f. gel-*ir-di-m*
            come-*HAB-PAST-1SgP*
            I would come

---

[1] These structures are noted as 'aspect' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 299-307.

In (247), we understand that structures presented as modal affixes gradually lost their full verb meanings or morphological features (i.e. they lost their nominal or full verb properties) and transformed from full verbs or individual affixes to compound affixal status as in the case of modal auxiliaries in English. For example, the affixal obligation marker *-mAlI* in modern Turkish comes from the original nominalization affixes *-mA* and *-lI* in the sense of 'be obliged to',[1] and the ability marker *-Abilir* used in modern Turkish comes from the original full verb *bilmek* (know) used as auxiliary verb and the nominalization affix *-A* in the sense of 'to know doing'.[2] In (247a), *-mAlIydI* is past form of the modal affix *–mAlI,* denoting unreal 'suggestion' (SUG) in the past with its complement verb *yap* (do). In (247b), *-Abilir,* with its complement verb *ol* (be), is used to denote a possible action likely to be at present or to happen in the future. In (247c), *-Abilir,* with its complement verb *yap* (do), denotes an action within the capability of the performer happening at present or in the future. In (247d), *-Abilirdi* is past form of the modal affix *-Abilir,* thus, with its complement verb *do,* denoting an action within the capability of the performer in the past, or expressing a repeated ability happening in the past. In (247e), *-mAlI,* with its complement verb *bitir* (finish) denotes 'obligation' (OBL) at present or in the future. In (247f), *-ArdI,* with its complement verb *gel (come)* is used not only to denote a conditional action which is intended to be executed or expected to happen in an otherwise case at present but not yet executed but also to denote a repeated action in the past. From the illustrations above, it is understood that this category has been valued either as 'present' or 'past' feature as well as 'person' and 'number' features in agreement with the specifier (e.g. ben git-*meli-yim*, sen git-*meli-sin* can do). It is also understood that Mod is a functional category having a verbal [+V] feature since it moves to T to have present or past value and an aspect feature since it denotes a habitual or progressive action at present or in the past (e.g. –Abil-*ir*, -Abil-*(i)yor*) and prospective actions (e.g. -ol-*abilir* etc). It also has m-selectional properties as T since it selects verbal complements (e.g. *yap*-abilir but *evde-ebilir). It is also understood that modal heads are affixal as in the case of
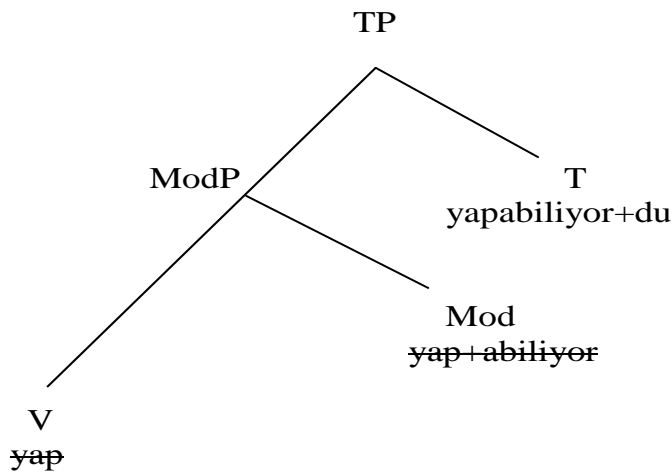
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[1] Muharrem Ergin, *Türk dil bilgisi,* op. cit., p.313.
[2] Ibid, p. 340.

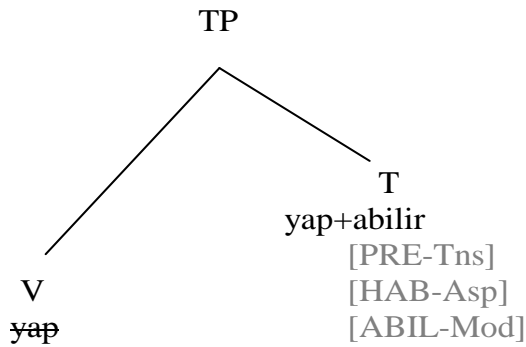affixal auxiliaries in Turkish unlike their syncretised single head counterparts in English.

Now, in light of these properties, let's analyze this functional category of words in Turkish as illustrated below:

(248) yap-*abiliyor-du*
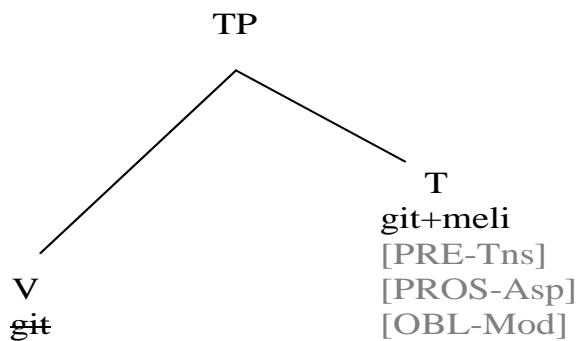   do-*ABIL.MOD-PAST-3SgP*
       could do

In (248), the verb *yap* (do) is merged with the modal affix *–Abiliyor,* attracting the verb to the higher position and attaching to it to form the ModP *yapabiliyor* (can do) and then this ModP is merged with the affixal past T, attracting the auxiliary verb and attaching to it to form the TP *yapabiliyordu* (could do). However, considering all the features identified in (247) above and minimalist concerns with economy of derivation and representation, it is plausible to analyze modals as syncretised T constituents rather than individual Aux or Mod nodes since they have at least two or three of aspect, mood, auxiliary and tense affixes or full verbs which gradually lost their full verb meanings and morphological features (i.e. they lost their nominal, aspectual or full tense forms) and transformed from full verbs (e.g. bil/know) or individual affixes (e.g. -mA, -lI) to auxiliary status (e.g. –Abilir, -mAlI), being collapsed into a single T head (i.e. Asp+Mod+Aux+T) and thus selecting verbs as complements. Below is the analysis of modals as T heads:

(249) yapabilir*/ can do*
       do-*ABIL.MOD-PRE-3SgP*

```
          TP
        /    \
             T
          yap+abilir
             [PRE-Tns]
      V      [HAB-Asp]
     y̶a̶p̶    [ABIL-Mod]
```

From (249), we understand that the verb *yap* (do) is merged with the affixal present T *-Abilir* (can) to form the TP *yapabilir* (can do). Note that the single T head *-Abilir* (can) denotes habitual aspect and ability mood.

(250)   gitmeli*/ must go*
        go-*OBL-PRE-3SgP*

```
               TP
             /    \
                   T
                 git+meli
                   [PRE-Tns]
           V       [PROS-Asp]
          g̶i̶t̶    [OBL-Mod]
```

In (250), the verb *git* (go) is merged with the affixal present T *-meli* (must) to form the TP *gitmeli* (must go). Note that the single T head *-mAlI* (must) denotes prospective aspect and obligation mood.

On cross-lingual unlabelled M-diagrams below, we illustrated modal structures in both languages comparatively under TP projections with their specifiers:

(251)   yapabilirim/*I can do*
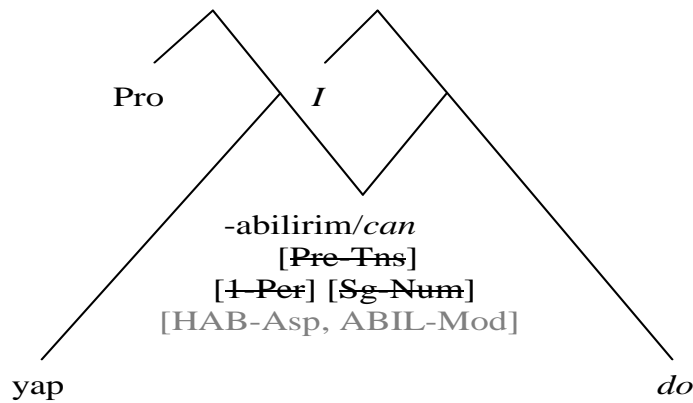
From (251), we understand that the verb *yap/do* is merged with T which hosts an affixal or lexical modal auxiliary having habitual aspect and ability mood paradigms to form the T′ *yapabilir/can do*. The EPP feature of T projects the 1Sgp pronoun as its specifier and undergoes person and feature checking with the interpretable features of 'Pro/I', forming the TP *yapabilirim/I can do*. Apart from ability, the Turkish affixal Mod *-AbIlIr* can also be used to express different moods such as possibility, request and permission whereas English operates a distinct one for possibility as shown below:

(252)   Yağmur yağabilir
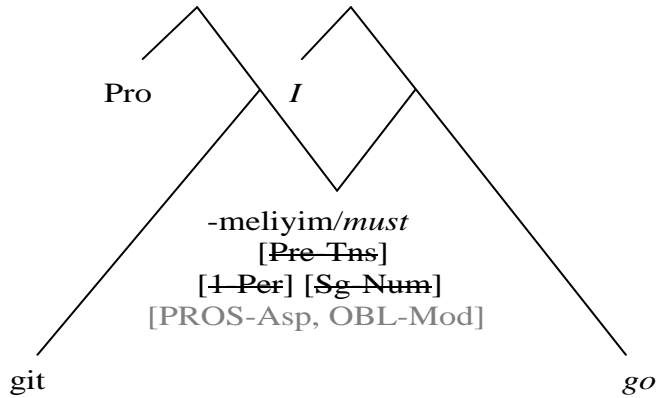   *Rain fall-UNCERT-PRE/3SgP*
        It may rain
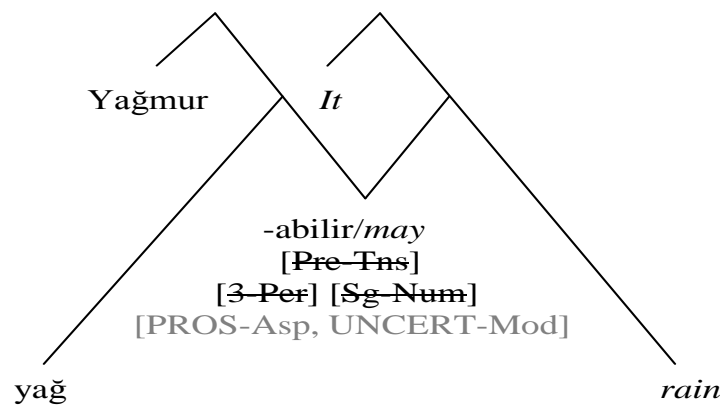
From (252), we understand that the verb *yağ/rain* is merged with T which hosts an affixal or lexical modal auxiliary having prospective aspect and uncertainty mood paradigms to form the T′ *yağabilir/may rain*. The EPP feature of T projects the DP *yağmur*/3SgP *expletive* pronoun *it* as its specifier and undergoes person and

feature checking with the interpretable features of 'Yağmur/It', forming the TP *Yağmur yağabilir/It may rain.*

(253)   Gitmeliyim/*I must go*

From (253), we understand that the verb *git/go* is merged with T which hosts an affixal or lexical modal auxiliary having prospective aspect and obligation mood paradigms to form the T′ *gitmeli/must go*. The EPP feature of T projects the 1Sgp pronoun as its specifier and undergoes person and feature checking with the interpretable features of 'Pro/I', forming the TP *gitmeliyim/ I must go*. In addition to obligation, the Turkish affixal Mod –*mAlI* can also be used to express different mood paradigms such as suggestion (SUG) and deduction (DEDUCT) whereas English operates a distinct one for advisability as shown in (254) and (255) below:

(254)   Babam şimdi evde olmalı/*My father must be at home now*
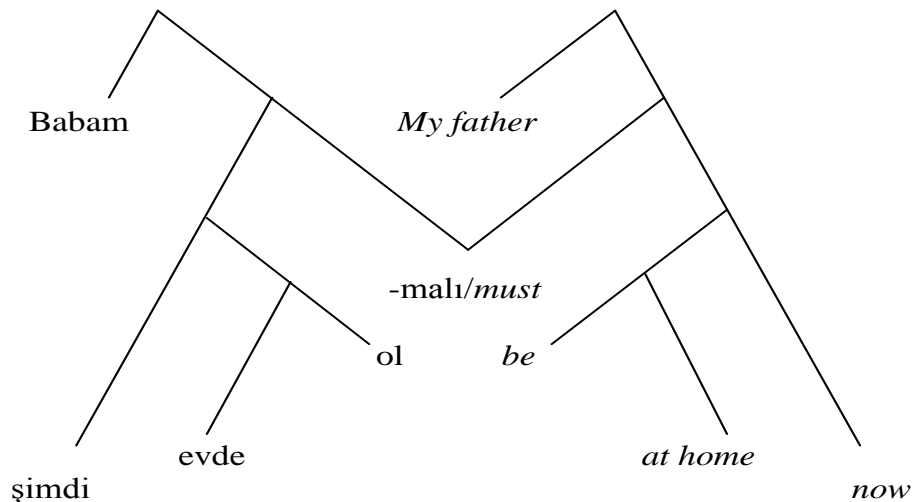
(254) shows us that bottom-up operations start with the PP *ev-de/at home* which is merged with the verb *ol/be*, forming the V-bar *evde ol/be at home.* This V-bar is then extended by the adverb *şimdi/now,* forming the VP *şimdi ev-de ol/be at home now*. The VP is then merged with the category of T *-malı/must* to form the present T-bar *şimdi ev-de olmalı/must be at home now*. The EPP feature of T projects the DP *Babam/My father* as its specifier and undergoes person and feature checking with the interpretable features of the specifier, forming the TP *Babam şimdi ev-de ol-malı/My father must be at home now,* denoting deductive mood paradigm in both languages.

(255) Ödev-ini yap-malı-sın/*You should do your homework*
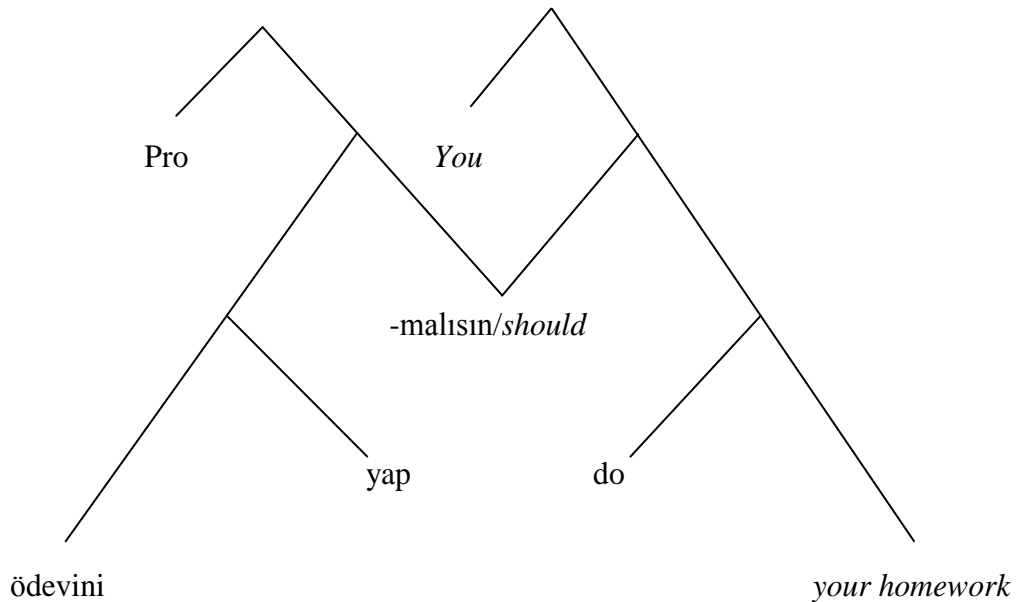
From (255), we understand that the DP *ödevini/your homework* is merged with the verb *yap/do,* forming the VP *ödevini yap/do your homework.* The VP is then merged with the category of T *-malı/should* to form the present T-bar *ödevini yapmalı/ should do your homework*. The EPP feature of T projects the 2SgP *Pro/Your homework* as its specifier and undergoes person and feature checking with the interpretable features of the specifier to form the TP *Ödevini yapmalısın / You should do your homework,* denoting suggestion.

5.5.5. TENSE PHRASES WITH MULTIPLE LAYERS

So far, we have analyzed TPs with a single PASSP, AspP or ModP complements. However, in this part of the study, we analyze TPs with multiple layers of AspPs and ModPs in English and Turkish syntactic structures comparatively. The examples in (256) below are the English TPs with multiple layers of AspPs and ModPs:[1]

(256)   *has been* do*ing, may be* sleep*ing, will have been* complet*ed, must have* see*n*

In (256), we understand that each layer of AspPs within TPs is headed by auxiliaries since they are of nominal feature. Now, let's analyze these structures on a tree diagram:[2]

(257)   has been doing
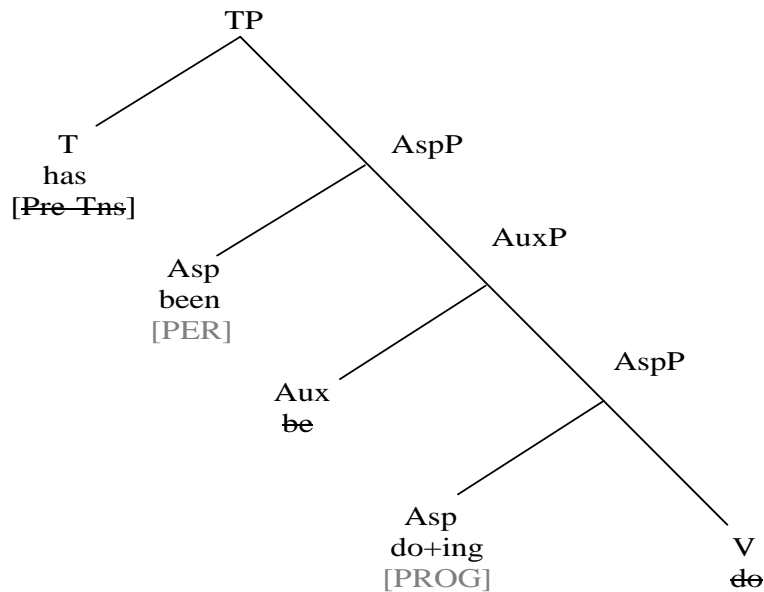
In (257), the verb *do* is merged with the progressive aspect head which is an affixal nominalizer in nature and thus attracting the verb to the upper position and attaching to it as *–ing* form to form the AspP *doing* and the AspP is then merged with

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[1] These structures are noted as 'perfect' or 'progressive tenses' and as 'past' or 'progressive' forms of modals' by: Audrey J. Thomson-Agnes V. Martinet- Eileen Draycott, *A practical English grammar*, Hong Kong, 1986, p. 118-142; Betty S. Azar, *Understanding and Using English Grammar,* New York,1999, p. 3-5, 163,188.

[2] The analyses of multi layered TPs on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 112-114 (18, 23).

the progressive auxiliary *be*, forming the AuxP *be doing*. The resulting AuxP is then merged with the perfective aspect head which is also an affixal nominalizer in nature and thus attracting the verb to the upper position and attaching to it as past participle form (i.e. –ed/-n) to form the AspP *been doing* and then the resulting perfect progressive (i.e. imperfective) AuxP is then merged with T hosting present perfect auxiliary to form the TP *has been doing* which is in agreement with a 3SgP person. Note that specifiers and T-bar levels are ignored.

(258)   may be sleeping

In (258), the verb *sleep* is merged with the progressive aspect head which is an affixal nominalizer in nature and thus attracting the verb to the upper position and attaching to it as *–ing* form to form the 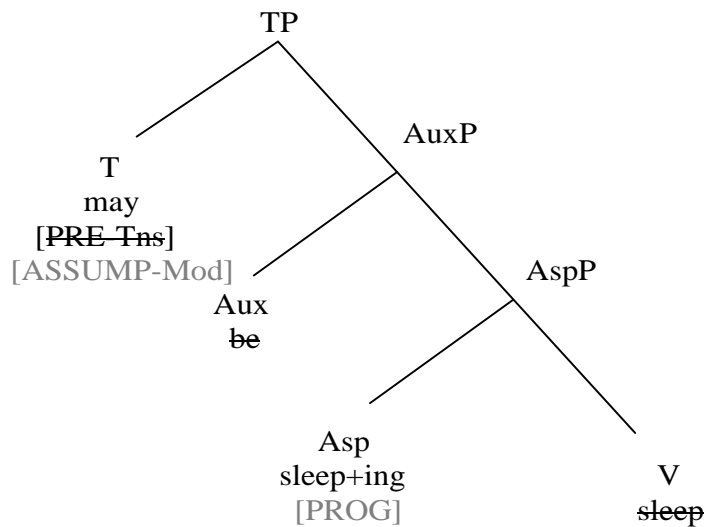AspP *doing* and the AspP is then merged with the progressive auxiliary *be*, forming the AuxP *be sleeping*. The resulting AuxP is then merged with T hosting present assumptive modal auxiliary to form the TP *may be sleeping*.

(259)   will have been completed

TP
T
will
[~~PRE-Tense~~]
[PROS]

AuxP

Aux
have

AspP

Asp
~~been~~
[PER]

AuxP

Aux
~~be~~
[PASS]

PASSP
completed

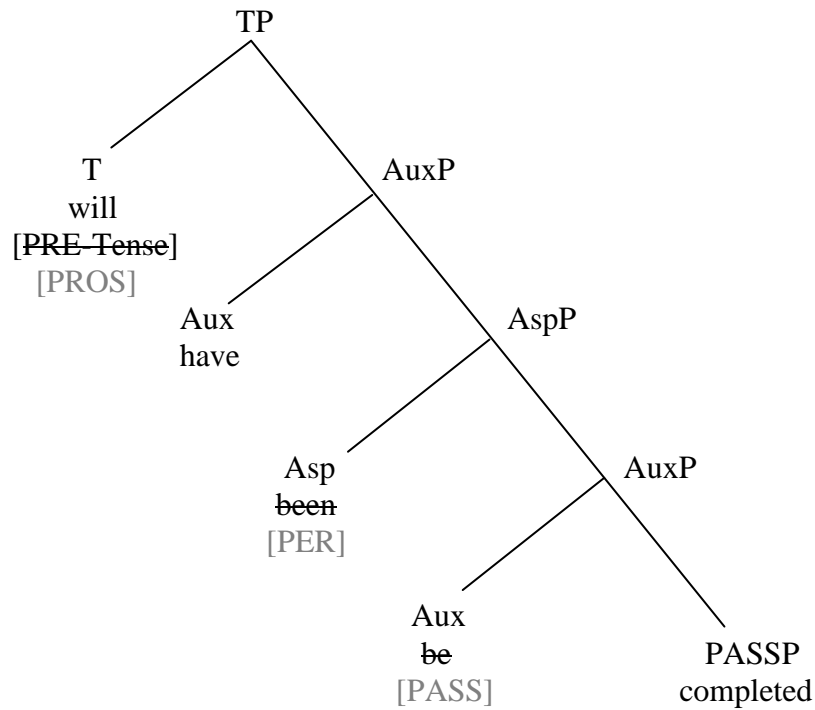In (259), the passive PASSP *completed* is merged with the passive auxiliary *be* to form the AuxP *be completed* and the resulting AuxP is then merged with the perfective aspect head which is also an affixal nominalizer in nature and thus attracting the auxiliary *be* to the upper position and attaching to it as past participle form (i.e. –ed/-n) to form the AspP *been completed* and then the resulting perfect (i.e. imperfective) AspP is merged with the perfective auxiliary *have* to form the AuxP *have been completed.* The resulting AuxP is merged with T hosting prospective auxiliary to form the TP *will have been completed.*

(260)   must have seen

```
                        TP
                     ╱      ╲
                    ╱        AuxP
                   ╱        ╱    ╲
              T             ╱      ╲
            must           ╱        AspP
          [PRE Tns]       ╱        ╱    ╲
          [DEDUCT]      Aux       ╱      ╲
                        have     ╱        ╲
                                ╱          ╲
                              Asp           ╲
                             seen            V
                             [PER]          see
```
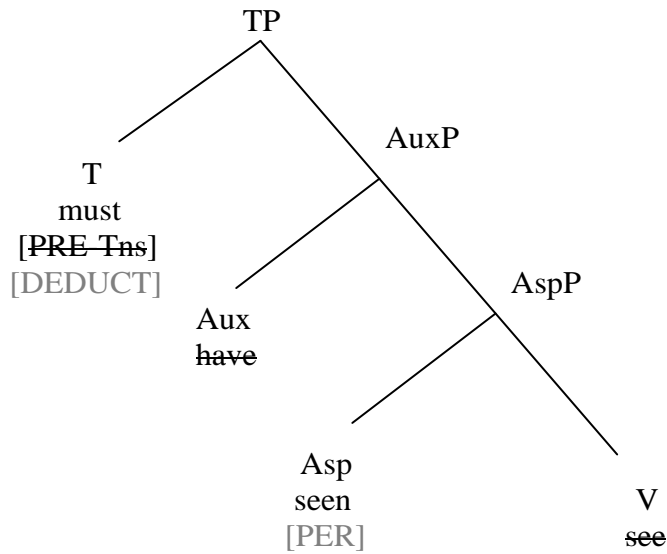
In (260), the verb *see* is merged with the perfective aspect head which is an affixal nominalizer in nature and thus attracting the verb to the upper position and attaching to it as *-n* form to form the perfective AspP *done* and the resulting AspP is then merged with the perfective auxiliary *have* to form the AuxP *have seen. completed.* The resulting AuxP is merged with T hosting deductive auxiliary to form the TP *must have seen.*

(261) would have come

```
                        TP
                     ╱      ╲
                    ╱        AuxP
                   ╱        ╱    ╲
              T             ╱      ╲
            would          ╱        AspP
          [PRE Tns]       ╱        ╱    ╲
          [COND]        Aux       ╱      ╲
                        have     ╱        ╲
                                ╱          ╲
                              Asp           ╲
                             come            V
                             [PER]          come
```
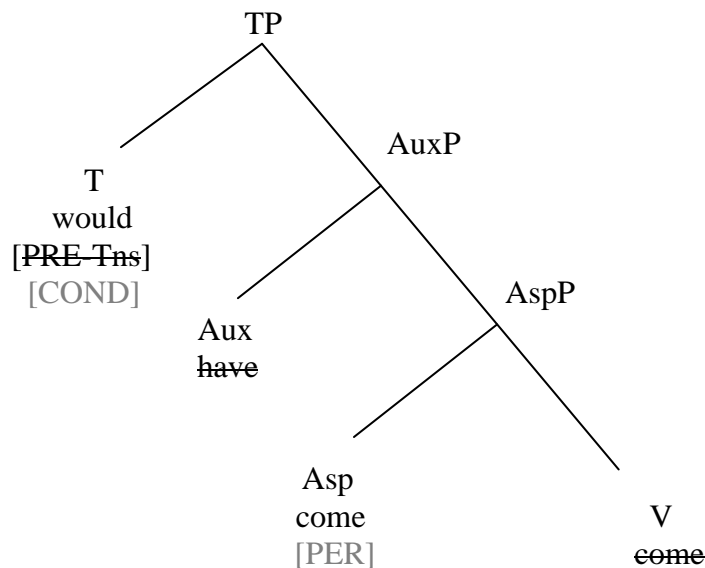
In (260), the verb *come* is merged with the perfective aspect head to form the perfective AspP *come* and the resulting AspP is then merged with the perfective

auxiliary *have* to form the AuxP *have come.* The resulting AuxP is merged with T hosting conditional auxiliary to form the TP *would have seen.* It should be noted that in (260) and (261), T head is present deductive or conditional auxiliaries although the action (i.e. main verb) is completed (i.e. perfective).

From the illustrations from (256) to (261) above, we understand that AspPs in English are headed by auxiliaries since they are nominals. Since ModPs are already auxiliaries and of verbal feature, they are not headed by an Aux and thus they cannot be projected under Asps or other ModPs. TPs are the maximal projections being in agreement with the specifier. The examples in (262) below are the Turkish corresponding TPs with multiple layers of AspPs and ModPs:[1]

(262)   a. yap-*mış ol-malı*
           do-*PER have-DEDUCT-3SgP*
           must have done

       b. uyu-*yor ol-abilir-ler*
           sleep-*PROG be-ASSUMP-3PlP*
           may be sleeping

In (262), we understand that each layer of AspPs within TPs is headed by overt lexical auxiliaries since they are of nominal feature. We also understand that Aux (and also modal auxiliary Mod) is attracted to be syncretised with the T and occupy the T position either in lexical or affixal forms when it is headed by T (e.g. idi, -dIr etc). In contrast, when it is headed by Asp or Mod, it is not sycretised but attracted like verbs (e.g. olabilir, olmalı, olacak etc), as in the case of English (e.g. may be, will be, been, being etc).[2] It is also understood that T in Turkish, as we explained by 'strong T parameter' at the beginning of this part of the study, is strong enough to attract verbs to attach and transmit its affixal feature to Aux when they are syncretised, while T in English is only strong enough to attract and attach to auxiliaries but too weak to attract main verbs. Similarly, from the bilingual examples for Asp, Mod and Aux we have analyzed comparatively so far, we can also describe a modal Aux parameter between English and Turkish suggesting that while modal

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[1] These structures are noted as 'compound verb forms' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 316-321.
[2] The notation of 'ol' as 'Aux' is adapted from: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 316.

Aux in English is free since it does not undergo agreement checking with its specifier, Aux in Turkish is bound since it has agreement features with its specifier, which may be described as the following parametric variation:

- **Aux Parameter**[1]

  i. In English, modal Aux is free.

  ii. In Turkish, modal Aux is bound.

Accordingly, while modal Aux in English does not undergo agreement checking with its specifier although other auxiliaries in English carry these features, modal Aux in Turkish undergoes person and number feature checking with its specifier. Now, let's analyze Turkish TPs with multiple layers of AspP and AuxP:

(263)   uyuyor olmalı *(must be sleeping)*
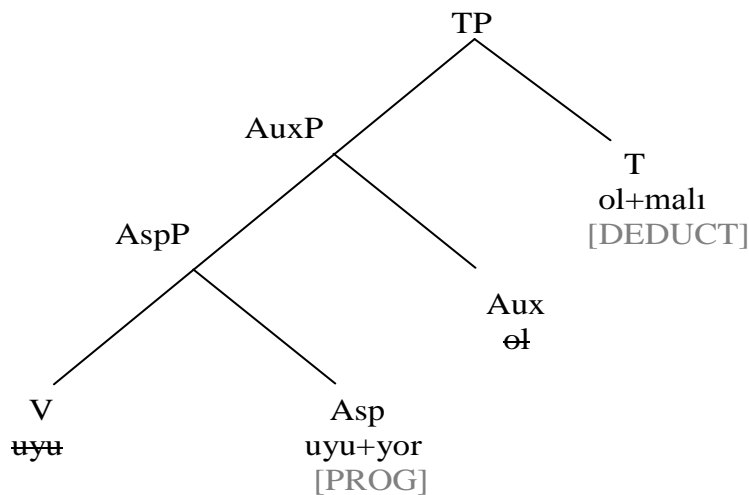
In (263), the verb *uyu* (sleep) is merged with the nominal progressive aspect head affixal in nature and thus attracting the verb to the upper position and suffixed onto the verb as *-yor* to form the progressive AspP *uyuyor* (sleep-PROG) and the nominal AspP is then merged with the auxiliary *ol* (be), forming the AuxP *uyuyor ol* (be sleeping). The resulting AuxP is then merged with the affixal present T which is filled by deductive modal Aux *-mAlI* to form the TP *uyuyor olmalı* (must be sleeping).

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[1] The 'bound' and 'free' variation is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 15.

(264) gitmiş olabilir *(may have gone)*

```
                                TP
                               /  \
                         AuxP       \
                         /  \         \
                   AspP       \         T
                   /  \         \      ol+abilir
                  /     \         \     [ASSUMP]
                 /        \        Aux
                /          \        ol
               V           Asp
              g̶i̶t̶       git+miş
                          [PEF]
```
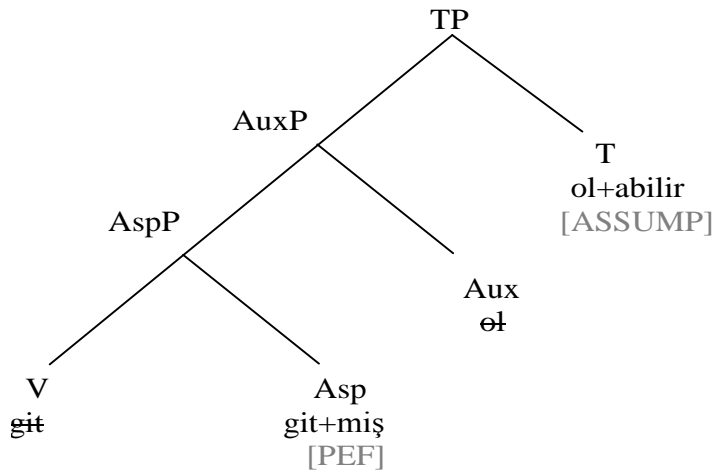
In (264), the verb *git* (go) is merged with the nominal perfective aspect head affixal in nature and thus attracting the verb to the upper position and suffixed onto the verb as *-mIş* to form the perfective AspP *gitmiş* (go-PER) and the nominal AspP is then merged with the auxiliary *ol* (be), forming the AuxP *gitmiş ol* (have gone). The resulting AuxP is then merged with the affixal present T which is filled by assumptive modal Aux *-Abilir* to form the TP *gitmiş olabilir* (may have gone).

(265) bitirmiş olacak *(will have finished)*

```
                                TP
                               /  \
                         AuxP       \
                         /  \         \
                   AspP       \         T
                   /  \         \      ol+acak
                  /     \         \     [PROS]
                 /        \        Aux
                /          \        ol
               V           Asp
             b̶i̶t̶i̶r̶   bitir+miş
                          [PEF]
```

In (265), the verb *bitir* (finish) is merged with the nominal perfective aspect head affixal in nature and thus attracting the verb to the upper position and suffixed onto the verb as *-mIş* to form the perfective AspP *bitirmiş* (finish-PER) and the

nominal AspP is then merged with the auxiliary *ol* (be), forming the AuxP *bitirmiş ol* (have finished). The resulting AuxP is then merged with the affixal present T which is filled by prospestive Aux *-AcAk* to form the TP *bitirmiş olacak* (will have finished).
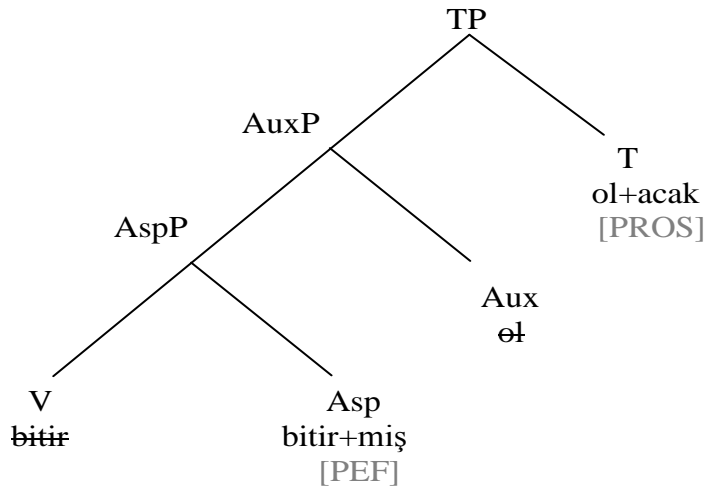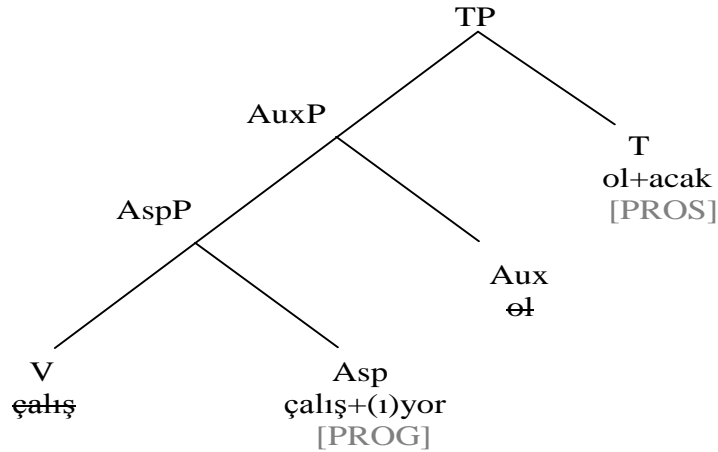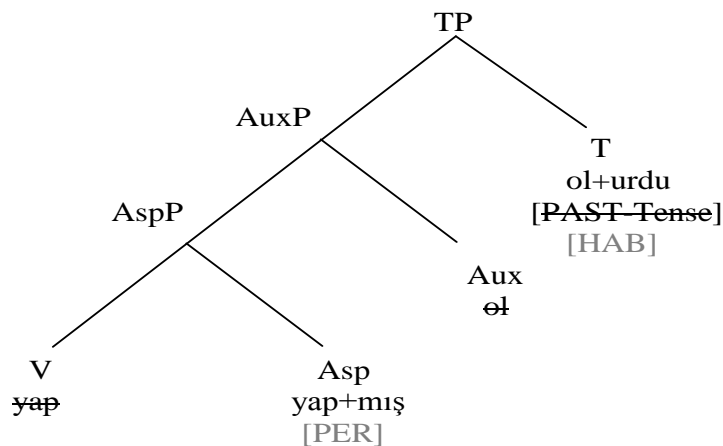
(266) çalışıyor olacak (*will be working*)

In (266), the verb *çalış* (work) is merged with the nominal progressive aspect head affixal in nature and thus attracting the verb to the upper position and suffixed onto the verb as *-yor* to form the progressive AspP *çalışıyor* (work-PROG) and the nominal AspP is then merged with the auxiliary *ol* (be), forming the AuxP *çalışıyor ol* (be working). The resulting AuxP is then merged with the affixal present T which is filled by propective Aux *-AcAk* to form the TP *çalışıyor olacak* (will be working).

(267) yapmış olurdu *(would have done)*

In (267), the verb *yap* (do) is merged with the nominal perfective aspect head affixal in nature and thus attracting the verb to the upper position and suffixed onto the verb as *-mIş* to form the perfective AspP *yapmış* (do-PER) and the nominal AspP is then merged with the auxiliary *ol* (be), forming the AuxP *yapmış ol* (have done). The resulting AuxP is then merged with the affixal past T which is filled by past conditional Aux *-ArdI* to form the TP *yapmış olurdu* (would have done).

From the illustrations from (263) to (267) above, we understand that AspPs in Turkish are headed by the auxiliary verb *ol* (be) since they are nominals. Since ModPs are already auxiliaries and of verbal feature, they are not headed by an Aux and thus they cannot be projected under Asps or other ModPs. TPs are the maximal projections being in agreement with the specifier, as in the case of multiple layered TPs in English.

On cross-lingual unlabelled M-diagrams below, we illustrate multiple layered TP structures in both languages comparatively:

(268)   yapmış olacak/*will have done*
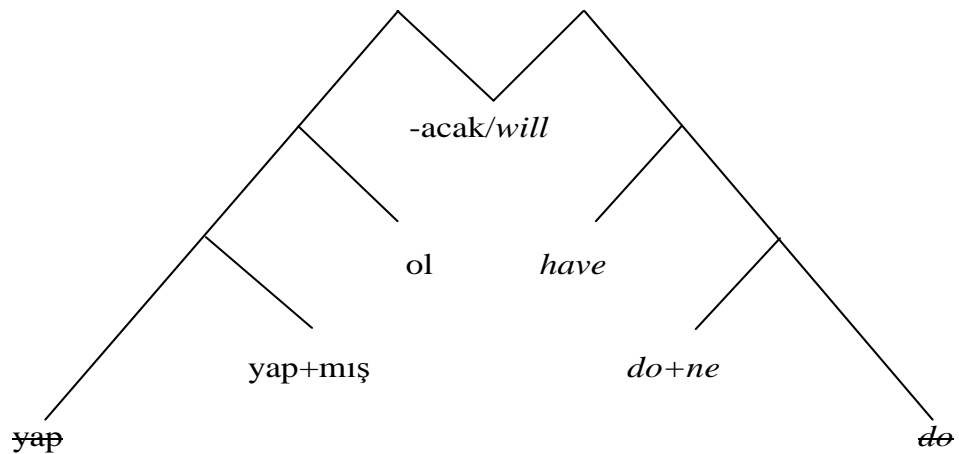
From (268), we understand that the verb *yap/do* is merged with the affixal category of perfective Asp to form the AspP *yapmış/done.* This AspP is merged by the Aux *ol/have,* forming the AuxP yapmış ol/*have done.* The resulting AuxP is then merged with the prospective T *-AcAk/will* to form the perfective and prospective TP *yapmış olacak/will have done.*

(269)   uyuyor olabilir/*may be sleeping*
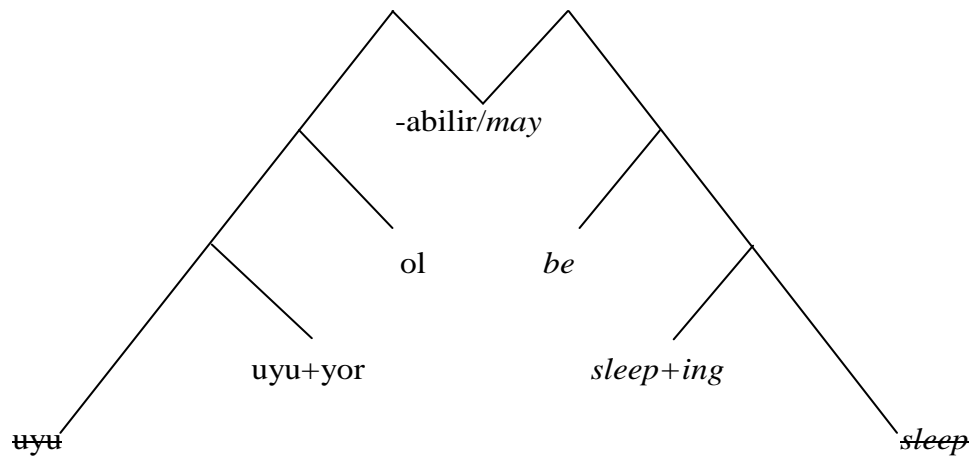
In (269), the verb *uyu/sleep* is merged with the affixal category of progressive Asp to form the AspP *uyuyor/sleeping*. This AspP is merged by the Aux *ol/be,* forming the AuxP uyuyor ol/*be sleeping.* The resulting AuxP is then merged with the assumptive T *-Abilir/may* to form the progressive and assumptive TP *uyuyor olabilir/may be doing*.

(270)   bitirmiş olacaktı/*would have finished*
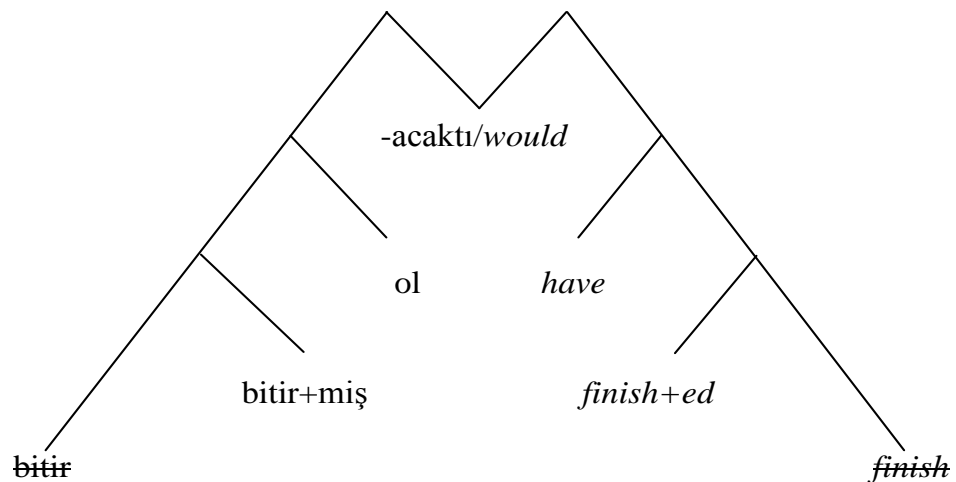
From (270), we understand that the verb *bitir/finish* is merged with the affixal perfective Asp to form the AspP *bitir-miş/finish-ed*. This AspP is merged by the Aux *ol/have,* forming the AuxP bitirmiş ol/*have finished.* The resulting AuxP is then merged with the past modal T *-AcAktı/would* to form the past conditional and perfective TP *bitirmiş olacaktı / would have finished.*

(271)   gitmiş olmalı/*must have gone*
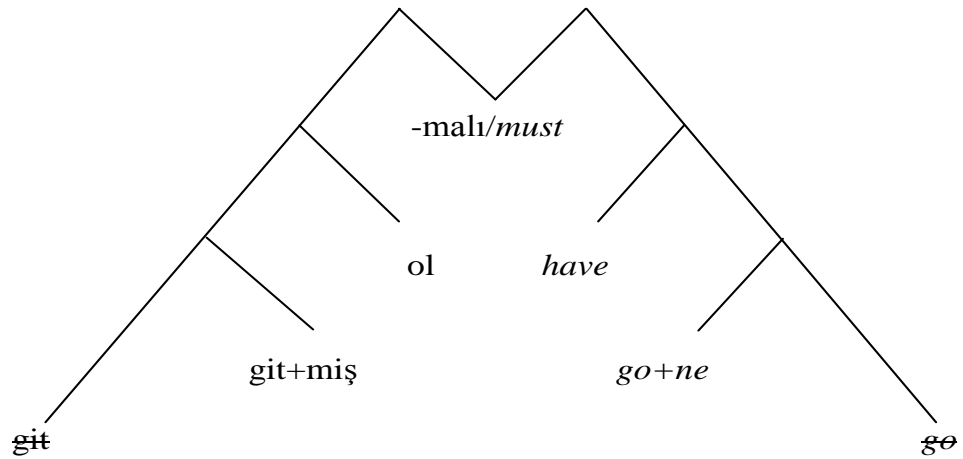
From (271), we understand that the verb *git/go* is merged with an affixal perfective Asp to form the AspP *gitmiş/gone.* This AspP is merged by the Aux *ol/have,* forming the AuxP gitmiş ol/*have gone.* The resulting AuxP is then merged with the modal T *-mAlI/must* to form the perfective and deductive TP *gitmiş olmalı/must have gone*.

5.5.6. NEGATION PHRASES

In this section of the study, we will analyze negative forms of verbs in English and Turkish languages. Accordingly, considering the negation as an overt or null functional head, VPs also function as complements of Negation elements to form Negation Phrases (NegP). That is, they are headed by an affixal or lexical category of Neg. The negation particle *not* in English is suggested as an ADV occupying the specifier position within VP by some linguists.[1]

(272)   did not do[2]

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 159-168.

[2] The analyses of 'not' as 'ADV' on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 159 (21, 23).

```
                        TP
                       /  \
                      /    \
                     /      \
                    /      VP
                   /      /
                  T      / \
                  did   /   \
               [PAST-Tns]   \
                  /          \
                 ADV          \
                 not           V
                               do
```
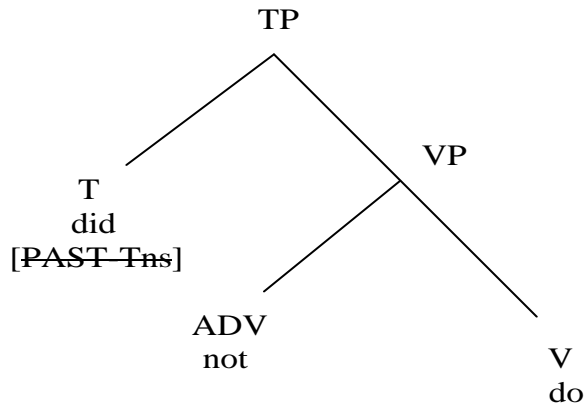
In (272) above, the verb *do* is extended by the adverb *not*, forming the VP *not do*. The resulting VP is then merged with the TP *did,* spelling out the inflectional past T *and* the auxiliary *do.* However, this analysis is problematic considering other adverbs having negative meaning (e.g. I *never* go). Therefore, it will be plausible to question why the other semantically negative adverbs do not require to be headed by an auxiliary (e.g. I never go / *I *not* go). It is also problematic to regard *not* only as an ADV adjunction to the VP. The affixal (-mA) and non-affixal negation (değil) heads in Turkish cannot be described as adjuncts since although Turkish is a specifier-first language, the Neg particle *değil* and *-mA* follow their complements, which shows us that the category of negation is not filled by an adverb but a Neg head. Therefore, a separate Neg head idea is plausible. The negation particle *not* in English is also suggested to be the specifier within a separate NegP projection by Pollock.[1]

(273) did not see[2]

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[1] Jean-Yves Pollock, "Verb movement, universal grammar, and the structure of IP", *Linguistic inquiry*, 1989, 365-424.
[2] The analyses of 'Neg' and 'NegP' and 'do-insertion' on a tree diagram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 171 (52); Ouhalla, *Functional categories and parametric variation*, op.cit., p. 140 (54).
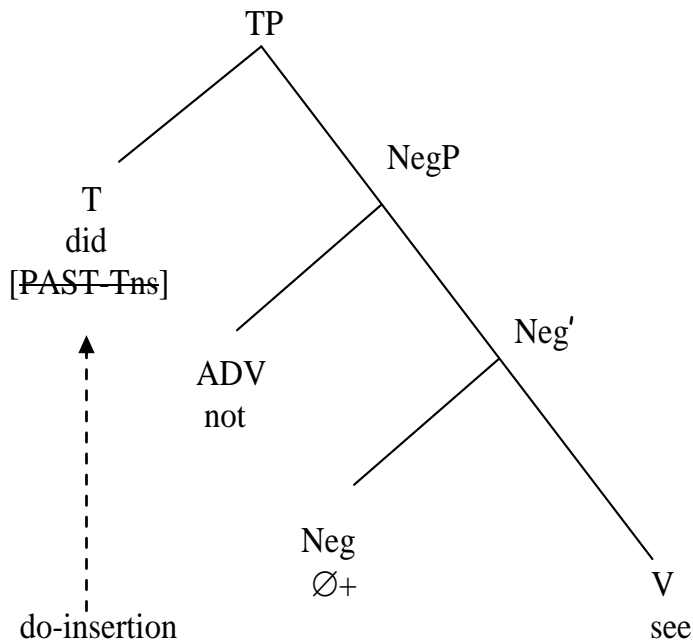
In (273), it is understood that the verb *see* is merged with the null affixal Neg ∅+, forming the intermediate projection Neg′ ∅+*see*. "Since this null affixal Neg is weak in modern English as in the case of T, it cannot attract the main verb."[1] Then, the intermediate Neg′ projects the negation ADV *not* as its specifier to form the extended NegP *not see*. When the NegP is merged with the inflectional past T, it cannot attract V to T since it has weak affixal tense feature in nature[2] or prevented by the category of Neg due to the *Head Movement Constraint (HMC)* which posits that movement is only possible from one head position into the next highest head position,[3] it requires an auxiliary support (i.e. 'do-support' or 'do-insertion') which is assumed to be resulted from the fact that "weak Tns affix in English can only attract and attach to an appropriate host,"[4] forming the negative past TP *did not see*. However, it should be noted that 'not' is still regarded as ADV which we challenge owing to the cross-lingual concerns we explained above. Considering other negative infinite structures such as NomPs and AspPs as well as other lexical categories such as nouns, adjectives and prepositions which are always headed by a tensed auxiliary

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 172.
[2] Ibid, p.171.
[3] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 140.
[4] Radford, op. cit., p. 174.

to form a predicate phrase (PredP)[1] (e.g. not good, not doing, not done etc), it is plausible to think that 'Neg c-selects Pred' which may be a verbal (e.g. VP or AuxP) or a nominal (e.g. AspP, PASSP) complement but not T. However, Neg hosts two different morphological heads: bound and free.[2] While affixal bound Neg (i.e. -*mA* in Turkish) c-selects verbal predicates such as VPs or AuxPs, non-affixal free Neg (i.e. not in English and değil in Turkish) c-selects nominal predicates. However, English only operates free Neg *not* for all predicates. For our analyses in this part of the study, we will follow the NegP analysis which we have explained so far, adapting from Pollock (1989), Ouhalla (1991) and Radford (2004), as shown in (274) for the illustrations in our study:

(274)   did not see[3]
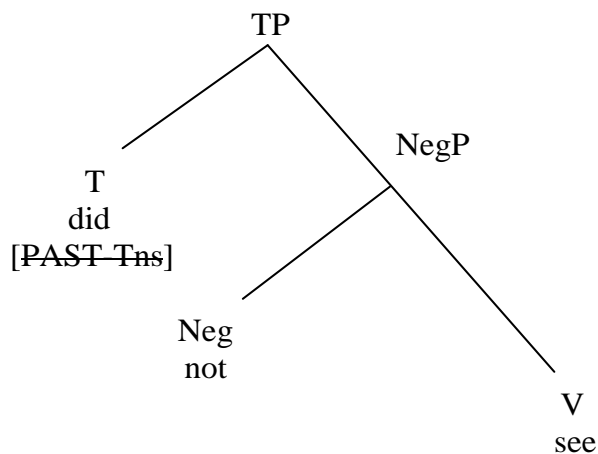
In (274), the verbal predicate V *see* is merged with the free Neg particle *not* to form the NegP *not see*. The resulting NegP is then merged with the past T where an auxiliary *do* is inserted. HMC does not allow the verb see to move to T. The resulting T *did* merges with the NegP, forming the TP *did not see*.

(275)   was not good

[1] Ouhalla, *Functional categories and parametric variation*, op.cit., p. 145.
[2] Ibid, p.141.
[3] The analyses of 'not' as 'Neg' head is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 140 (54).
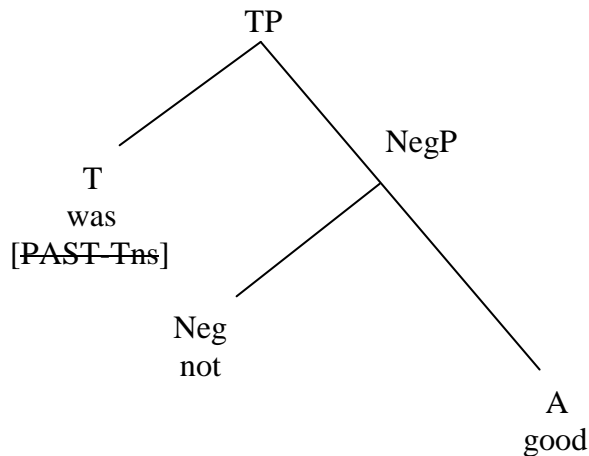
In (275), the nominal predicate A *good* is merged with the free Neg particle *not* to form the NegP *not good*. The resulting NegP is then merged with the past T *was* to form the TP *was not good*.

Now, let's analyze corresponding negative structures in Turkish in (276) below:[1]

(276)   a. yap-*ma-dı*
           do-*NEG-PAST/3SgP*
           did not do

        b. uyu-*mu-yor-du*
           sleep-*NEG-PROG-PAST/3SgP*
           was not sleeping

        c. iyi *değil-di*
           good *NEG-PROG-PAST/3SgP*
           was not good

In (276a), we understand that Neg is filled by an affixal head which attracts verbs to attach to them (i.e. affixal Neg in Turkish c-selects VPs). In (276b), it is also understood that this affixal head is of verbal feature since NegPs can be attracted by other functional categories such as Asp or T. In (276c), on the other hand, we observe that nominal complements are negated by non-affixal Neg *değil* which, we think, corresponds to the non-affixal Neg particle *not* in English. Accordingly, Turkish bound Neg is filled by an affixal head *-mA* and the non-affixal free Neg *değil*

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[1] These structures are noted as negative structures negated by 'a negation particle' or 'a negation marker' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 271-274.

in contrast to the case in English which only operates free Neg *not* for all predicates. Relying on these results, we can say that in terms of the properties of the affixal Neg, on the other hand, we can set a parametric variation between English and Turkish, which may be described as the following:

- **Neg Parameter**[1]

  i. In English, Neg is free.

  ii. In Turkish, Neg is bound or free.

Accordingly, while, in Turkish, nominal complements are negated by non-affixal free Neg *değil* and verbal complements are negated by an affixal head *-mA*, in English, both structures are negated by the non-affixal free Neg *not* for all predicates. Now, let's analyze the following Turkish NegP structures accordingly:

(277)   iyi değildi *(was not good)*
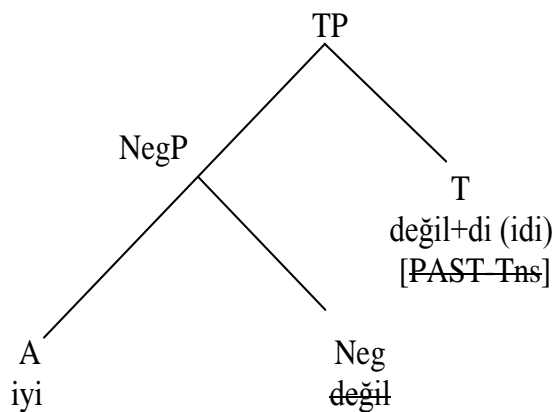
In (277), the nominal predicate A *iyi* (good) is merged with the free Neg particle *değil (not)* to form the NegP *iyi değil* (not good). Then, the nominal NegP is headed by past T which hosts an affixal auxiliary, attracting the closest nominal forming the TP *iyi değildi* (was not good).

(278)   görmedi *(did not see)*

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[1] This parameter is adapted from: Ouhalla, *Functional categories and parametric variation*, op.cit., p. 141.
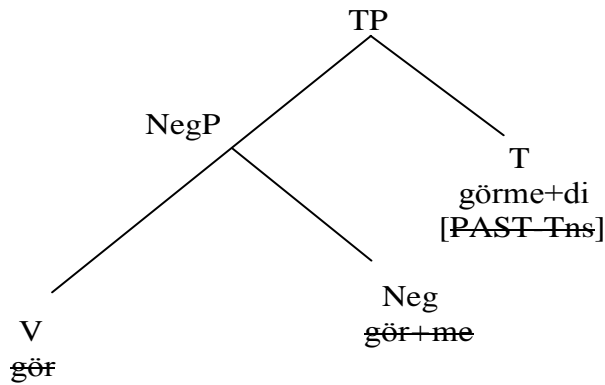
Accordingly, since the Neg complement predicate is verbal for this time, the verb *gör* (see) is merged with the affixal bound Neg *-me* to form the NegP *görme* (see-NEG) and then the NegP is merged with the affixal past T, attracting the verbal NegP and attach to it to form the TP *görmedi* (see+NEG+PAST). Now, let's see the NegP structures on comparative bilingual unlabelled M-diagrams:

(279)   çalışmadı/*did not work*
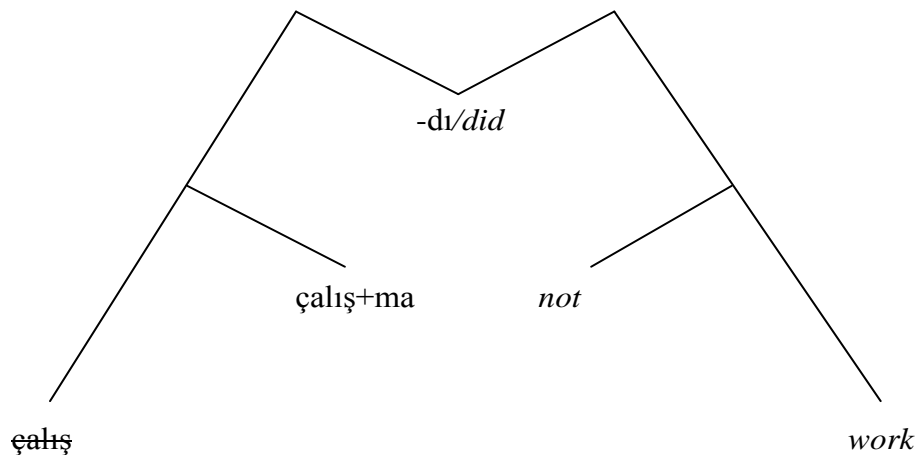
From (279), we understand that the verbal predicate V *çalış/work* is merged with the affixal bound Neg *–mA* in Turkish and non-affixal free Neg *not* in English to form the NegP *çalışma/not work,* which is caused by the Neg Parameter we described above. Then, the NegP is merged with the affixal past T which hosts an inserted auxiliary in English in order to form the TP *çalışmadı/did not work.*

(280)   iyi değildi/*was not good*

```
                        -di(idi)/was


               değil          not


        iyi                               good
```
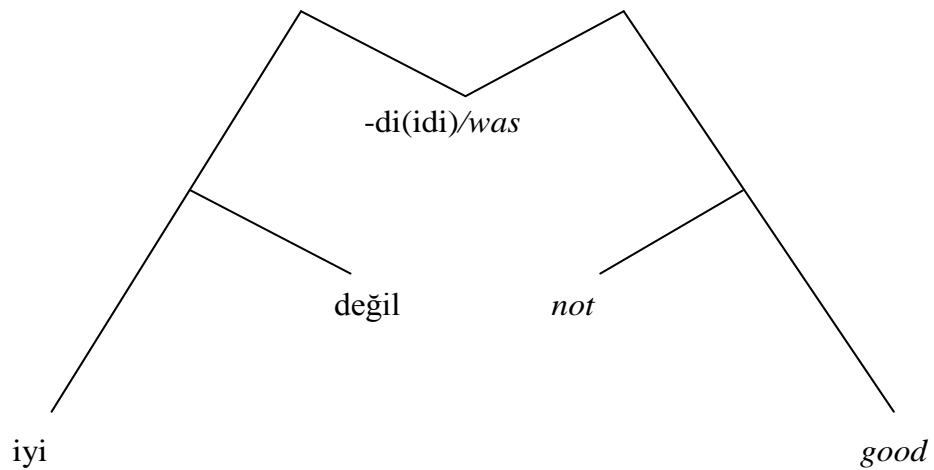
In (280), we understand that the nominal predicate A *iyi/good* is merged with the non-affixal free Neg *değil/not* to form the NegP *iyi değil/not good*. Then, the nominal NegP is merged with past T which hosts an affixal/overt auxiliary *-di/was*, forming the TP *iyi değildi/was not good.*

(281) gitmemişti/*had not gone*

```
                          -ti(idi)/had


                                 not


                gitme+miş          go+ne


            git+me


        git                               go
```
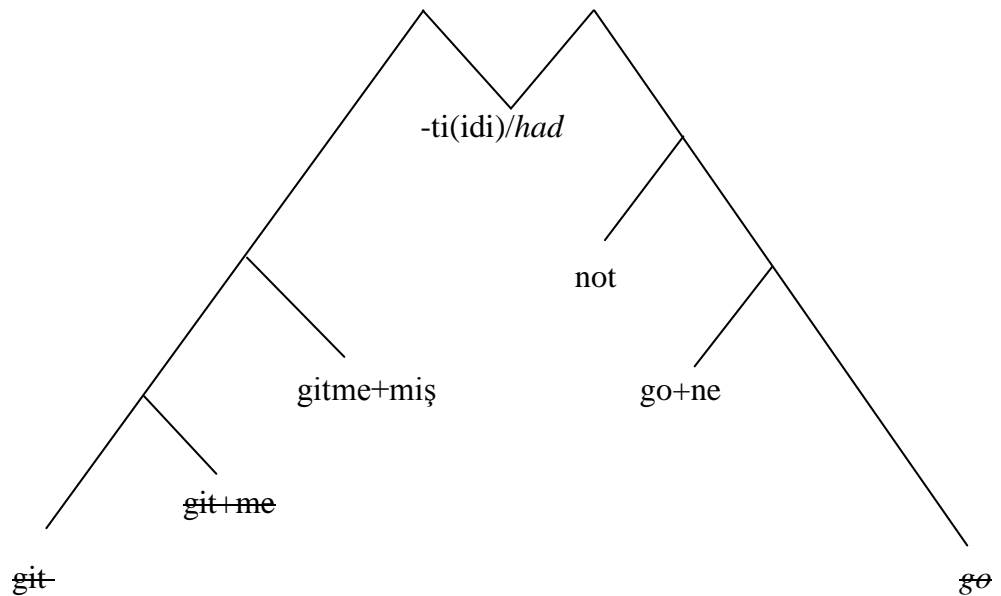
In (281), we understand that affixal bound Neg c-selects verbal predicate in Turkish, while non-affixal free Neg c-selects a nominal aspectual predicate since the predicate is the V *git* in Turkish, while it is the AspP in English. Therefore, the verbal predicate V *git/go* is merged with the affixal bound Neg *-mA* and then with Asp which is affixal and has [+V] feature in nature to form the AspP *gitmemiş* in

Turkish, whereas it is initially merged with the Asp which is affixal and has [+V] feature and then merged with the non-affixal free Neg *not* in English to form the AspP *not gone*. Then, the NegP is merged with past T which hosts an affixal/overt auxiliary *-di/had*, forming the TP *gitmemişti/had not gone*.

CHAPTER 6: CLAUSAL STRUCTURES

In the last two parts of this study, we initially introduced grammatical categories of words with their semantic and morphological properties in English and Turkish languages (CHAPTER 4). Successively, we began to analyze the merging operations of these categories not only with each other but also with their related functional categories in both languages. In other words, we analyzed the phrase structures composed of a head and a complement, and their extended projections by a specifier or an adjunct/s, one being merged with another, built up in a bottom-up fashion (CHAPTER 5). In our initial analyses, we analyzed TPs as maximal projections in the syntax. That is, these bottom-up merging operations end with a TP which makes the resulting derivation a clause, or a sentence, which is traditionally defined as "an expression containing at least a subject and a predicate."[1] In this part of the study, on the other hand, we go on to analyze derivations over TP structures since a clause itself may also contain complements and adjuncts.[2] Therefore, a clause is conventionally regarded as "a constituent forming the part of a larger sentence (S) structure, or a matrix clause."[3] In traditional grammar, clauses are divided into main clauses and subordinate clauses. "Main clauses are independent complete clauses."[4] That is, "they are not embedded under any other clause."[5] Subordinate clauses, on the other hand, "are not complete clauses and they are dependent structures."[6] In other words, "they are embedded under a higher clause."[7] Accordingly, "a subordinate clause which functions as an object or a subject of a main clause is defined as a *noun clause.*"[8] In addition, "a subordinate clause which serves to modify a noun phrase is defined as an *adjective,* or *relative*, clause."[9] Moreover, "a subordinate clause which bears to its main clause any of a range of semantic relations similar to those borne by adverbs such as time, manner, place, instrument, purpose,

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[1] Betty S. Azar, *Understanding and Using English Grammar,* New York, 1999, p. 239.
[2] Ibid.
[3] Robert Lawrence Trask, *A dictionary of grammatical terms in linguistics*, Routledge, 1993, p. 44.
[4] Azar, op. cit., p 239.
[5] Trask, op. cit., p.166.
[6] Azar, op. cit., p 239.
[7] Trask, op. cit., p.268.
[8] Azar, op. cit., p. 239.
[9] Ibid, p. 267.

result, cause or condition is defined as an *adverbial clause.*"[1] In terms of phrase structures, the bottom-up merging operations ending with a TP, this time, end with a complementiser (C) to form a complementiser phrase (CP) which determines whether merging operations end up here or continue until the available extended projection is the complement of another lexical category of words. That is to say, the TP structures are then merged with a higher category of C which extends them into CPs and thus making TPs complements of other lexical categories. The resulting phrases are merged with the categories of verbs, adpositions or nouns as complements, specifiers or adjuncts. Therefore, considering the traditional descriptions of subordinate clauses we mentioned above, we can say that when a CP is subordinated to a verb, a noun or an adposition and serves as a complement, it is called *a complement clause* (i.e. a noun clause).[2] However, when a CP headed by a relative pronoun modifies a noun, then the CP is defined as *a relative clause* (i.e. an adjective clause).[3] And, in parallel with these two descriptions, we suggest that when a CP driven by a subordinator (Sub) is adjoined to a verb and serves as an adjunct as in the case of adverbs, the resulting adjunction can be defined as *an adjunct clause* (i.e. an adverb clause). Therefore, although adverb clauses are thought to be subordinated to main clauses (i.e. TPs), we analyze them as adjuncts of verbs just as we do for adverbs in our analyses. In other words, just as lexical categories such as nouns, adjectives and adverbs are complements, specifiers or adjuncts of verbs, subordinate clauses also are complements or adjuncts of VPs or specifiers of nouns. Consequently, in this part of the study, we will not only analyze internal structure of CPs but also their external structures (i.e. subordination) where we try to explain how complement phrases are subordinated into other structures in English and Turkish grammatical structure. In brief, in this part of the study, we analyze complementiser phrases in main clauses, control clauses, complement clauses, relative clauses and adjunct clauses comparatively and contrastively in English and Turkish languages. Moreover, we will also analyze the aforementioned clausal structures with their finite and non-finite uses in both languages. Accordingly, "a *finite clause* denotes a clause

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[1] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p. 10.
[2] Ibid, p. 51.
[3] Ibid, p. 238.

containing a tensed verb, or auxiliary, having a nominative subject,"[1] while a *non-finite clause* denotes a clause which does not contain a tensed verb, or auxiliary, but participles or infinitives, having a subject with accusative or null case.[2] Furthermore, CP related structures such as *inverted* and *in situ interrogative* sentence structures will be discussed and analyzed with minimalist suggestions.

6.1. COMPLEMENTISER PHRASES

In this part of the study, we introduce *complementiser phrases* (CP). The term *complement* is described as "any constituent which forms part of the nucleus of a category with a lexical head and which is subcategorized for by that lexical head."[3] And a complement clause is, therefore, "a finite or non-finite clause which serves as a complement to some lexical item."[4] The term complementiser, in addition, is "a grammatical formative which serves to mark a complement clause."[5] In our analyses so far, we have examined the structures finally merged with T and thus forming a T-bar, which is then projects into TP with an overt or null subject occupying the specifier position within TP. Now, TPs are also merged with an overt or null constituent requiring a position which allows further operations such as inversion and clause structures to take place over TP. Therefore, it is assumed that "all finite clauses are CPs headed by an overt or null *complementiser (C)*."[6]

The CP is also suggested as a structural zone consisting of distinct functional heads and their projections by Rizzi's *Split Complementiser Hypothesis.* According to this analysis, "CP is composed of fixed heads specifying *Force (Force)* and *Finiteness (Fin)* and optional heads representing *Topic (Top)* and *Focus (Foc)* which are activated when they are needed."[7] However, in this particular study, we will not analyze *Foc* and *Top* structures but *Force* and *Fin* structures since we prefer to focus

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[1] Trask, *A dictionary of grammatical terms in linguistics*, op. cit., p. 103; Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 452.
[2] Trask, op. cit., p. 185; Radford, op. cit., p. 452.
[3] Ibid, p. 51.
[4] Ibid.
[5] Ibid.
[6] Andrew Radford, *Minimalist syntax: Exploring the structure of English,* Cambridge, 2004, p.131.
[7] Luigi Rizzi, "The fine structure of the left periphery", *Elements of grammar*, Springer, Netherlands, 1997, p. 281-337.

on finite and infinite clause structures in English and Turkish languages. As for these derivations, on the other hand, while *Force* determines various types of the clauses such as declarative, interrogative, exclamative and relative etc (e.g. declarative *that* and interrogative *whether*), *Finiteness* distinguishes between finite and non finite clauses (e.g. non finite *for*), the head position of which is occupied by a prepositional particle which allows infinitival control clauses.[1] The former occupies the highest C position, whereas the former occupies the lowest C position. Accordingly, it is argued that "there is a fourth functional projection termed as Finiteness Phrase (FinP) below FocP and above TP, as the lowest CP position."[2] This head is assumed to mark a clause as finite or non-finite and it is occupied by adpositional (i.e. prepositional or postpositional) particles introducing infinitival clauses.[3] In this part of the study, we initially analyze CPs in finite main clauses and successively in infinite control clauses.

6.1.1. COMPLEMENTISER PHRASES IN MAIN CLAUSES

In our analyses so far, it has been observed that "all finite and infinite clauses contain an overt or null T constituent which projects into TP,"[4] which can also be defined as "a finite *main clause* (or an *independent clause*)."[5] However, from now on, "finite main clauses are likewise CPs headed by a C which contains an inherently null complementiser."[6] It is also assumed that complementisers in finite clauses carry some "force features determining whether the clause is declarative (DEC), interrogative (INT), exclamative (EXC), contrastive (CONT) or relative (REL) etc in force."[7] For Turkish, we also describe predictive (PRED) and reportive (REP) forces. These force features are introduced by complementisers to mark the force of the CPs.[8] However, among these force features, null ($\varnothing$) declarative and interrogative

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[1] Rizzi, "The fine structure of the left periphery", *Elements of grammar*, op. cit., p. 281-337.
[2] Ibid.
[3] Ibid.
[4] Radford, *Minimalist syntax: Exploring the structure of English,* op.cit., p.124.
[5] Ibid, p.126.
[6] Ibid, p.128.
[7] Luigi Rizzi, "On the position "Interrogative" in the left periphery of the clause", *Current studies in Italian syntax*, 2001, p. 267-296.
[8] Radford, *Minimalist syntax: Exploring the structure of English,* op.cit., p.124.

forces are the ones which project a main clause.[1] To illustrate these definitions in more concrete terms, let's see the example below:

(282) $\varnothing$ *the world is round*[2]

```
                    CP
                  /    \
                 /      \
               C         TP
               ∅        /  \
             [DEC]     /    \
                      DP     T'
                   the world  / \
                             /   \
                            T      A
                            is    round
```
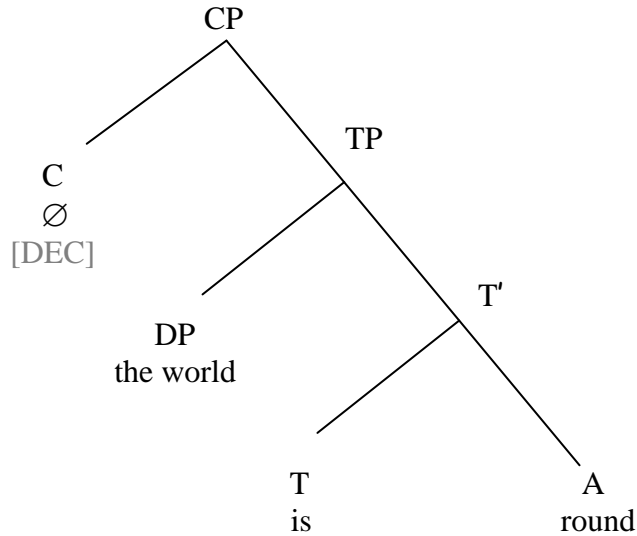
To analyze the structure in a bottom-up fashion, the *TP the world is round* is assumed to be merged with a null declarative complementiser C $\varnothing$ to form the declarative main clause CP $\varnothing$ *the world is round,* based on the assumption that all finite main clauses are CPs headed by a null declarative complementiser.

The declarative main clause CP in Turkish, on the other hand, can be analyzed with a null abstract declarative complementiser as in the following illustration:

(283) Dünya yuvarlaktır $\varnothing$ ($\varnothing$ *the world is round*)

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[1] Ibid, p.127-128.
[2] 'CP' and 'null C' analyses on a tree diagram in finite clauses are adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.126 (60).

```
                          CP
                        /    \
                       /      \
                 TP   /        \
                /  \ /          \
               /    \            \
              /     T'            \
             /     /  \            C
            /     /    \           ∅
         DP      /      \        [DEC]
        Dünya   /        \
    [3-Per][Sg-Num]      \
                          \
              A            T
           yuvarlak     yuvarlak+tır
                        [PRE-Tns]
                        [3-Per][Sg-Num]
```
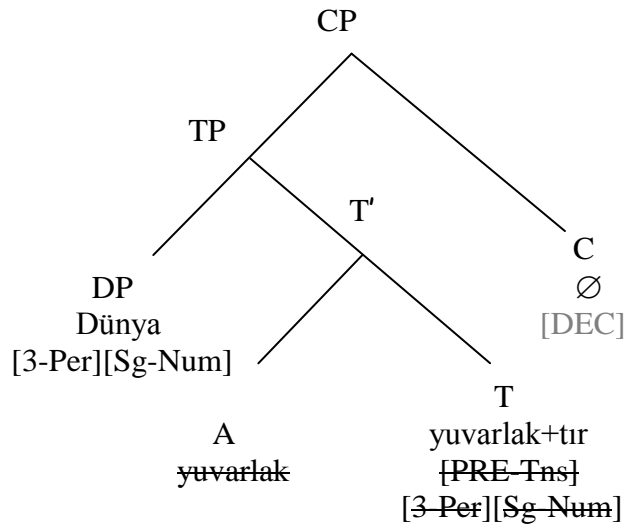
In (283), the *TP dünya yuvarlaktır* (the world is round) is assumed to be merged with a null declarative complementiser C ∅ to form the declarative main clause CP ∅ *dünya yuvarlaktır* (∅ the world is round)*,* based on the assumption that all finite main clauses are CPs headed by a null declarative complementiser.

As for the main clauses in interrogative force in English, on the other hand, "it is necessary for the complementiser to be extended by a specifier to be a main clause just as in the case of TPs."[1] That is, "interrogative complementisers in main clauses carry Extended Projection Principle [EPP] feature requiring them to be extended into CP projections with interrogative pronouns (e.g. what, where, who etc.) or the question operator *whether*."[2] Therefore, it is assumed that interrogative C in English also has [WH] feature.[3] In addition, since main clauses require TPs, it may be assumed that interrogative C also carries a [TNS] feature,[4] which results in the following analysis in (284) below:

(284) Did you finish your homework?[5]

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[1] Noam Chomsky-Chris Collins, "Beyond explanatory adequacy", 2001, p.1-28.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.198-199.
[3] Ibid, p.198.
[4] Ibid.
[5] The analysis of 'whether' as a question operator is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 220-221 (74).
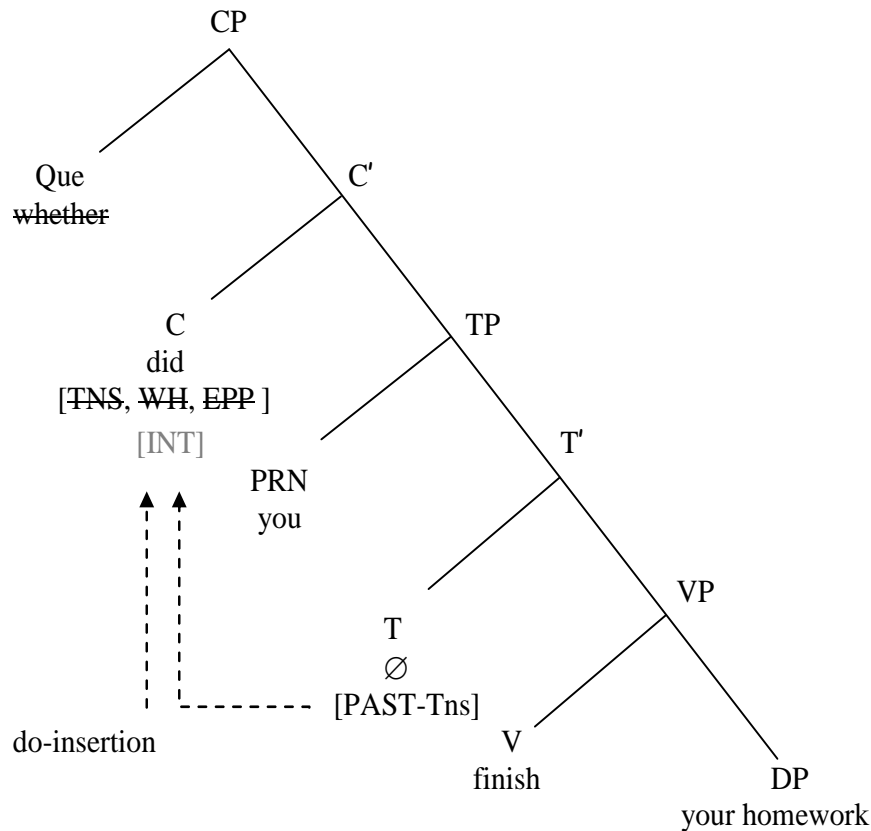
Accordingly, the VP *finish your homework* is merged with the inflectional past T to form the T-bar $\varnothing_{[PAST\text{-}Tns]}$ *finish your homework*. The resulting T-bar is extended by the specifier pronoun *you* to form the TP *you* $\varnothing_{[PAST\text{-}Tns]}$ *finish your homework*. The TP in turn is merged with a null C which has [EPP, WH, TNS] features.[1] The [TNS] feature of C attracts the null T having interpretable past tense feature and the null T inserts the auxiliary *do* as a host and attaches to it, forming *did* and merging with C. The [WH] feature of C is satisfied by the Que operator *whether* which is ultimately moved to spec-CP to satisfy the EPP feature of C and receiving a null spellout, or deletion (*whether*), forming the interrogative CP structure *whether did you finish your homework?* It is also understood that while the Que constituent *whether* in English receives a null spellout in the spec-CP (i.e. whether), this is not the case in C position functioning as a complementiser in complement clauses (i.e. whether you finished your homework), which we will analyze in the following

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.198.

sections (see 6.2). The structure above also explains the other inverted interrogative main clauses in English, as illustrated in (285) below:

(285)   What did you do? (or as an interrogative in situ: You did *what*?)
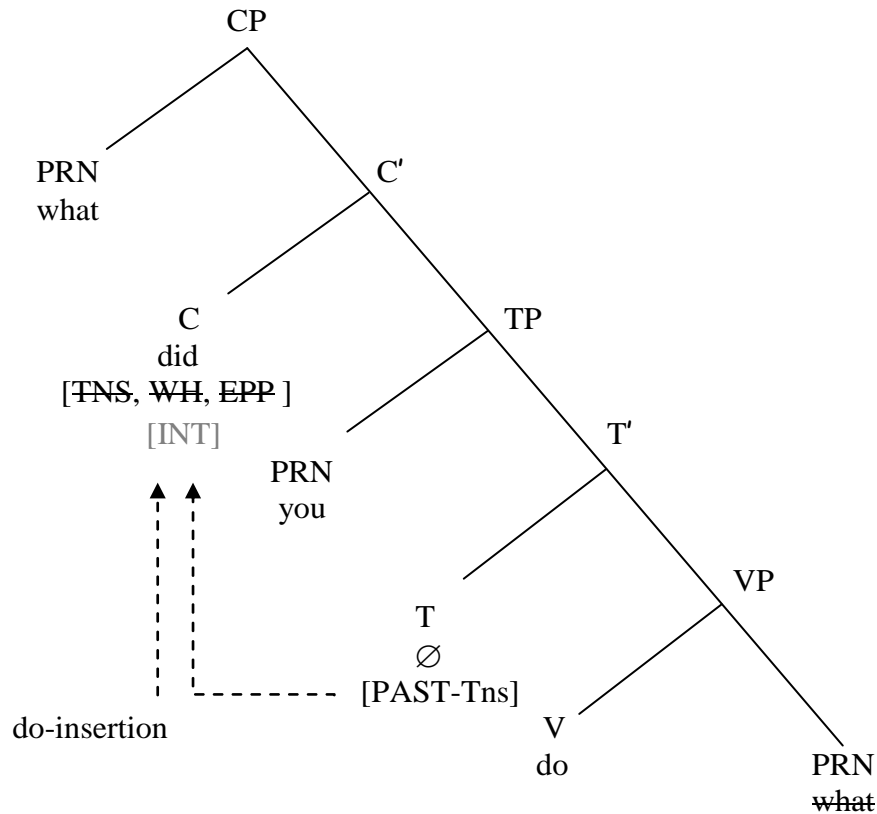
In (285), we understand that the interrogative PRN *what* originates as the complement of the verb *do* in the VP *do what* and the null past T $\varnothing_{[PAST-Tns]}$ merges with the VP *do what* to form the T-bar $\varnothing_{[PAST-Tns]}$ *do what*. The resulting T-bar is extended by the specifier pronoun *you* to form the TP *you* $\varnothing_{[PAST-Tns]}$ *do what*. The [WH] feature of C is satisfied by the Que pronoun *what* which is ultimately moved to spec-CP to satisfy the EPP feature of C. The TP in turn is merged with a null C which has [EPP, WH, TNS] features. The [TNS] feature of C attracts the T the [TNS] feature of C attracts T having interpretable past feature and the null T inserts the auxiliary *do* as a host and attaches to it because T in English is weak, forming *did* and merging with C, ultimately forming the interrogative CP structure *what did you do?*

(286) Where will you go? (or as an interrogative in situ: You will go *where?*)
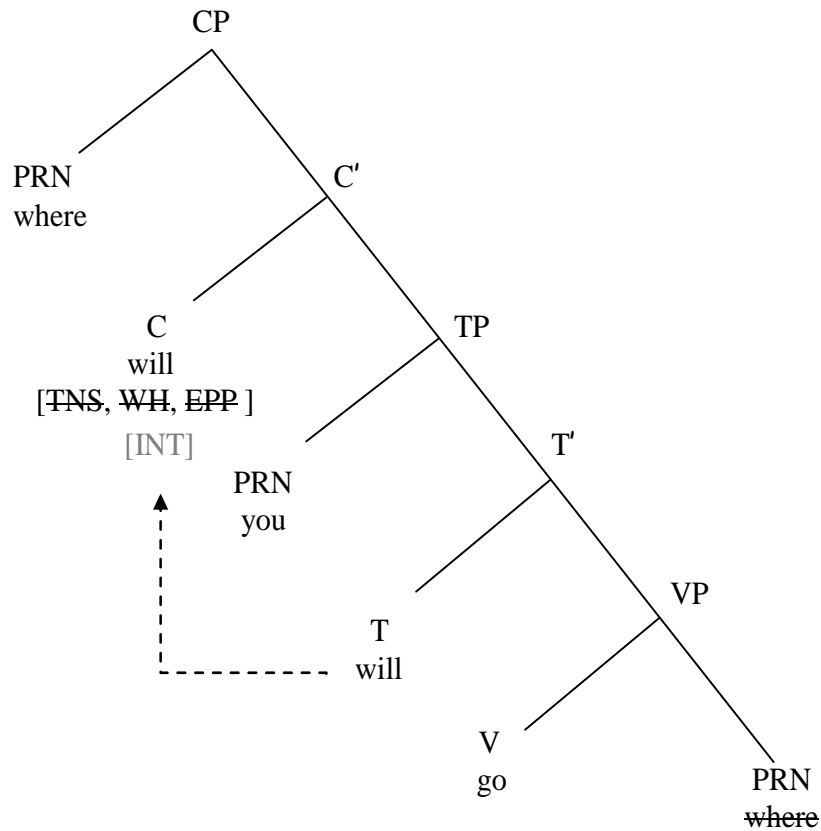
In (286), we understand that the interrogative PRN *where* originates as the complement of the verb *go* in the VP *go where* and the prospective modal auxiliary *will* merges with the VP *go where* to form the T-bar *will go where*. The resulting T-bar is extended by the specifier pronoun *you* to form the TP *you will go where*. The [WH] feature of C is satisfied by the Que pronoun *where* which is ultimately moved to spec-CP to satisfy the EPP feature of C. The TP in turn is merged with a null C which has [EPP, WH, TNS] features. The [TNS] feature of C attracts the T constituent *will* to merge with C, forming the interrogative CP structure *where will you go?*

It should also be noted that C position in interrogative main clauses in Turkish may be assumed to be filled by the question (Que) particle *mI*, which is illustrated in (287) below:

(287) Ödevini bitirdin *mi*?
        Homework-*GEN-ACC* finish-*PAST-2SgP QUE*

Did you finish your homework?

```
                        CP
                       ╱  ╲
              TP      ╱    ╲
               ╲     ╱      ╲
                ╲   T′       ╲
                 ╲ ╱ ╲        ╲
      PRN       ╱    ╲        C
      Pro      ╱      ╲       mi
 [2-Per][Sg-Num]       ╲     [INT]
               ╱         ╲
              ╱           ╲
            DP             T
          ödevini      bitir+di+n
                       [PAST-Tns]
                       [2-Per][Sg-Num]
```
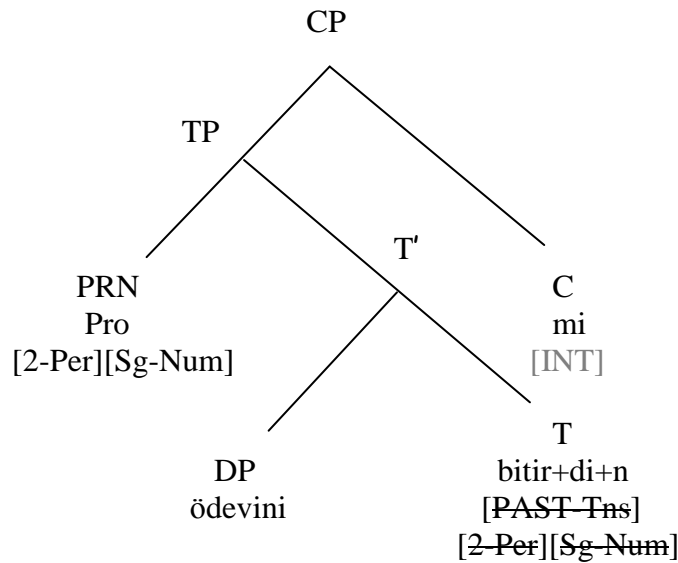
As observed in (287), the TP *ödevini bitirdin* (you finished your homework) is interrogative in force, thus requiring an interrogative complementiser in C which is filled by the Que particle *mI*.

One important question arising from the analyses of the interrogative CPs in Turkish and English is why English interrogative C requires to be extended into a CP projecting interrogative pronouns as its specifier, but its Turkish counterpart does not. In other words, what we want to question is why Turkish interrogative C does not project wh-operators as its specifier. This question can be answered by the grammatical features of the 'interrogative C force' in Turkish. That is, while interrogative-force C in English has [WH] feature attracting the wh-expressions to the spec-CP position since wh-expressions (including the Que operator *whether*) themselves are not interrogative-force complementisers, interrogative-force C in Turkish does not have [WH] feature since the Que operator (i.e. *mI*) itself is an interrogative-force complementiser carrying [TNS] and [EPP] features to project an interrogative main clause CP (i.e. beni tanıyor *mu-sun*?), which may also explain the difference between interrogative in-situ structures and interrogatives with *mI* particle in Turkish in contrast to inverted interrogatives in English (see 289-290 below). Considering the assumptions above, we may describe the following parametric variation:

- **C Parameter I**

    i. In English interrogative main clauses, C is null.

    ii. In Turkish interrogative main clauses, C is non-null.

Accordingly, while interrogative C is an empty category (i.e. ∅) in English, it is filled by the Que particle (i.e. mI) in Turkish. As for grammatical features, in addition, we need to set another parametric variation, which may be described as the following:

- **C Parameter II**

    i. In English, C carries a [WH] feature.

    ii. In Turkish, C does not carry a [WH] feature.

Accordingly, C in English attracts wh-operators and projects them as its specifier not only in interrogative main clauses, but also in declarative noun clauses and relative clauses, whereas in Turkish, it does not attract wh-operators but projects the lower spec-TP constituent as its specifier (i.e. spec-CP) in order to satisfy the main clause requirements (i.e. EPP). In terms of TNS feature, on the other hand, we need to set another parameter since while in English, null C attracts T constituents even if there is not an overt one (i.e. do-insertion), in Turkish, C can only attract T constituents having [+N] feature since interrogative C is nominal and C in Turkish is filled by the nominal Que *mI*, which may be described as the following:

- **C Parameter III**

    i. In English, interrogative C attracts T.

    ii. In Turkish, interrogative C attracts T having [+N] feature.

Accordingly, while in English, null C attracts T constituents (i.e. tensed auxiliaries, modal auxiliaries) even if there is not an overt one (i.e. do-insertion), in Turkish, C can only attract T constituents having [+N] feature (i.e. affixal tensed auxiliaries) since interrogative C is nominal and C in Turkish is filled by the nominal Que *mI*. The following cross lingual M-diagrams illustrate the comparative analyses of the interrogative structures in both languages:

(288) Ödevini yapmış mıydı?/*Had he done his homework?*

Pro   ~~whether~~

~~Pro~~
[3-Per][Sg-Num]   mɪ+(y)dı /*had*

he

~~+tɪ~~   ~~had~~

yap+mış   *do+ne*

ödevini   *his homework*
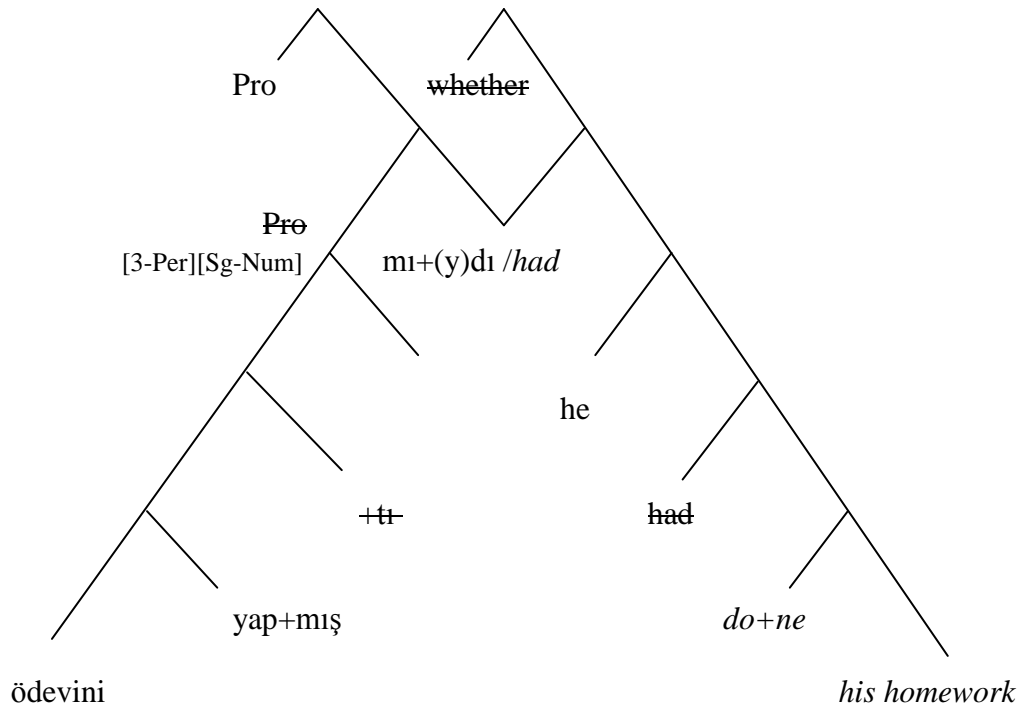
In (288), it is understood that the TP Pro *ödevini yapmıştı/he had done his homework* is merged with C *mI/∅* in interrogative force. The [EPP] feature of C in both languages results in a CP projection. However, while the spec-CP triggers the Pro specifier from spec-TP to the spec-CP in Turkish, the spec-CP projects the wh-expression (i.e. ~~whether~~) as its specifier thanks to its [WH] feature in English, forming the Pro *ödevini yapmıştı mı/whether he had done his homework.* The [TNS] feature in both languages attracts T constituent from T to C, forming the Pro *ödevini yapmış mıydı/whether had he done his homework.* From now on, for the comparative analysis on the M-diagram, we will locate the specifiers in Turkish on the external side of an introverted branch in order to avoid confusion and observe similarities and variation better.

As for the interrogative in situ structures, on the other hand, considering in situ wh-expressions in Turkish as well as wh-subject structures in English interrogative structures, we may assume that these TPs are headed by a C in declarative force. That is, these structures are not headed by an interrogative main

clause C but headed by a null declarative main clause C, which is analyzed comparatively on the M-diagram below:

(289) Kim ağlıyordu?/*Who was crying?*

Kim

Ø
[DEC]

Who

+du

was
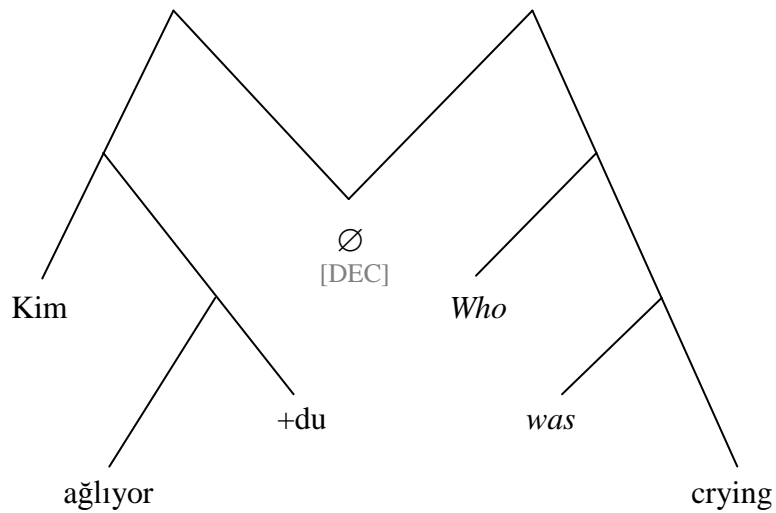
ağlıyor

crying

In (289), we understand that the wh-expressions *Kim/who* are specifier subjects of TPs in both languages. They are merged with a null declarative main clause C ∅ to form a declarative main clause CP *Kim ağlıyordu ∅/∅ who was crying.*

(290) Ne yaptın?/*What did you do?*

what

Ø / did
[DEC] / [INT]

Pro

you

yap-tın

do

ne

~~what~~
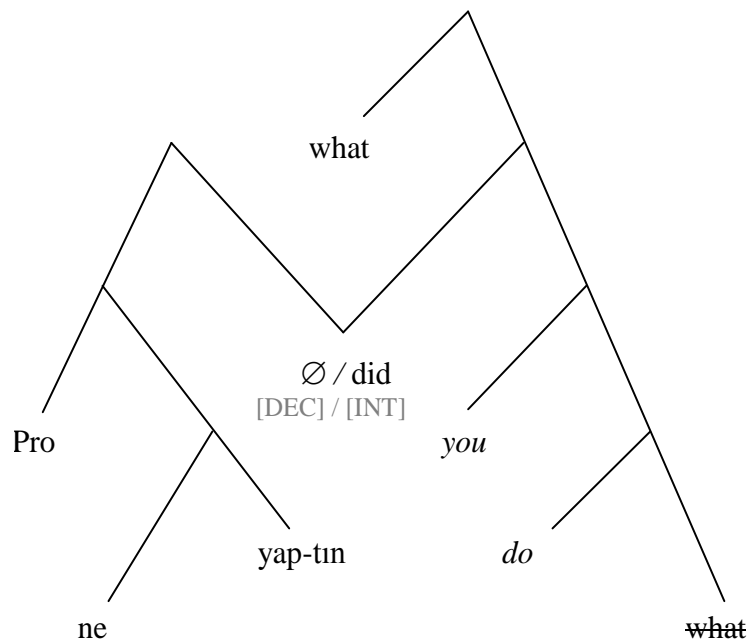
From the M-diagram above, we understand that the asymmetry in the diagram results from the parametric variations of C between English and Turkish languages. Initially, in English, [WH] feature of C triggers raising of the interrogative pronoun *what* from complement-VP position to C. Since C has [EPP] feature, then it projects the WH-pronoun as its specifier, occupying the spec-CP. Then, [TNS] feature of C attracts the null past T inserting the auxiliary do as a host and attaching to it to form *did,* none of which is observed in Turkish since abstract and null C is declarative in force. Another asymmetry is caused by the specifier position of Turkish, which is in the same direction as of English (i.e. specifier-first).

6.1.2. COMPLEMENTISER PHRASES IN CONTROL CLAUSES

As the lowest C position, the Fin head, as we mentioned in the introduction of this part of the study, is assumed to mark "a clause as finite or non-finite and it is occupied by adpositional particles introducing infinitival clauses."[1] In English, *for-to* non-finite clauses are assumed to be FinPs since they are headed by the infinitival complementiser *for.*[2] However, "when the subject of the non-finite clause is controlled by the subject of the matrix clause" (or main clause), or "when the infinite clause contains a null subject (or big PRO)," it is assumed that "the non-finite clause is an infinite TP complement of a control verb."[3] Therefore, the FinP structures in both languages will be analyzed as non-finite subordinate structures in the following sections (i.e. in embedding clause structures) of this part of the study. For this section, we will make do with the analysis of control clauses containing infinitival structures. In these structures, verbs appear as the complement of the particle *to* whose only complement is an *infinite verb* which is described as 'an uninflected base form of verbs'.[4] "Chomsky labelled this category as *Inflection (INFL)* in his early works but preferred *Tense (T)* in his later works,"[5] particularly for infinite complement clauses. This is also followed by Radford (2004) in his analysis of English grammar. We will follow this notation in our analyses with an additional

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[1] Rizzi, "The fine structure of the left periphery", *Elements of grammar*, op. cit., p. 281-337.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.128.
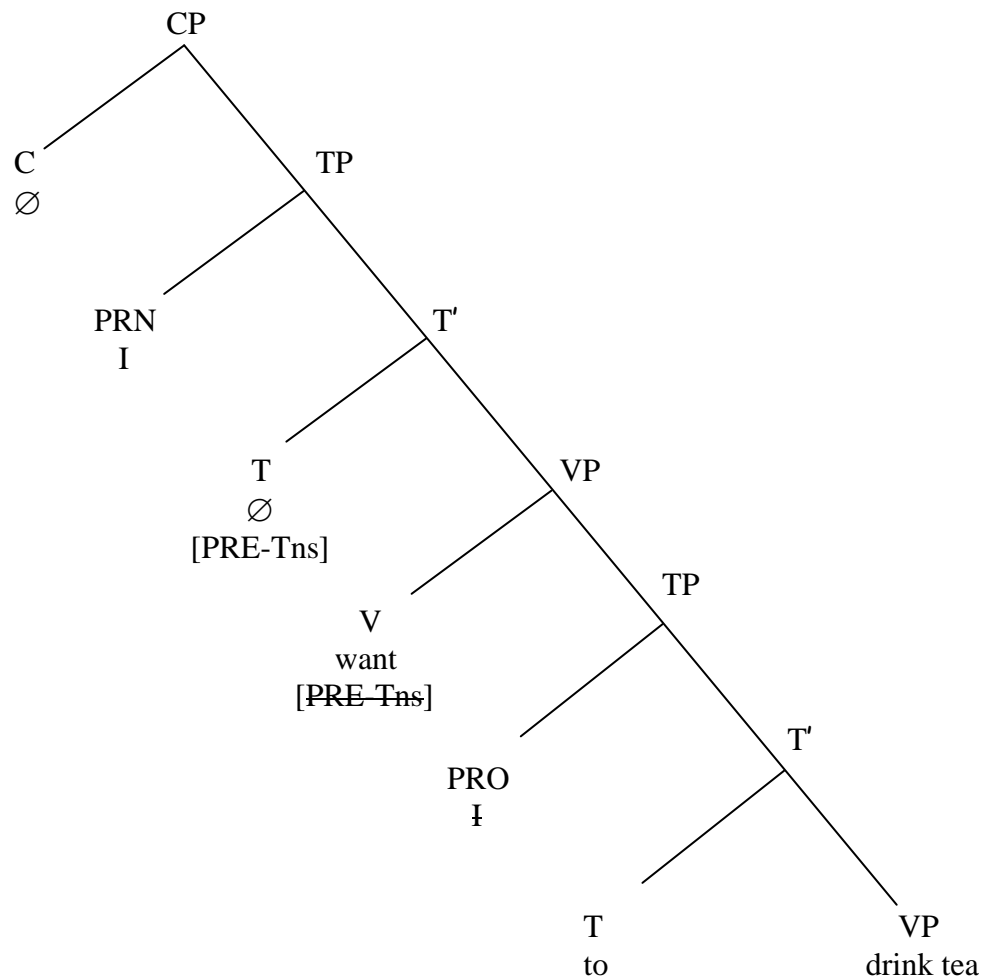[3] Ibid, p.108.
[4] Ibid, p. 49.
[5] Ibid, p. 50.

tense feature which suggests that infinitival T carries interpretable [Inf-Tns] feature marking the verb as valued [~~Inf-Tns~~].This infinite TP complement forms 'a control clause' rather than 'a complementiser phrase', which is shown below:

(292)   I want to drink tea[1]

```
                              CP
                            /    \
                          /        \
                       C            TP
                       ∅          /    \
                                /        \
                            PRN            T'
                            I            /   \
                                       /       \
                                    T            VP
                                    ∅          /    \
                                 [PRE-Tns]   /        \
                                          V            TP
                                         want        /    \
                                       [PRE-Tns]   /        \
                                                PRO            T'
                                                 I           /   \
                                                           /       \
                                                        T            VP
                                                        to         drink tea
```

In (292), the VP *drink tea* is merged with the infinite T *to* form the infinite T-bar *to drink tea* which projects the null 1SgP *PRO* as its specifier, forming the infinite TP *PRO to drink tea.* The infinite TP is then merged with the TP *want,* forming the T-bar *want PRO to drink tea*. The resulting T-bar is specified by the specifier pronoun *I* to form the maximal TP *I want PRO to drink tea*. Since all finite main clauses (TPs in our study) are CPs headed by a null declarative

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[1] The analysis of infinite 'TP' complement control clause on a tree digram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.108(8).

complementiser, the TP *I want PRO to drink tea* is then merged with a null complementiser to form the CP ∅ *I want PRO to drink tea.*

(293)   I am sorry to hear that
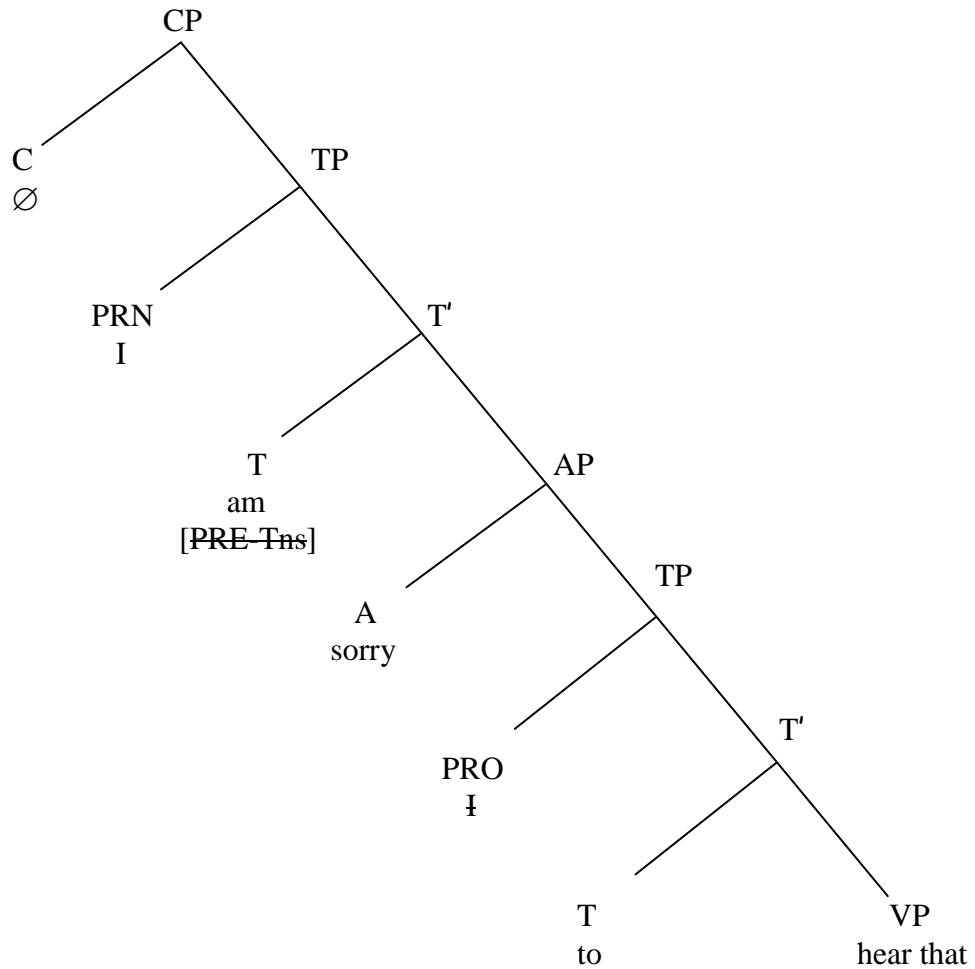
The following illustrations, on the other hand, show us Turkish infinite control clauses:[1]

(294)   *çay iç-mek* istiyorum   sizinle *tanış-mak* güzel
        tea drink-INF want-PRE-1SgP   you-GEN-INS *meet-INF* nice
        I want to drink   *nice to meet you*

In (294), it should initially be noted that the infinitival particle is operated by the affixal *–mAk* in Turkish. We also understand that T *–mAk* denotes a specific

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[1] These structures are noted as 'infinitival structures' or as verbs with 'infinitive suffix' by: Lewis, *Turkish grammar*, op.cit., p. 167.

action yet to be performed in infinite control clauses. In addition, it should be noted that the infinitival particle in Turkish is a free constituent since it does not undergo agreement checking with its PRO specifier, which shows us a common parameter in English and Turkish suggesting that *in English and Turkish infinitival T constituent is free*. The structures above will be illustrated through tree diagrams in (295) and (296) below:

(295)   Çay içmek istiyorum *(I want to drink tea)*
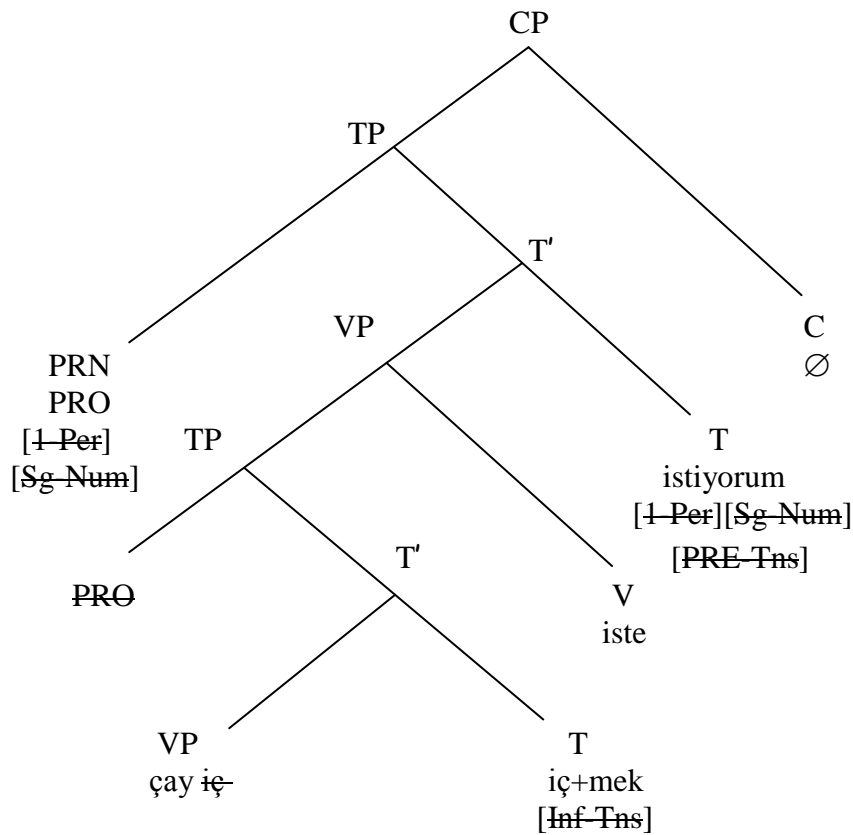
In (295), the VP *çay iç* (drink tea) is merged with the infinite T *-mAk* to form the infinitival T-bar *çay içmek* (to drink tea) which projects the null 1SgP *PRO* as its specifier, forming the infinite TP *PRO çay içmek* (to drink tea). The infinite TP is then merged with the T *istiyorum* (want-PRE), forming the T-bar *PRO çay içmek istiyorum* (PRO want to drink tea). The resulting T-bar is specified by the specifier 1SgP *PRO* to form the maximal TP *PRO çay içmek istiyorum* (PRO want-PRE-1SgP to drink tea). Since all finite main clauses (TPs in our study) are CPs headed by a null declarative complementiser, the TP *PRO çay içmek istiyorum* (PRO want-PRE-

1SgP to drink tea) is then merged with a null complementiser to form the CP *PRO çay içmek istiyorum* ∅ (∅ PRO want-PRE-1SgP to drink tea).

(296)   Sizinle tanışmak güzel (*Nice to meet you*)
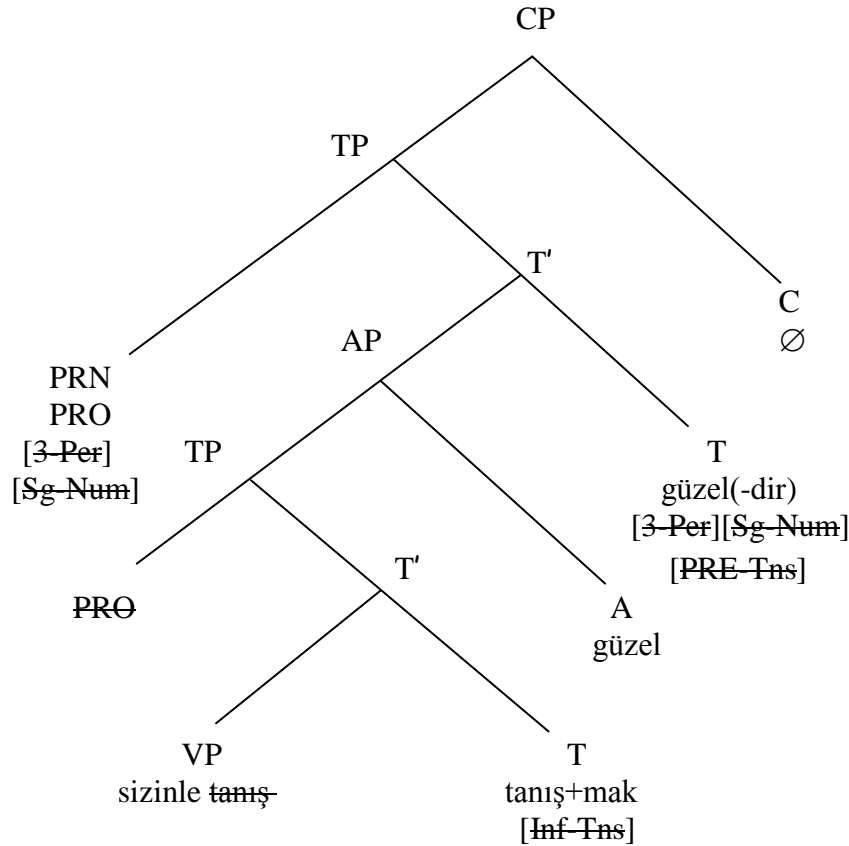
It should be noted that the non-finite (infinitival) structures which we analyzed so far are control clauses, which do not project a FinP (or non-finite CP). The FinP structures in both languages will be analyzed as non-finite subordinate structures in the following sections (i.e. in embedding clause structures) of this part of the study.

6.2. COMPLEMENT CLAUSES

In the previous section above (i.e. 6.1), we analyzed CP derivations in declarative and interrogative finite main clauses as well as non-finite control clauses. In these structures, the C position over TPs is filled by a null declarative or a null or overt interrogative C, deriving declarative or interrogative main clauses. Now, this C

position filled by an overt or null (i.e. deleted or silent, e.g. ~~that~~) in CP is analyzed as a functional head subordinating the CP into a higher category, i.e. a verb or an adposition, forming a complement clause being the complement of this category. In other words, complement clauses are analyzed as the subordinated form of the complementiser phrases into matrix clauses. Therefore, the internal structure of a complement clause is nothing more than the internal structure of a complementiser phrase. In this part of the study, we will analyze finite and infinite subordinate CPs in English and Turkish syntactical structures. Now, let's analyze a declarative complementiser phrase functioning as the complement of a verb in a matrix clause in English:

(297) *that the world is round*[1]
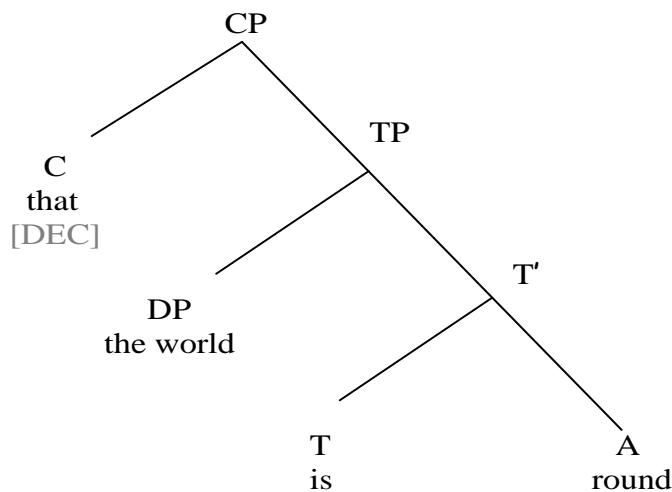
To analyze the structure in a bottom-up fashion, the declarative *TP the world is round* is assumed to be merged with an overt declarative complementiser C *that* or its null counterpart ~~*that*~~ to form the complementiser phrase CP *that/~~that~~ the world is round.* Accordingly, the declarative *TP the world is round* is merged with an overt or null complementiser C which allows the whole CP to be the complement of a verbal or adpositional head, which shows us that TPs require a higher position allowing further operations over the TP, which is shown below:

(298) We know that the world is round.

---

[1] 'CP' analysis on a tree diagrem is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.124 (52).

```
                    CP
                   /  \
                  /    \
              C         TP
              ∅        /  \
                      /    \
                 PRN        T′
                  We       /  \
                          /    \
                     T         CP
                    know      /  \
                 [PRE Tns]   /    \
                       C          TP
                      that       /  \
                               /     \
                          DP          T′
                       the world     /  \
                                    /    \
                               T          A
                              is         round
                          [PRE Tns]
```
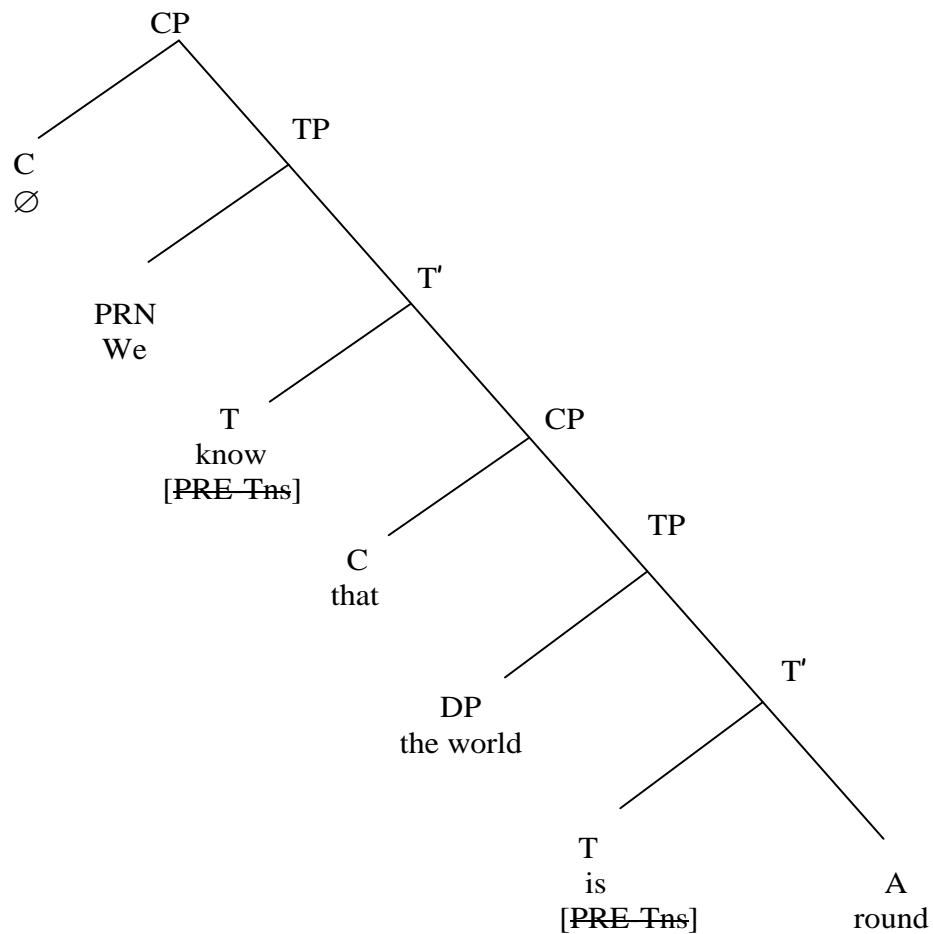
In (298), the embedded CP *that the world is round* is merged with the V *know* which undergoes inflection by merging with the null inflectional present T to form the T-bar *know that the world is round*. The resulting T-bar is then extended to TP merging with the 1PlP specifier pronoun *We,* forming the TP *We know that the world is round.* Since all finite main clauses are CPs headed by a null declarative complementiser, the TP *We know that the world is round* is then merged with a null variant of a declarative complementiser receiving a null spellout (∅). The resulting structure finally forms the CP ∅ *We know that the world is round.* The following example, in addition, illustrates us a complement clause which is defined as *reported speech* in traditional grammar.[1]

(299) My boy friend told me he was in love with another woman.[2]

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[1] Betty S. Azar, *Understanding and Using English Grammar,* New York,1999, p. 254.
[2] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.146.
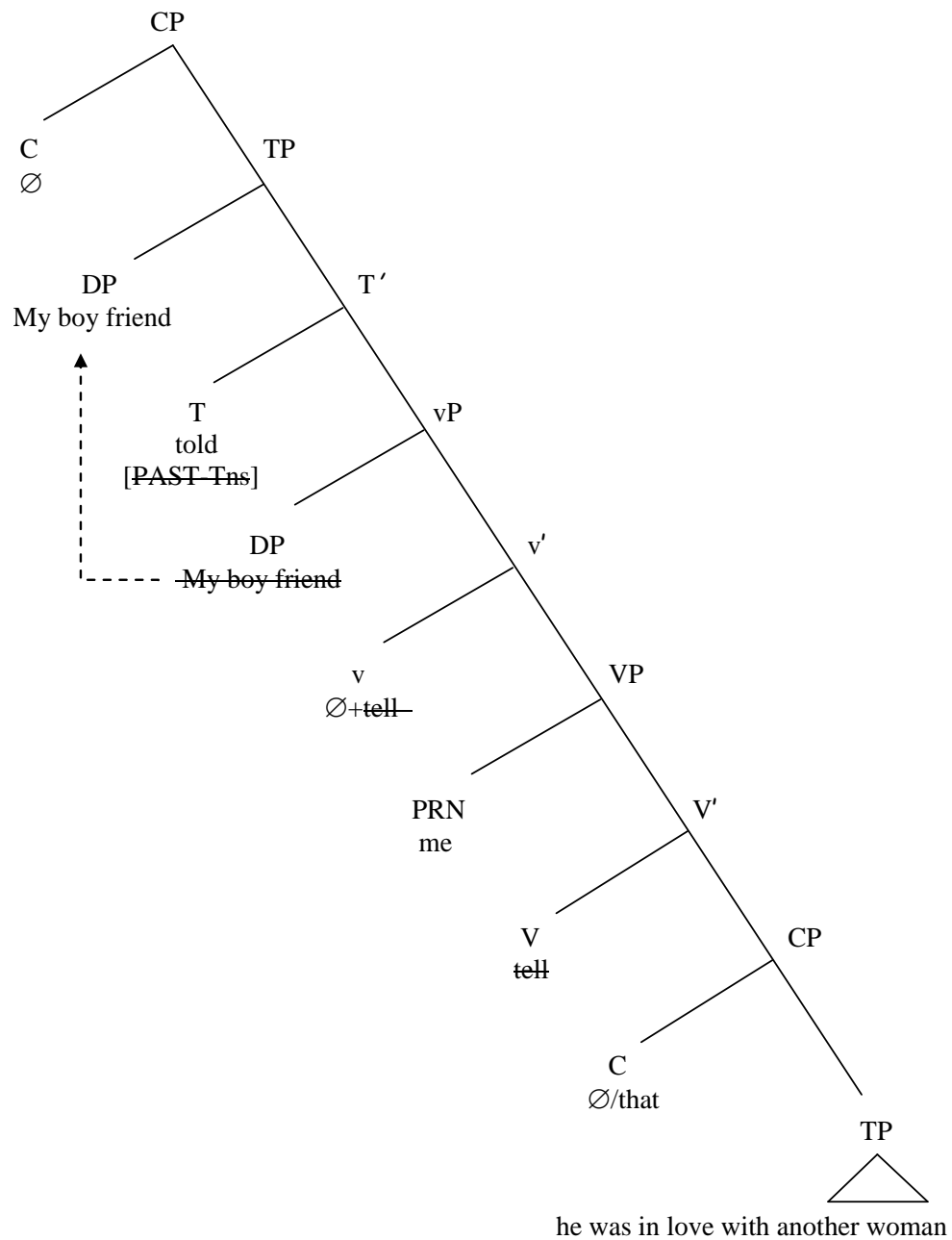
In (299), on the other hand, the finite complement clause CP *he was in love with another woman* which is headed by a null variant of the declarative complementiser ~~that~~ merges with the verb *tell* which is a two-place predicate verb (i.e. tell *me that*). Therefore, we illustrated the derivation in the vP shell analysis which we explained in our previous analyses. That is, *tell* originates as the head V of VP with the pronoun *me* as its subject and the CP ~~that~~ *he was in love with another woman* as its complement. Then, the verb *tell* raises up to adjoin to the strong

causative light verb $\varnothing$ heading v′. The subject DP *My brother* originates in spec-vP and subsequently raises to spec-TP. Since all finite main clauses are CPs headed by a null declarative complementiser, the TP *My boy friend told me ~~that~~ he was in love with another woman* is then merged with a null declarative complementiser $\varnothing$ receiving a null spellout ($\varnothing$). The resulting structure finally forms the CP $\varnothing$ *My boy friend told me ~~that~~ he was in love with another woman.* As for the English interrogative complement clauses, let's see the illustrations below:

(300) I asked him what his name was.[1]

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[1] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.146.
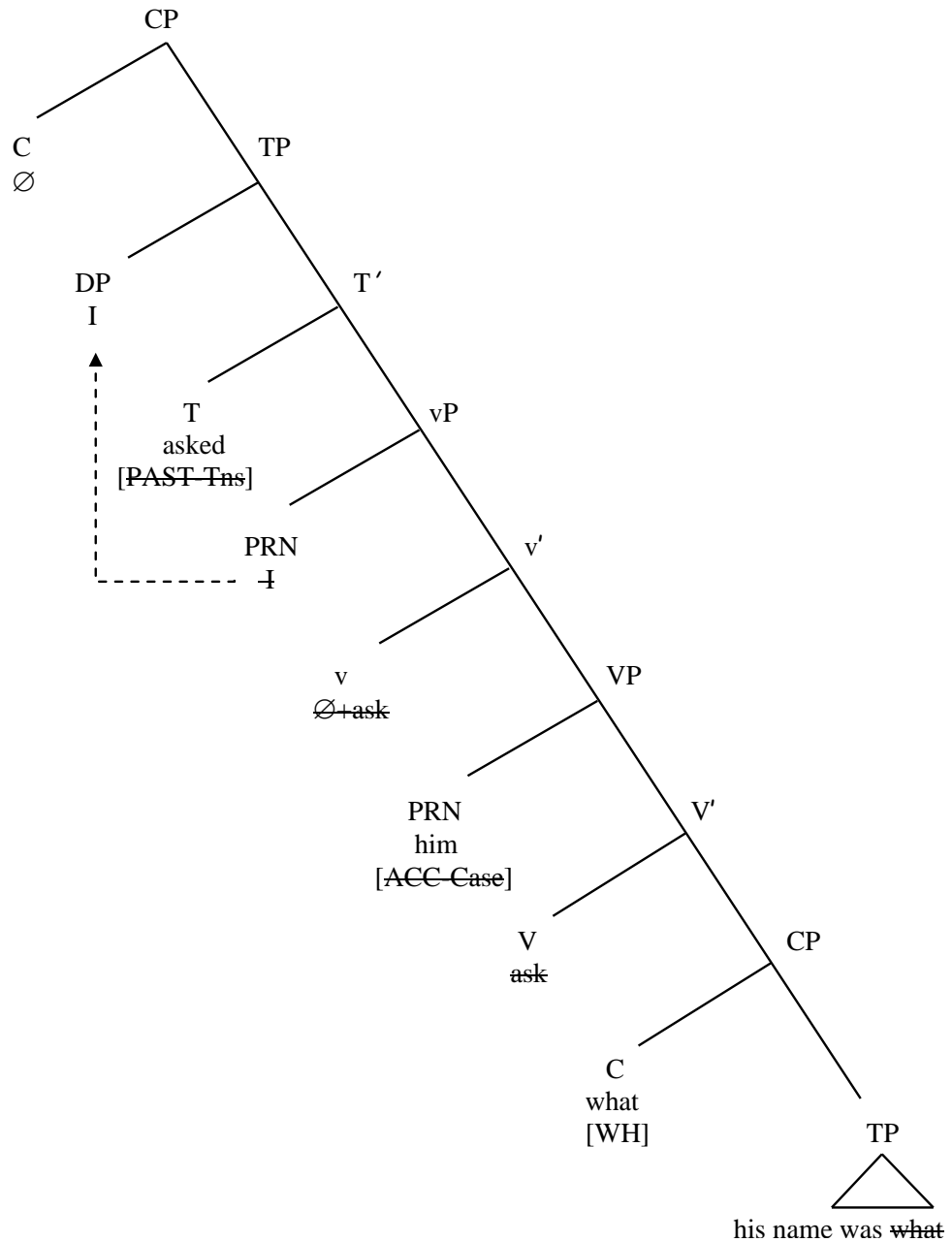
In (300), the finite interrogative complement clause CP *what his name was* which is headed by the interrogative complementiser *what* merges with the verb *ask* which is a two-place predicate verb (i.e. ask *me what*). Therefore, we illustrated the derivation in the vP shell analysis which we explained in (299) above.

(301) He asked me whether she had phoned.[1]

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[1] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.146.

```
                        CP
                       /  \
                      /    \
                   C        TP
                   ∅       /  \
                          /    \
                        DP      T´
                        He     /  \
                              /    \
                             T      vP
                           asked   /  \
                         [PAST-Tns]    \
                                 PRN    v´
                                  He   /  \
                                      /    \
                                     v      VP
                                   ∅+ask   /  \
                                          /    \
                                        PRN     V´
                                         me    /  \
                                      [ACC-Case]   \
                                               V    CP
                                              ask  /  \
                                                  /    \
                                                 C      TP
                                              whether   △
                                                     she had phoned
```
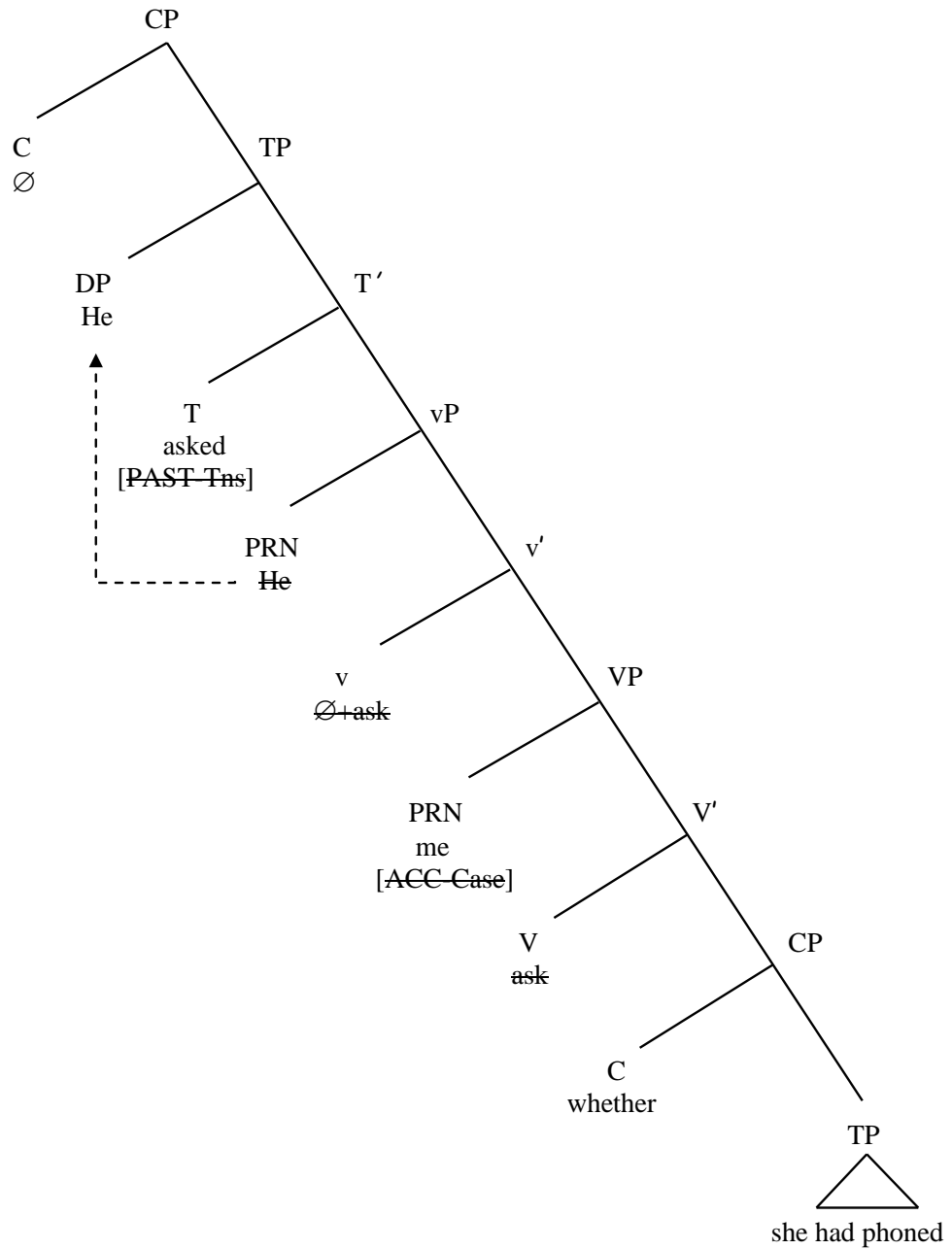
In (301), the finite interrogative complement clause CP *whether she had phoned* which is headed by the interrogative complementiser *whether* merges with the verb *ask* which is a a two-place predicate verb (i.e. ask *me whether*).

For the complement CP analysis in Turkish, on the other hand, there are contradictory assumptions on the complement category. According to Uzun (2000), Turkish does not operate an overt C head since it does not have an overt lexical

category of complementisers and it does not require wh-movement and thus regarding it as an empty category.[1] However, as understood from the analyses in our study, the C head as a universal category is a position filled by overt or null complementisers in Turkish. Constituents such as *diye* in reportive force*, gibi* in predictive force, and null (∅) declarative and *mI* interrogative force in main clauses may be introduced as 'finite subordinators', or 'complementisers', although *gibi* and *diye* also have other adverbial and postpositional uses.[2] Now, let's see the example below:

(302)　*Yağmur yağacak gibi*
　　　 Rain fall-*PROS COMP*
　　　 COMP/that it will rain
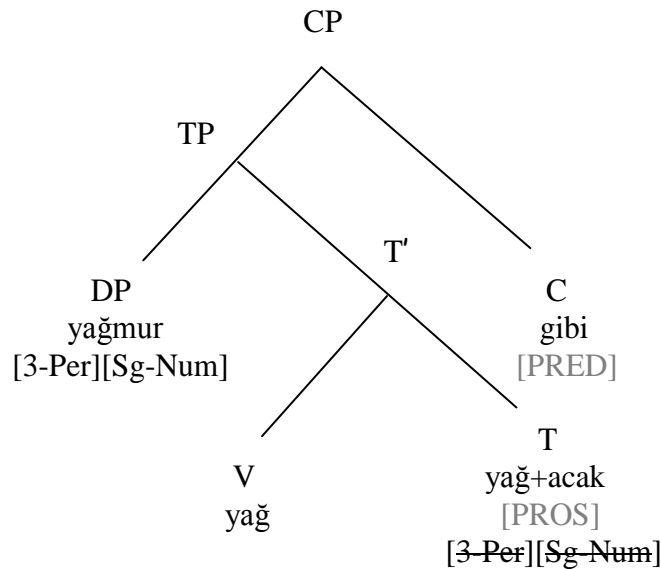
In a bottom-up order, (302) tells us that the prospective TP *yağmur yağacak* (it will rain) is headed by an overt predictive complementiser C *gibi* to form the complementiser phrase CP *yağmur yağacak gibi* (PRED it will rain). Accordingly, the prospective TP *yağmur yağacak* (it will rain) is headed by an overt or null predictive complementiser C which allows the whole CP to be the complement of a verbal head, which is shown below:

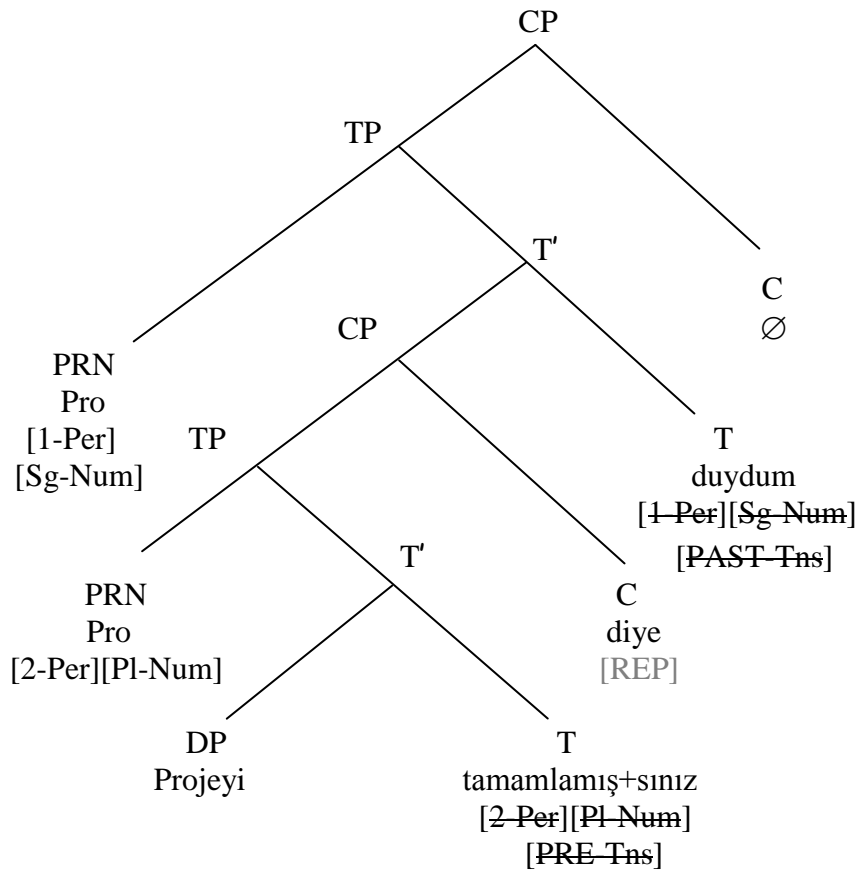[1] Engin N. Uzun, Evrensel Dilbilgisi ve Türkçe, İstanbul, 2000, p.67.
[2] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 354-358.

(303)   *Yağmur yağacak gibi* görünüyor
        Rain fall-*PROS COMP* seem-*PROG-PRE/3SgP*
        It seems that it will rain
        It seems to rain
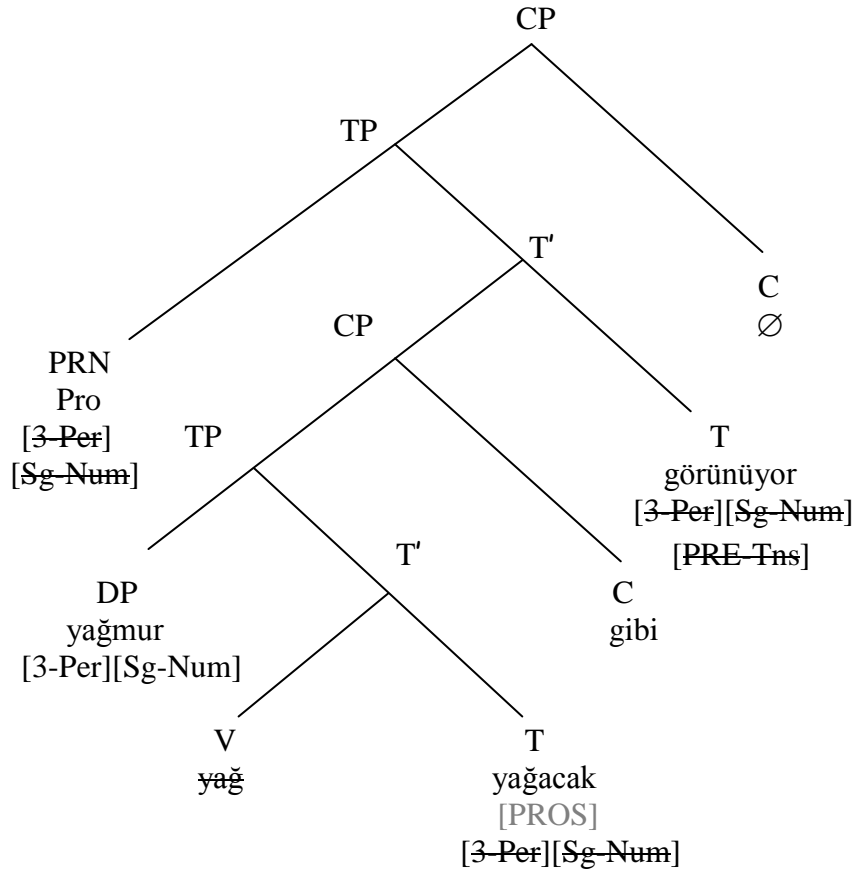
In (303), the predictive CP *yağmur yağacak gibi* (PRED it will rain) is merged with the present T constituent *görünüyor* to form the T-bar *yağmur yağacak gibi görünüyor* (seems PRED/that it will rain). The resulting intermediate T-bar is then extended to TP by the 3SgP expletive spec-Pro, forming the TP *Pro yağmur yağacak gibi görünüyor* (It seems PRED/that it will rain). Since all finite main clauses are CPs headed by a null declarative complementiser, the TP *Pro yağmur yağacak gibi görünüyor* (It seems PRED/that it will rain) is then merged with a null declarative complementiser ∅ forming the CP *Pro yağmur yağacak gibi görünüyor*∅ (∅ It seems PRED/that it will rain).

(304)   Projeyi tamamlamışsınız *diye* duydum
        Project complete-*PERF-PRE-2PlP C* hear-*PAST-1SgP*
        I heard that you have completed the project

```
                                        CP
                                       /  \
                                      /    \
                                  TP /      \
                                 /  \        \
                                /    \        \
                               /   T' \        \
                              /   /  \  \        \
                          CP /   /    \  \        C
                         /  \   /      \  \       ∅
                        /    \ /        \  \
            PRN        /      \          \  \
            Pro    TP /        \          \  T
            [1-Per] / \         \          duydum
            [Sg-Num]/   \         \         [1-Per][Sg-Num]
                   /     \         \          [PAST-Tns]
                  /    T' \         \
                 /    /  \  \        \
             PRN     /    \  \        C
             Pro    /      \  \       diye
             [2-Per][Pl-Num]  \        [REP]
                   /           \
                  /             \
              DP /               \  T
              Projeyi             tamamlamış+sınız
                                  [2-Per][Pl-Num]
                                   [PRE-Tns]
```

In (304), the TP *projeyi tamamlamışsınız* (you have completed the project) is merged with an overt reportive complementiser C *diye* to form the reportive complementiser phrase CP *projeyi tamamlamışsınız diye* (that you have completed the project). Then, the CP is merged with the past T constituent *duydu (hear-PAST)* to form the T-bar *projeyi tamamlamışsınız diye duydu* (heard that you had completed the project). The resulting intermediate T-bar is then extended to TP by the 1SgP spec-PRO, forming the TP *Projeyi tamamlamışsınız diye duydum* (I heard that you had completed the project). Since all finite main clauses are CPs headed by a null declarative complementiser, the TP *Projeyi tamamlamışsınız diye duydum* (I heard that you had completed the project) is then merged with a null declarative complementiser ∅ forming the CP *Projeyi tamamlamışsınız diye duydum ∅* (∅ I heard that you had completed the project). Göksel and Kerslake (2005) introduce the reportive complementiser *diye* as the 'noun clause subordinator' derived from the -

(y)A converbial form of the verb *de* (say).[1] Although these structures show us the existence of a C position higher than the TP in Turkish syntactical structure, they are of very limited uses only subordinating to certain verbs. Now, let's analyze the complement clauses in both languages on an M-diagram:

(305)   Projeyi tamamlamışsınız *diye* duydum
        I heard that you have completed the project

Pro

∅
[DEC]

I

duydum   *heard*

diye   *that*
[REP]   [DEC]
pro projeyi tamamlamışsınız   *you had completed the project*
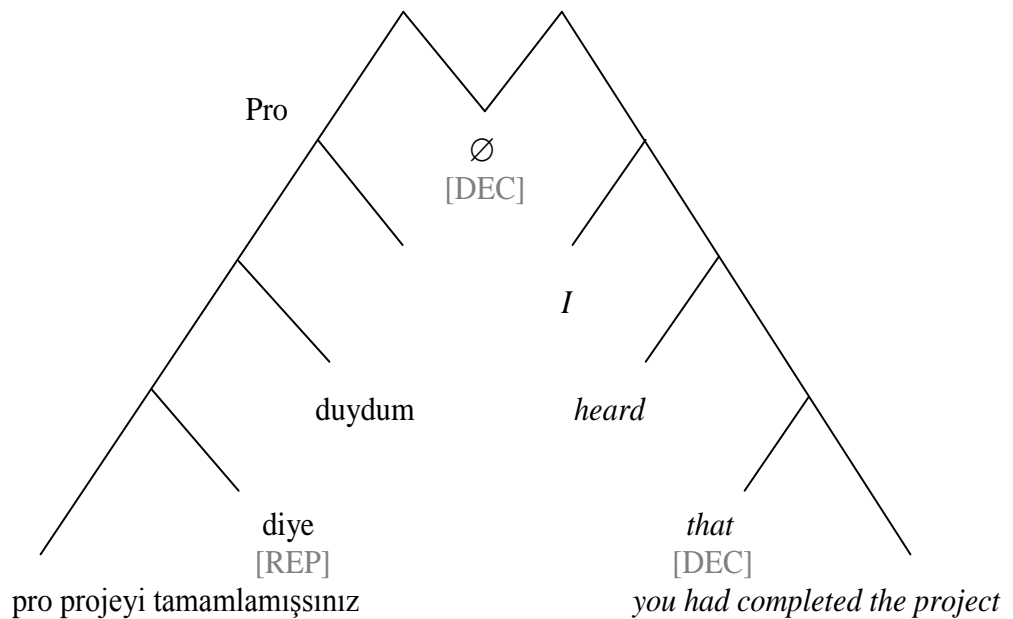
In (305), it is understood that except for the head-parameter, the derivation of matrix clauses containing a complement CP in both languages does not involve any parametric variations. However, it should be noted that the C force is different (i.e. reportive and declarative) in either language.

Non-Finite Complement Clauses

As the lowest C position, the Fin head, as we mentioned in the introduction of this part of the study, is assumed to mark "a clause as finite or non-finite and it is occupied by adpositional particles introducing infinitival clauses."[2] In English, *for-to* non-finite clauses are assumed to be FinPs since they are headed by the infinitival complementiser *for*.[3] "Although present day English has no overt counterpart of

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[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 411.
[2] Rizzi, "The fine structure of the left periphery", *Elements of grammar*, op. cit., p. 281-337.
[3] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.128.

infinitival complementiser, the justification of *for* as an overt infinitival complementiser is based on the function of this particle in Middle English."[1] Accordingly, a *non-finite* complement clause structure in English will be as the following:

(306)   for you to study[2]

ForceP

Force
∅

FinP

Fin
for

T

PRN
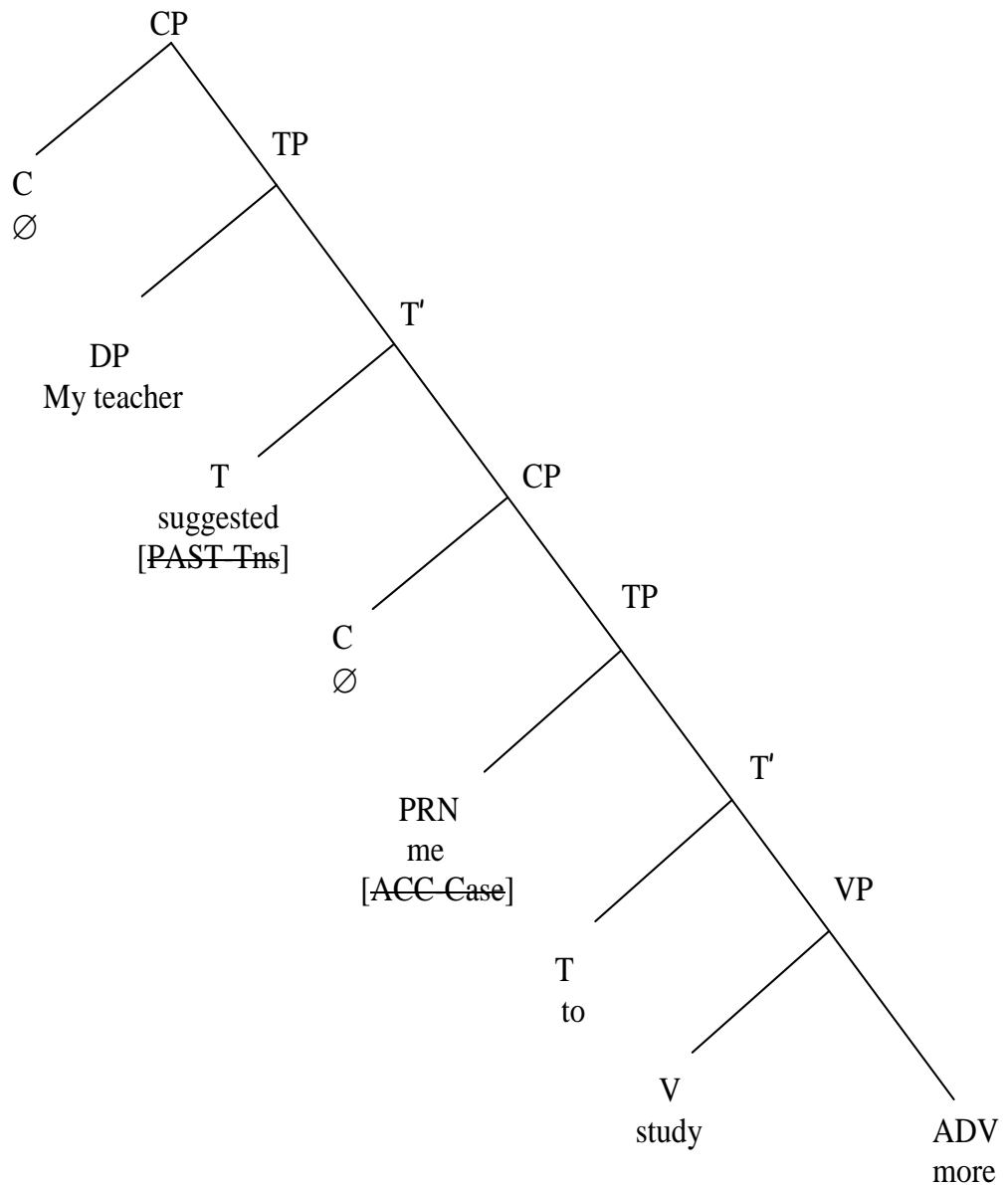you

T'

T
to
[Inf-Tns]

V
study
[~~Inf-Tns~~]
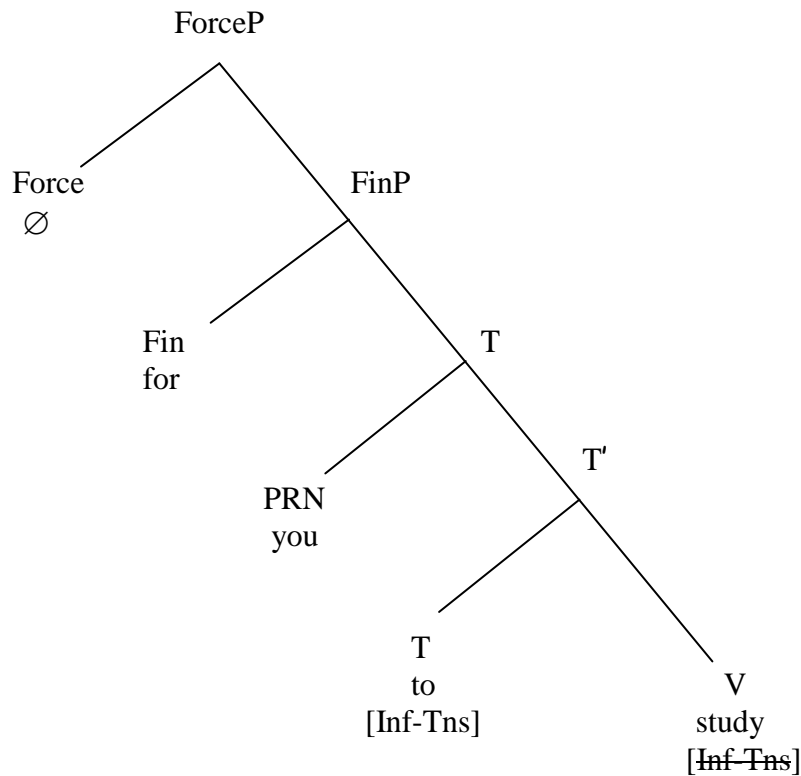
In (306), the verb *study* is merged with the infinitival T constituent *to* having infinite tense feature to form the T' *to study*. Since T carries [EPP] feature, the T-bar then projects the specifier 2SgP pronoun *you* to form the infinite TP *you to study*. The resulting TP is then merged with the Fin head *for*, marking the clause as non-finite. The prepositional Fin *for* assigns accusative case [ACC] to the subject pronoun of its clause. Since the clause is non-finite, it is assumed to be headed by an empty finite force complementiser, forming the ForceP *for you to study*. However, considering the minimalist concerns to avoid unnecessary representations, we will

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[1] Ibid, p.333.
[2] The analysis of 'Fin' head and 'FinP' on a tree digram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 334 (21).

represent the Fin head as C forming infinite CP structures. The infinite TP is headed by an overt or null infinite complementiser C *for/∅* which allows the whole CP to be the complement of a verbal head, which is shown below:

(307)   My teacher suggested me to study more

CP
- C
  ∅
- TP
  - DP
    My teacher
  - T′
    - T
      suggested
      [~~PAST Tns~~]
    - CP
      - C
        ∅
      - TP
        - PRN
          me
          [~~ACC Case~~]
        - T′
          - T
            to
          - VP
            - V
              study
            - ADV
              more

In (307), the infinite *CP ∅ me to study more* is merged with the transitive verb *suggest* which is inflected for past tense by the null past T to form the T-bar *suggested ∅ me to study more*. The resulting T-bar is then extended to TP merging with the specifier DP *My teacher,* forming the TP *My teacher suggested ∅ me to*

study more. Since all finite main clauses (TPs in our study) are CPs headed either by an overt or null complementiser, the TP *My teacher suggested ∅ me to study more* is then merged with a null variant of a declarative complementiser *that* receiving a null spellout. The resulting derivation finally forms the CP *∅ My teacher suggested ∅ me to study more.*

The ideas on non-finite complement clauses in Turkish, on the other hand, are contradictory. The affixal heads *-mA, -mAk, -dIk* and *-AcAk* are described as the "infinite subordinating suffixes in Turkish."[1] Generally, while Kural and Slodowicz use the term infinitive for *-mA* and *-mAk,* the others (i.e. *-dIk* and *-AcAk*) are described as gerund (or nominalizers).[2] On the other hand, Csató describes *-dIk* and *-mA* as nominalizers, contradictory to the previous suggestions cited.[3] In addition, *-AcAk* is also regarded as a nominalizer referring to irrealis events. However, considering the tense features (i.e. priori, posterior or irrealis) as well as their agreement relations (i.e. person and number features) with the subject, we conclude that these markers are infinite T constituents which may introduce an irrealis clause (i.e. a clause denoting a hypothetical event which has not yet happened)[4] or a situation prior to the time of utterance which is usually factive.[5] While finite T (i.e. present or past) projects a main clause, satisfiying the finite TNS requirement, the infinite T projects embedding CP structures such as DPs or CPs. Accordingly, while the marker *-mA* can be analyzed as the non-finite nominalizer (Nom) head (or gerund) projecting a DP, the marker *-mAk* is regarded as the infinitive T particle projecting a control clause as we described before (see 6.1.2). In addition, the other affixal infinite T markers such as *-dIk* and *-AcAk* are regarded as infinite T constituents having nominal features which are finally headed by a null affixal infinite C having EPP, GEN-Case and agreement features. The nominalizer suffix *-mA* can also function as an infinite T constituent projecting a CP. In this case, while

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[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 84-88.
[2] Murat Kural, "Subordinate Infls and Comp in Turkish", *The Mainz meeting: Proceedings of the 7th International Conference on Turkish Linguistics,* 1994; Slodowicz, "Complement control in Turkish", op. cit., p.129.
[3] Éva Ágnes Csató, "Two types of complement clauses in Turkish", 2009, p.107-122.
[4] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 53.
[5] Slodowicz, "Complement control in Turkish", op. cit., p.129.

the infinite T *-mA* denotes a modal event which has not yet happened and *-AcAk* denotes an irrealis future, the infinite T *-dIk* denotes a situation prior to the time of utterance which is usually factive. Therefore, while Turkish keeps operating a null affixal complementiser having EPP, GEN-Case and agreement features for all infinite T constituents, English operates either an overt or null complementiser which is a null variant of *for.* In our analyses, although the embedding clauses what we call FinP (or a coalesced CP) analysis is formulated as a DP analysis suggesting that these structures in Turkish are not headed by infinite complementiser but determiners assigning case features,[1] we will follow CP analysis for all embedding clauses. Therefore, considering both assumptions, rather than a DP analysis, we can say that the Fin P in Turkish is filled by a variant of a null complete determiner which is affixal in nature. This null affixal head assigns genitive case to a goal with an unvalued case feature in accordance with the *Genitive Case Assignment* condition suggesting that "a null complete determiner probe assigns genitive case to a matching goal with an unvalued case (u-case)."[2] Since the Fin position is not filled by an overt complementiser head in Turkish, it is assumed to be filled by a null affixal head which has infinite EPP and GEN-Case features. The infinite T may be assumed to be of 'factive'[3] or 'irrealis'[4] features different from the finite present or past tense. It is also assumed that these affixal infinite T constituents are of nominal feature. Then, the FinP (i.e. infinite C) in Turkish may be analyzed as the following illustration:

(308)   PRO kompozisyon yazmamız
        PRO composition write-*NOM-AGR/1PlP*
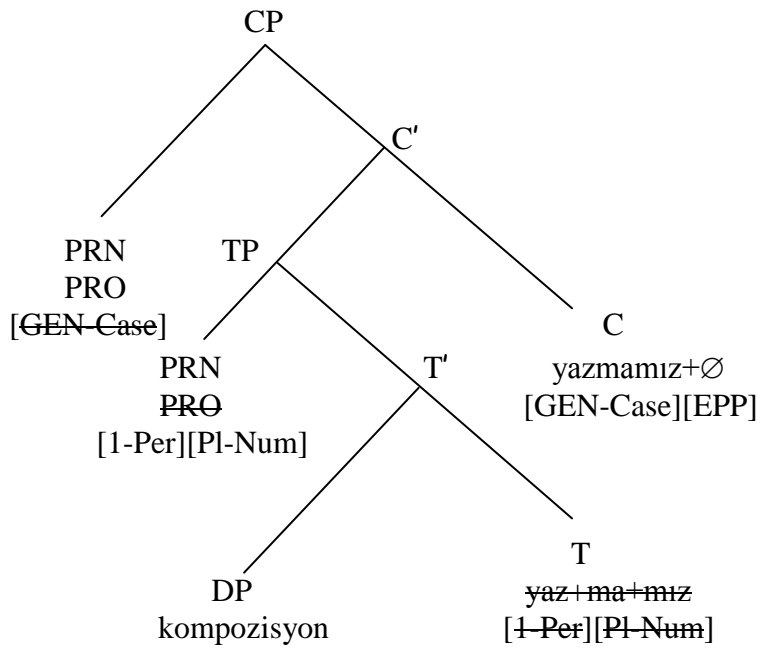
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[1] Sarah D. Kennelly, "Turkish Subordination:[-Tense,-CP,+ Case]", *Modern Studies in Turkish Linguistics,* Eskişehir, Turkey, 1996, p. 55-75.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 368.
[3] Ibid, p. 53.
[4] Szymon Slodowicz, "Complement control in Turkish", *Zas papers in linguistics*, 47, 2007, p.129.

CP
├── PRN
│   PRO
│   [~~GEN-Case~~]
└── C'
     ├── TP
     │   ├── PRN
     │   │   ~~PRO~~
     │   │   [1-Per][Pl-Num]
     │   └── T'
     │   ├── DP
     │   │   kompozisyon
     │   └── T
     │   ~~yaz+ma+mız~~
     │   [~~1-Per~~][~~Pl-Num~~]
     └── C
          yazmamız+∅
          [GEN-Case][EPP]

Accordingly, the infinite T constituent *yazma* undergoes person and number checking with the 1PlP PRO specifier and values the T as [~~1-Per~~] and [~~Pl-Num~~], forming the TP *yazmamız.* The infinite T *yazmamız* is attracted by the null affixal infinite C head. Then, the null infinite C projects the 1PlP PRO in spec-T as its specifier to satisfy the EPP feature. Therefore, the GEN-Case feature of the C undergoes case checking with the unvalued case feature of the 1PlP PRO and values it as GEN-Case, triggering its movement from the spec-TP to the spec-CP. The infinite TP is headed by a null affixal infinite complementiser C +∅ which allows the whole CP to be the complement of a verbal head, which is shown below:

(309)   Öğretmen kompozisyon PRO yaz-*ma-mız-ı* ist*iyor.*[1]
        Teacher composition PRO write-*NOM-AGR-ACC* want-*PROG-PRE-3SgP*
        The teacher wants us to write a composition

---

[1] Oxenden-Koenig, *New English File (Elementary/A2)*, op. cit., p.125.
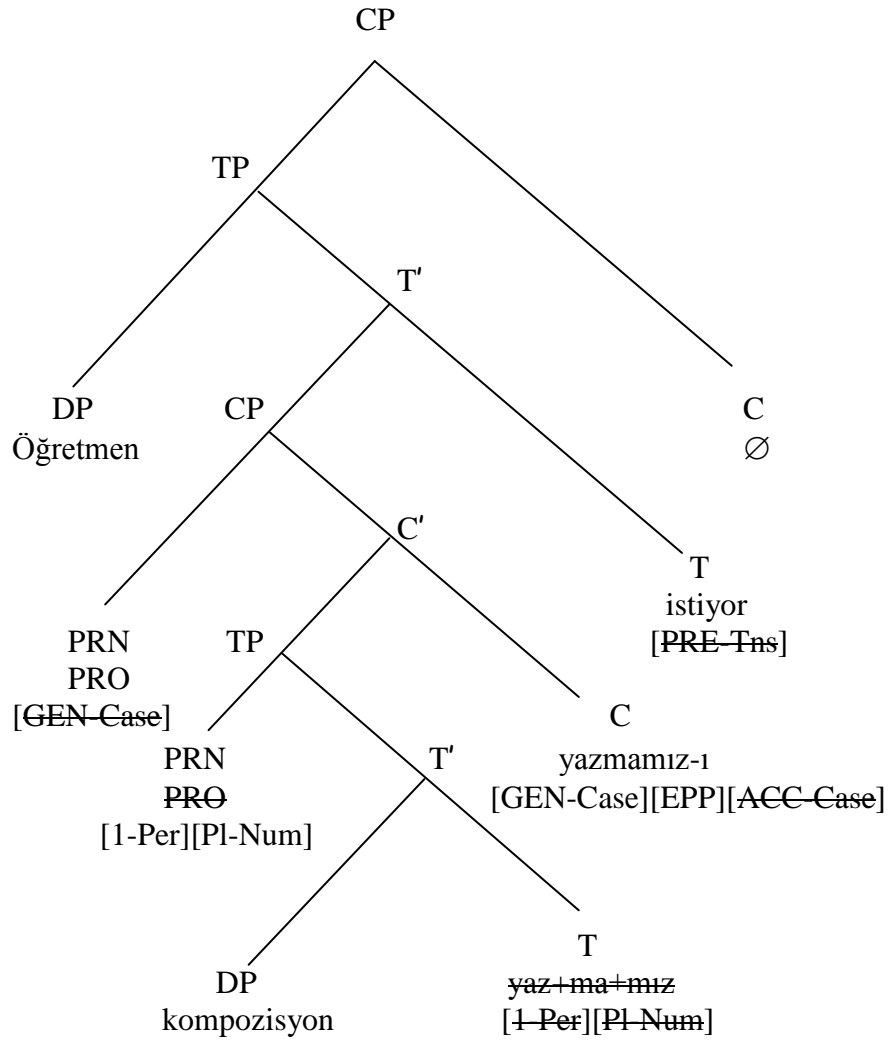
In (309), the infinite *CP kompozisyon yazmamız* (us to write a composition) is merged with the progressive T *istiyor* (want-PRE) to form the T-bar *kompozisyon yazmamız-ı istiyor*. It should be noted that the null infinite determiner complementiser in Turkish is of unvalued case (i.e. [u-case]) feature. Therefore, since the the null affixal determiner complementiser C attracts the nominalized verb *yazmamız* from infinite T to C, the nominalized verb is assigned [ACC] case *–ı* by the verb *iste* (want), valuing and deleting its unvalued case feature (i.e. [ACC-Case]). Then, the resulting T-bar *kompozisyon yazmamızı istiyor* (wants us to write a composition) is then extended to TP merging with the DP specifier *öğretmen* (the teacher), forming the TP *Öğretmen kompozisyon yazmamızı istiyor* (the teacher wants us to write a composition). Since finite main clauses are also CPs headed by a null declarative complementiser, the TP *Öğretmen kompozisyon yazmamızı istiyor*

(the teacher wants us to write a composition) is then merged with a null declarative complementiser (∅). The resulting structure finally forms the CP ∅ *Öğretmen kompozisyon yazmamızı istiyor* (the teacher wants us to write a composition).

From the analyses of the infinite complementiser phrases (FinP), it is understood that while English Fin is filled by an overt or null lexical complementiser (i.e. a null counterpart of the adpositional *for)* and c-selects pronouns or DPs as complements, thus c-selectional, Fin in Turkish is affixal and m-selects infinite T constituents , thus m-selectional, which may be described as a parametric variation of Fin (or infinite C) as the following:

- **Fin (Inifinite C) Parameter**
  i. In English, Fin is c-selectional.
  ii. In Turkish, Fin is m-selectional.

Accordingly, while English infinite C has pronoun or DP complements being the specifier of the following licensed infinite TP, Turkish infinite C attracts the lower infinite T from T to C and its specifier from spec-T to spec-C as the specifier of CP in genitive case. Now, let's analyze these CP structures comparatively on an M-diagram below:

(310)   John*'un* İngilizce çalış-*ma-sı/for John to study English*

John'un

~~John~~

çalışması+∅/for

John

~~çalış+ması~~

to

~~çalış~~

study

İngilizce
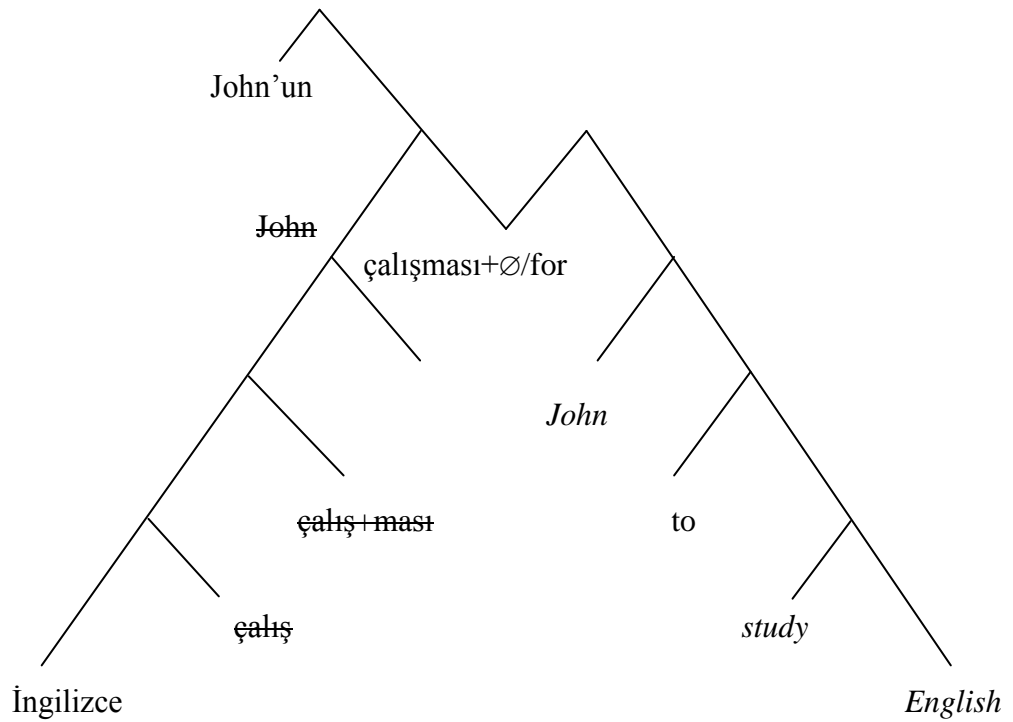
English

From (310), we understand that the infinite C having an irrealis infinite TP complement (i.e. to do) is filled by an overt or null C *for* in English, while it is filled by an affixal complementiser which is assumed to be a variant of a null complete determiner having EPP and GEN-Case features in Turkish. As another example, let's see the following Turkish infinite reported complement clause involving a factive infinite TP:
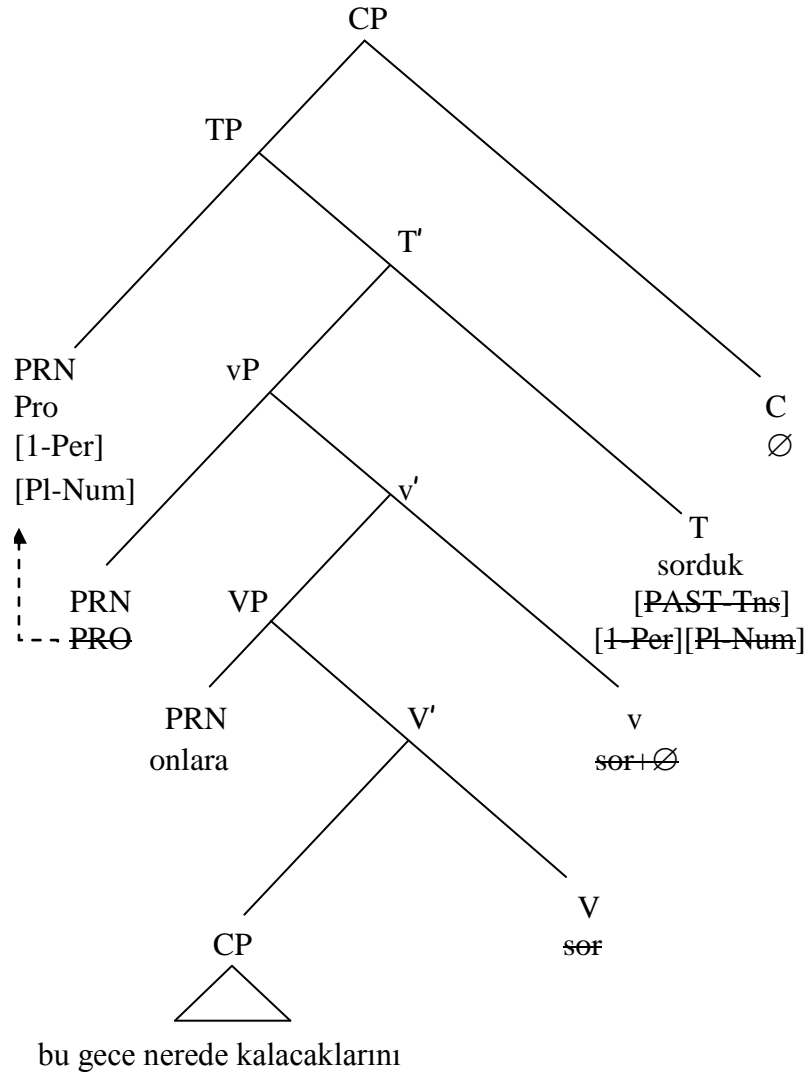
(311)   Murat İstanbul'a gittiği*ni* söyledi.[1]
        Murat Istanbul-DIR go-NOM-AGR-ACC say-PAST-3SgP
        Murat said that he had gone to Istanbul

---

[1] Oxenden-Koenig, *New English File (Pre-Intermediate/B1)*, op. cit., p.115.
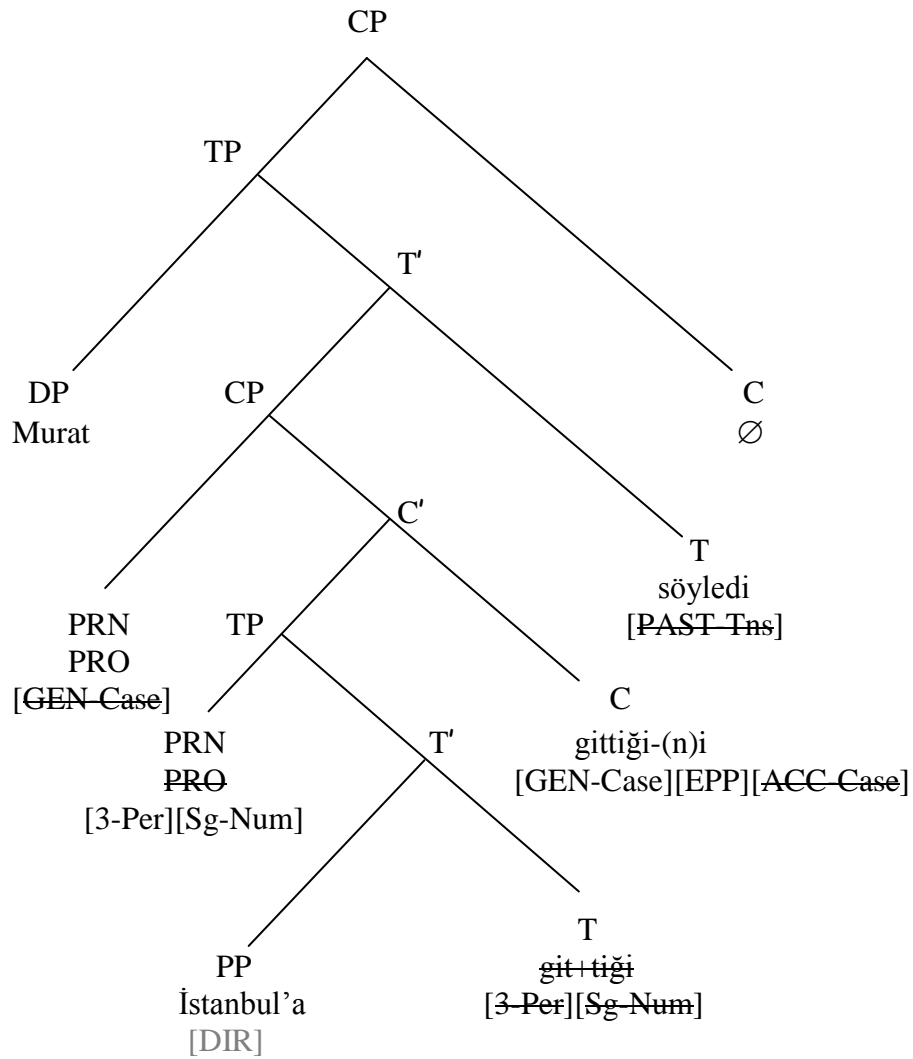
In (311), the infinite complement CP *İstanbul'a gittiğini* merges with the T *söyledi* (söyle-PAST) to form the TP *Murat İstanbul'a gittiğini söyledi* (Murat said that he had gone to Istanbul). This complement clause involve a factive infinite T (i.e. git-tik) rather than an irrealis infinitival T (i.e. git-me-si). Note that the nominalized C constituent is assigned accusative case *–(n)i* by the main clause predicate *söyledi.* Since finite main clauses are also CPs headed by a null declarative complementiser, the TP *Murat İstanbul'a gittiğini söyledi* (Murat said that he had gone to Istanbul) is then merged with a null declarative complementiser ∅, forming the CP *Murat İstanbul'a gittiğini söyledi ∅* (∅ Murat said that he had gone to Istanbul).

(312) Onlara bu gece nerede kalacaklarını sorduk.[1]
Them tonight where stay-NOM-AGR-ACC ask-PAST-1PlP
We asked them where they would stay tonight

```
                                    CP
                           ╱                ╲
                     TP                        ╲
              ╱             ╲                    ╲
        PRN           vP        T'                 ╲
        Pro       ╱      ╲    ╱     ╲               ╲
        [1-Per]         v'            ╲              C
        [Pl-Num]   ╱       ╲           ╲             ∅
               PRN    VP       ╲        T
        ↑      PRO  ╱    ╲       ╲     sorduk
        ┊        PRN   V'          v   [PAST-Tns]
        └─ PRO  onlara ╱  ╲      sor+∅ [1-Per][Pl-Num]
                    CP      V
                   ╱╲      sor
                  ╱  ╲
          bu gece nerede kalacaklarını
```

In (312), the infinite complement clause CP *bu gece nerede kalacakları* (where they would stay tonight) merges with the verb *sor* (ask) which is a two-place predicate verb (i.e. ona adını sor /*ask him his name*). Therefore, we illustrated the derivation in the vP shell analysis which we explained in our previous analyses for English in (301) above. That is, *sor* (ask) originates as the head V of VP with the CP *bu gece nerede kalacakları* (where they would stay tonight) as its complement. Therefore, since the the null affixal determiner complementiser C attracts the

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[1] Oxenden-Koenig, *New English File (Pre-Intermediate/B1)*, op. cit., p.115.

nominalized verb *kalacakları* from infinite T to C, the nominalized verb is assigned [ACC] case *-(n)ı* by the verb *iste* (want)*,* valuing and deleting its unvalued case feature (i.e. [A̶C̶C̶ ̶C̶a̶s̶e̶]). Then, the verb *sor* (ask) raises up to adjoin to the strong causative light verb $\varnothing$, forming the v′ *onlara* s̶o̶r̶ *bu gece nerede kalacaklarını sor* (ask them a̶s̶k̶ where they would stay tonight). The 1PlP PRO subject originates in spec-vP and subsequently raises to spec-TP. Since finite and infinite clauses are CPs headed either by an overt or null complementiser, the TP *Onlara bu gece nerede kalacaklarını sorduk* (we asked them where they would stay tonight*)* is then merged with a null declarative complementiser receiving a null spellout ($\varnothing$). The resulting structure finally forms the CP *Onlara bu gece nerede kalacaklarını sorduk* $\varnothing$ ($\varnothing$ we asked them where they would stay tonight).

(313)   Sigara iç-*ip* iç-*me-diğ-i-ni* bilmiyorum.[1]
      Smoke-*CON* smoke-*NEG-NOM-GEN-ACC* know-NEG-ASP-PRE-1SgP
      I do not know whether he smokes or not

In (313), it should be noted that in non-finite interrogative complement clauses, Turkish operates the converb[2] *iç-ip* (smoke or) which may be analyzed as the &P (conjunction phrase) *iç-ip içme* (smoke or smoke-NEG). Although it is analyzed as converb clauses headed by *-(y)Ip* (i.e. iç-CONV. YIP) which convey "a proposition which is at equal level with the proposition expressed in the matrix clause in some studies."[3] Since the affixal head *-(y)Ip* also functions as a conjunctional affix, we would analyze it as a functional & head which is adjoined to a conjunct verb to form a conjunct phrase (&P),[4] but it should be noted that since the phrase is merged with a Neg head (i.e. iç-ip iç-*me/*smoke *or not*) and since the head conjunct in a &P is a NegP (i.e. not smoke) which is an ellipsis 'not' in English, we will analyze it as a NegP and not give further details about &P in this study, as shown in (317) below:
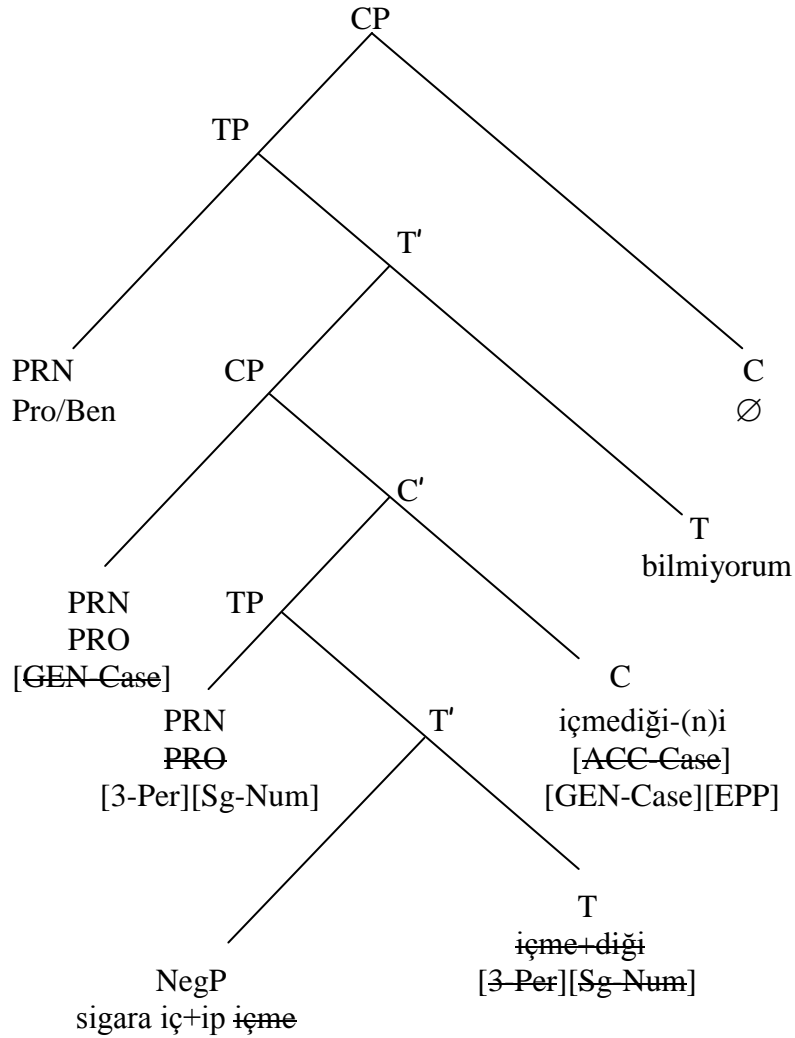
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[1] *Yeni Hitit Yabancılar için Türkçe, Orta (B1)*, Ankara Üniversitesi TÖMER, , 2009, p.119.

[2] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 89.

[3] Éva Á. Csató, "Two types of complement clauses in Turkish." Hendrik Boeschoten & Julian Rentzsch (eds.) *Turcology in Mainz/Turkologie in Mainz* , Wiesbaden: Harrassowitz, 82, 2009, p.109.

[4] Janne Bondi Johannessen, *Coordination*. Oxford: Oxford University Press, 1998; The analyses of '&' and '&' on a tree diagram is also illustrated by Radford (2009; p. 53 (33).

(314) Sigara iç-*ip* iç-*me-diğ-i-ni* bilmiyorum.

```
                              CP
                          /        \
                    TP                  \
                  /    \                  \
                 /      T'                  \
                /     /    \                 \
               /    CP       \                \
          PRN     /   \       \                C
          Pro/Ben/     C'      \               ∅
               /     /   \      \
          PRN      TP      \      T
          PRO    /   \      \    bilmiyorum
          [GEN-Case] /    \   \
              PRN      T'    C
              PRO     / \   içmediği-(n)i
              [3-Per][Sg-Num]  [ACC-Case]
                    /    \      [GEN-Case][EPP]
                   /      T
                  /     içme+diği
                 /     [3-Per][Sg-Num]
              NegP
          sigara iç+ip içme
```

For the illustration above, it should be noted that interrogative complement clauses contain a factive infinie T -*dIk* which is of nominal feature, as also stated by Csató (2009: p.117-118). It should also be noted that the &P *sigara içip* (smoke or) is adjoined to the conjunct V *iç* (smoke). Since the conjuncts are of the same semantic content (i.e. smoke or smoke), the conjunct phrase is assumed to be a NegP *sigara içip içme* (smoke or not (smoke)).

6.3. RELATIVE CLAUSES

Another type of embedding clauses is "the relative clause which contains a relative pronoun that relates to an antecedent in a higher clause."[1] They are analyzed as CPs having a head C with [WH, EPP] features but [TNS] feature.[2] Furthermore, according to Rizzi's split CP analysis, they are described "as clauses, the highest specifier positions (i.e. the spec-Force) of which are filled by relative operators."[3] Now, let's see the internal structure of relative clauses in English:[4]

(315)   That is the house. I was born *in that house*.[5]
        I was born *where*
        where I was born
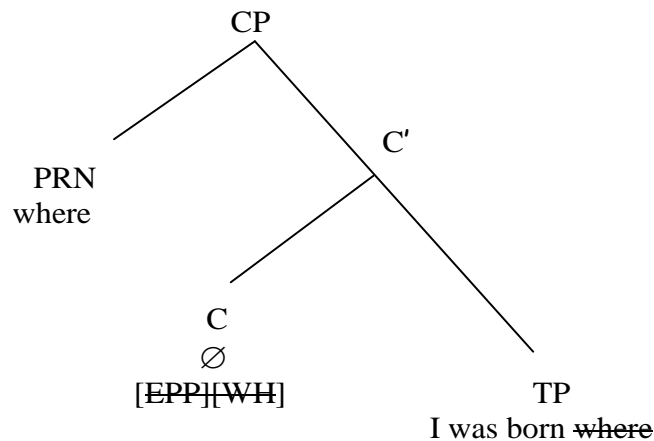
In (315), the relative pronoun *where* which is at the bottom of the syntactic derivation ends up as the specifier of the null complementiser heading the relative clause and hence given a null spellout (i.e. ~~where~~).[6]

(316)   This is the new phone *that/which* I bought yesterday.[7]

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 223.
[2] Ibid.
[3] Luigi Rizzi, "The fine structure of the left periphery", *op.cit.*, p.289.
[4] The analysis of infinite relative clauses as 'CP' on a tree digram is adapted from: Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.227(106).
[5] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.150.
[6] Radford, op. cit., p. 227.
[7] Oxenden-Koenig, op. cit., p.150.

```
                        CP
                       /  \
                      /    \
                     /      C′
                    /      /  \
                   /      /    \
                PRN     /      \
             that/which        \
                      /         \
                     C           \
                     ∅            \
                 [E̶P̶P̶][W̶H̶]        TP
                          I bought t̶h̶a̶t̶/̶w̶h̶i̶c̶h̶ yesterday
```
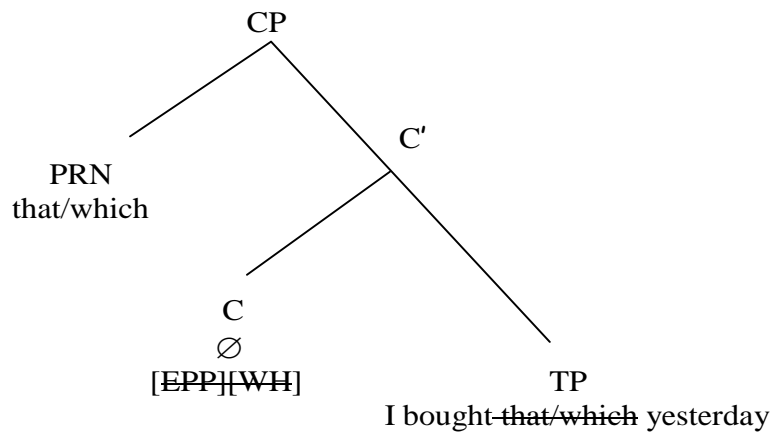
For (316), the relative pronoun *which* or *that* ends up as the specifier of the null complementiser heading the relative clause and hence given a null spellout in-situ (i.e. w̶h̶i̶c̶h̶/̶t̶h̶a̶t̶). The following illustrations show us the external structures of relative clauses:

(317)   Julia is the woman who works in the office with me.[1]

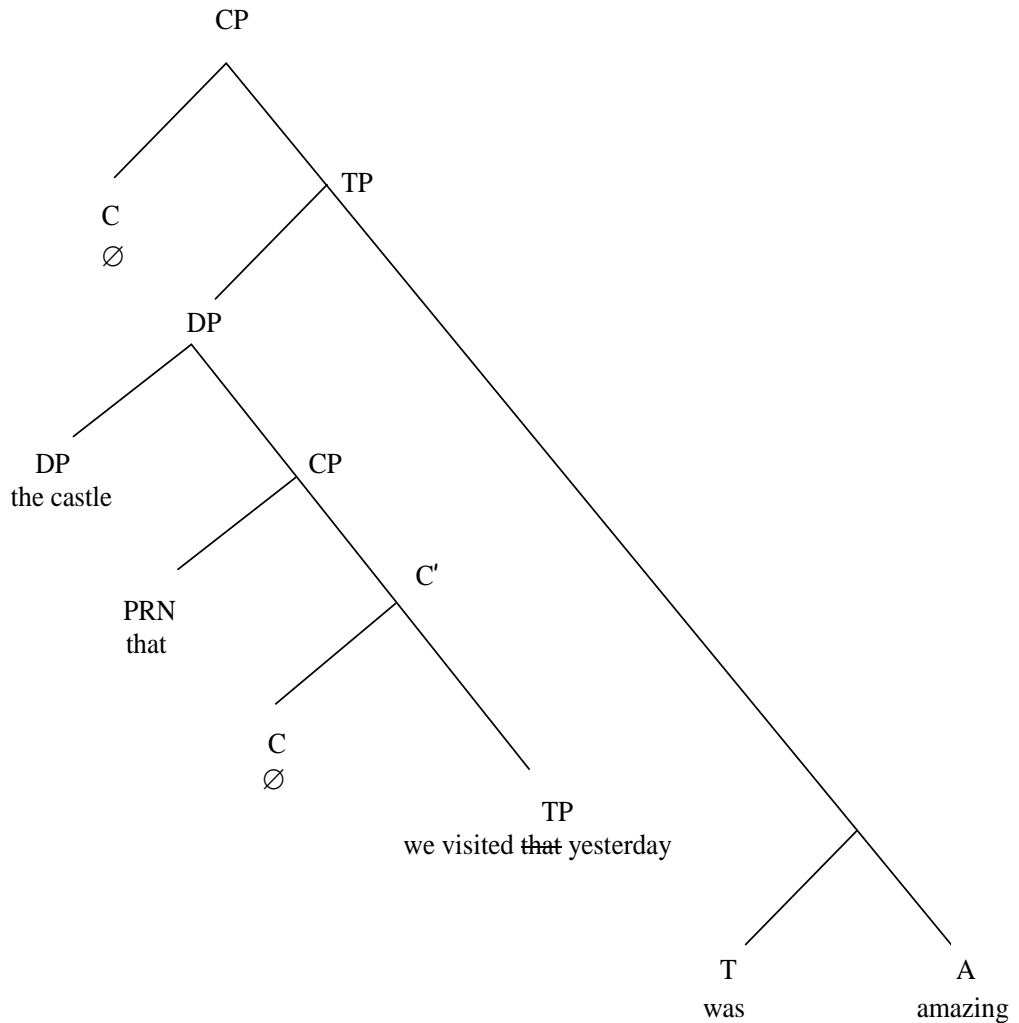[1] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.150.

```
                        CP
                       /  \
                      /    \
                     /      TP
                    /      /  \
                   C      /    \
                   ∅     /      T'
                        /      /  \
                       DP     /    \
                     Julia   /      DP
                            /      /  \
                           T      /    \
                           is    /      NP
                        [PRE Tns]      /  \
                              /       /    \
                             D       /      CP
                            the     /      /  \
                                   /      /    \
                                  N      /      C'
                               woman    /      /  \
                                       /      /    \
                                     PRN     C      \
                                     who     ∅       \
                                                      TP
                                             who works in the office with me
```
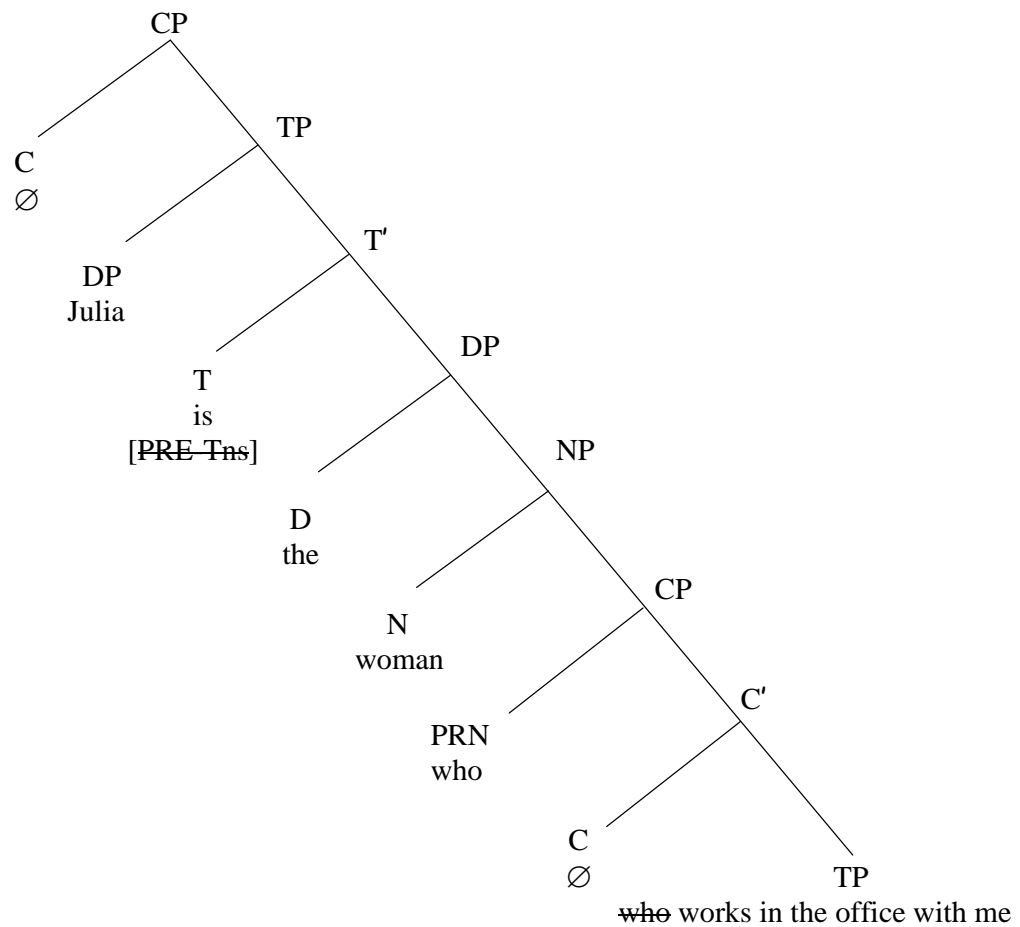
Accordingly, the embedded relative clause CP *who works in the office with me* is adjoined to the noun *woman,* forming the NP *woman who works in the office with me.* Then, the NP is merged with the definite determiner *the* to form the extended DP *the woman who works in the office with me.* The resulting DP merges with T *is* and then extended to TP by the specifier *Julia.* Since finite main clauses are CPs headed by a null declarative complementiser, the TP is then merged with a null declarative complementiser ∅ to form the CP ∅ *Julia is the woman who works in the office with me.* Below is another example:

(318)   That is the house where I was born.[1]

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[1] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.150.

```
                    CP
                   /  \
                  /    TP
                 C    /  \
                 ∅   /    T'
                   PRN   /  \
                   That /    DP
                       T    /  \
                       is  /    NP
                    [PRE-Tns] /  \
                             D   /  \
                            the /    CP
                               N    /  \
                            house  /    C'
                                 PRN   /  \
                                where /    \
                                     C      TP
                                     ∅   I was born where
```
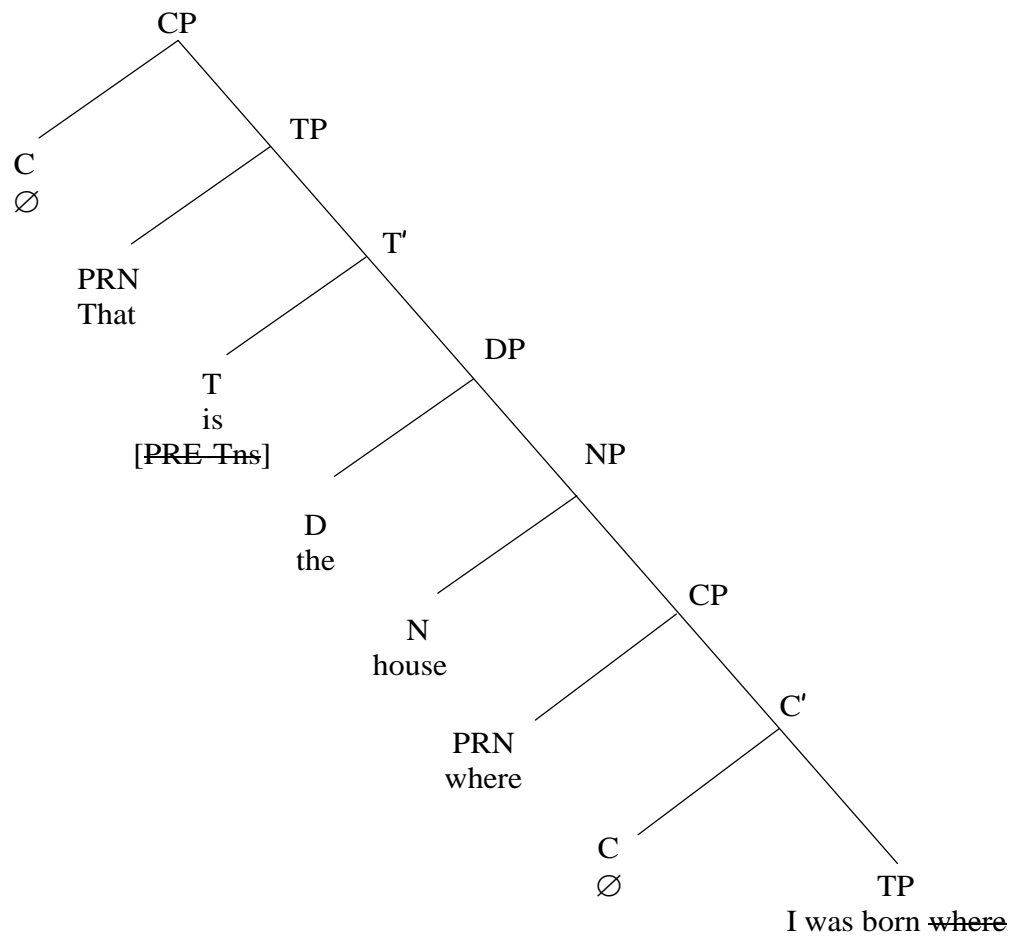
In (318) above, the relative clause CP *where I was born* is adjoined to the N *house,* forming the NP *house where I was born* and the NP is then merged with the definite D *the* to form the extended DP *the house where I was born*. The resulting DP merges with T *is* and then extended to TP by the specifier PRN *that.* Since finite main clauses are CPs headed by a null complementiser, the TP is then merged with a null declarative complementiser ∅ to form the CP ∅ *That is the house where I was born.* In the following illustration (319), the DP extended by the relative clause occupies the specifier position of the main clause:

(319)   The castle that we visited yesterday was amazing.[1]

---

[1] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.150.

```
                    CP
                   /  \
                  /    \
                 C      TP
                 ∅     /  \
                      /    \
                     DP     \
                    /  \     \
                   /    \     \
                  DP     CP    \
                the castle / \   \
                          /   \   \
                        PRN    C'   \
                        that   /\    \
                              /  \    \
                             C    TP   \
                             ∅   we visited that yesterday
                                          \
                                           \
                                            \
                                           /  \
                                          /    \
                                         T      A
                                        was   amazing
```

In (319) above, the relative clause CP *that we visited yesterday* is adjoined to the N *castle,* forming the NP *castle that we visited yesterday* and the NP is then merged with the definite D *the* to form the extended the DP *the castle that we visited yesterday*. The resulting DP ends up as the specifier of the TP *was amazing.* Since main clauses are also CPs headed by a null complementiser, the TP is then merged with a null declarative complementiser ∅ to form the CP ∅ *The castle that we visited yesterday was amazing.*

For the relative clauses in Turkish, on the other hand, Turkish does not have relative pronouns forming finite relative clauses but infinite CPs headed by an a null affixal infinite C containing infinite T (*-dIk* and *-AcAk*)[1] which we analyzed for

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[1] İlker Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", *Dil Dergisi Language Journal*, 2004, p. 34.

infinite complement clauses in (308-314). This time infinite CPs are adjoined to nouns to form extended NPs, as shown in (320) and (321) below:[1]

(320) Öğretmenimiz geçen hafta sınav yaptı. Sınav çok zordu.[2]
Our teacher gave an exam last week. The exam was very difficult.

Öğretmenimiz-*in* geçen hafta yap-*tığı* sınav
PRO teacher-*AGR-GEN* last week do-*NOM-AGR* exam
The exam which our teacher gave last week
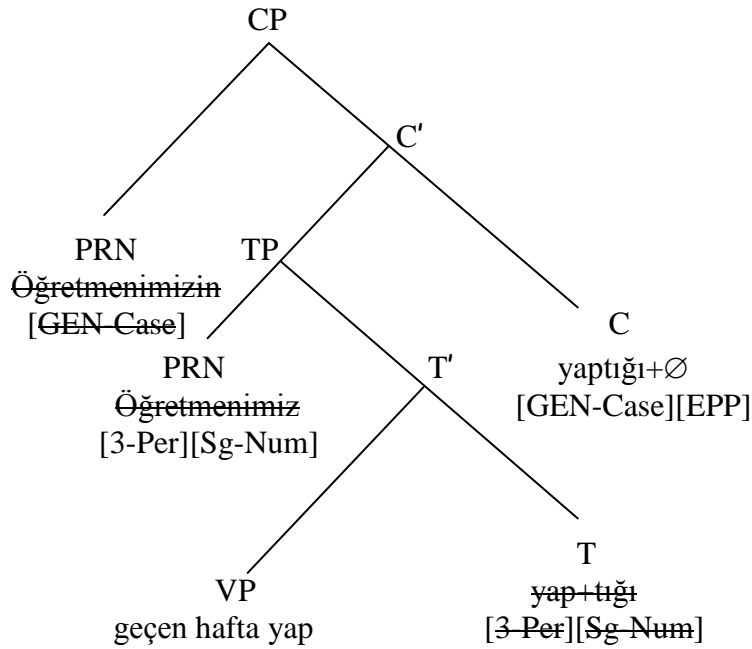
From (320), we understand that the internal structure of adjective clauses in Turkish is like the ones which are constructed for complement clauses (see 308-314 illustrated for infinite complement clauses in Turkish). Accordingly, the null affixal C head carrying EPP, GEN-Case and [+N] features assigns genitive case to the specifier of the TP and projects it as its specifier thus triggering its movement from spec-TP to the spec-CP. Since C position in Turkish is assumed to be filled by a null affixal determiner having [+N] feature, it attracts the nominalised T constituent from T to C. Now, in the following analysis, the CP is externally adjoined to the noun to form an NP and then it is merged by a null definite determiner.

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[1] These structures are noted as 'relative clauses' by: Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 380-387.
[2] *Yeni Hitit Yabancılar için Türkçe, Orta (B1)*, Ankara Üniversitesi TÖMER, , 2009, p.95.

(321) Öğretmenimiz-*in* geçen hafta yap-*tığı* sınav çok zordu.
PRO teacher-*AGR-GEN* last week do-*NOM-GEN* exam very difficult-PAST
The exam which our teacher gave last week was very difficult
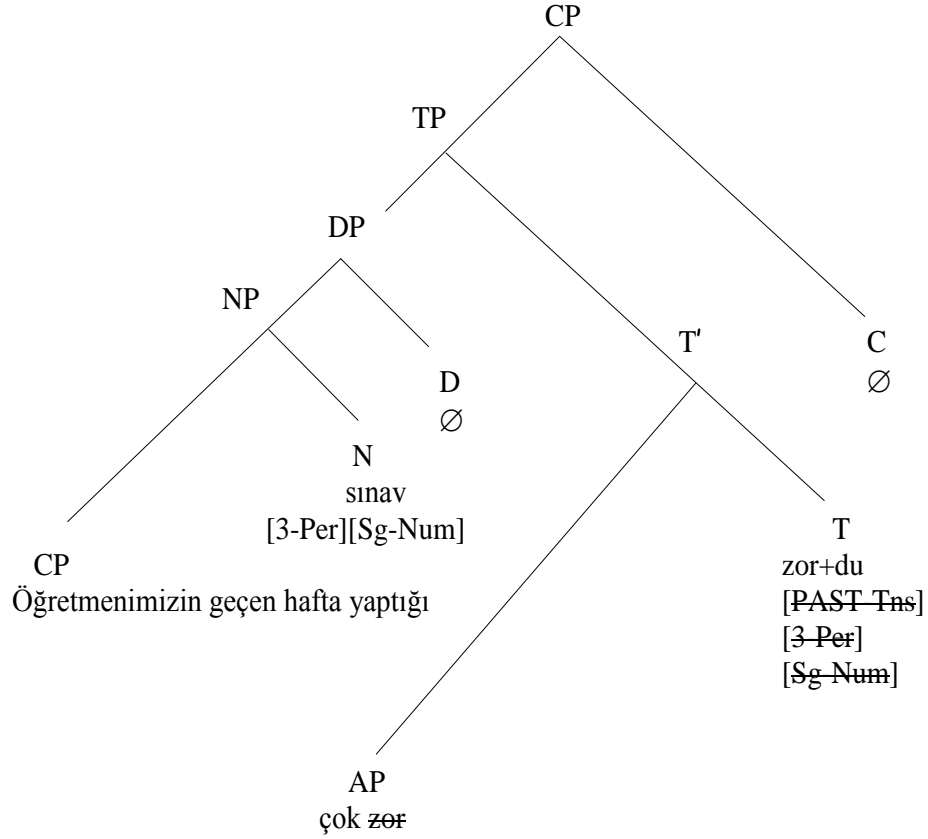
In (321) above, the non-finite CP *öğretmenimizin geçen hafta yaptığı* (which our teacher gave last week) is adjoined to the noun *sınav* (exam), forming the NP *öğretmenimizin geçen hafta yaptığı sınav* (exam which our teacher gave last week). The NP is then merged with the null definite determiner to form the extended DP *öğretmenimizin geçen hafta yaptığı sınav* (the exam which our teacher gave last week). The resulting DP ends up as the specifier of the TP *çok zordu* (was very difficult) to form the extended TP *öğretmenimizin geçen hafta yaptığı sınav çok zordu* (the exam which our teacher gave last week was very difficult). Since finite main clauses are CPs headed by a null complementiser, the TP is then merged with a null declarative complementiser ∅ to form the CP ∅ *öğretmenimizin geçen hafta yaptığı sınav çok zordu* (the exam which our teacher gave last week was very difficult). However, if the noun to which the embedding clause is adjoined is the

subject of the verb, then the nominalizer affix (i.e. participle) (e.g. *-(y)An, -AcAk, -mIş*) [1] is operated in Turkish rather than a CP derivation since this affixal marker does not carry tense, person and number features as other infinite T constituents do. We analyze these structures containing participles as nominalizer phrases (NomPs) which function as adjuncts (i.e. adjectives or adverbs) in the syntax (see 5.5.1 for NomP analysis of gerunds), which is analyzed below:

(322)   kuzeyden esecek rüzgar[2]
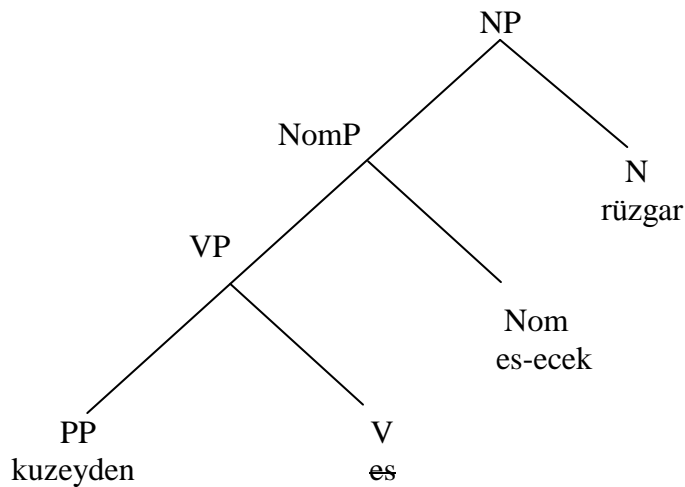
In (322), we understand that the VP *kuzeyden es* (blow from the North) is merged with the affixal nominalizer *-ecek* forming the NomP *kuzeyden esecek* (to blow from the North). The NomP is then adjoined to the noun *rüzgar* (wind), forming the NP *kuzeyden esecek rüzgar* (wind to blow from the North). In (322), we understand that Turkish operates the nominalizer *-AcAk* to form an adjectival NomP. English also operate NomP derivations to modify nouns, which is described as a 'reduction of adjective clauses to modifying adjective phrases' in traditional grammar.[3]

(323)   the girl sitting next to me[4]

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[1] Aslı Göksel-Kerslake Celia, *Turkish: A comprehensive grammar*, op. cit., p. 381; Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", *op. cit.*, p. 34.
[2] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", *op. Cit.*, p. 34 (17).
[3] Betty Scrampfer Azar, *Understanding and Using English Grammar*, New York, 1999, p. 290.
[4] Ibid.

```
                    DP
                  /    \
                 /      \
                D        NP
               the      /  \
                       /    \
                      N      NomP
                     girl   /    \
                          /       \
                        Nom        VP
                      sit+(t)ing  /   \
                                 /     \
                                V       PP
                               s̶i̶t̶   next to me
```
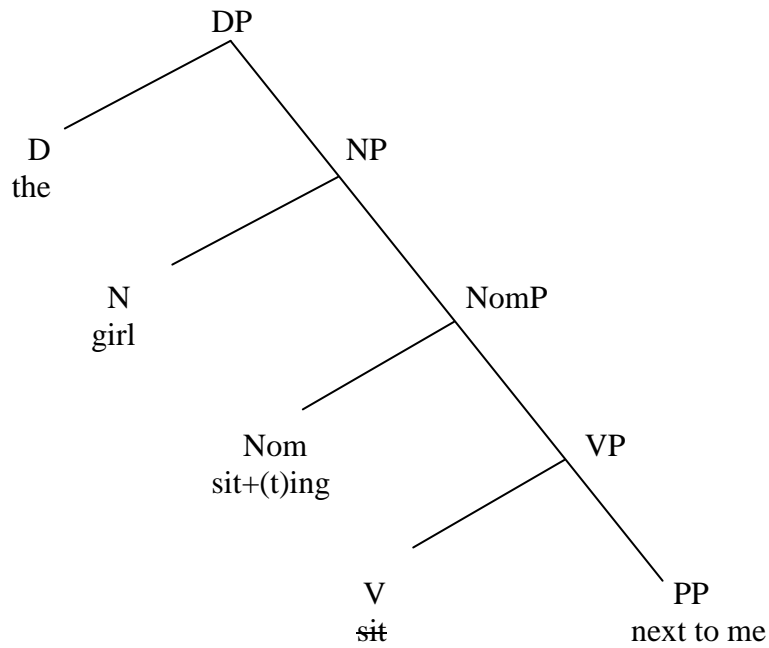
In (323), we understand that the VP *sit next to me* is merged with the affixal nominalizer *-ing* forming the NomP *sitting next to me*. The NomP is then adjoined to the noun *girl*, forming the NP *girl sitting next to me*. In (323), we understand that English operates the nominalizer *-ing* to form an adjectival NomP. Now, let's illustrate these analyses on an M-diagram:

(324) sokakta oynayan çocuk[1]/*the boy playing in the street*

```
                    /\        /\
                   /  \      /  \
                  /    \    /    \
                 /    ∅/the      \
                /    çocuk  boy    \
               /      /      \      \
              /  oyna+(y)an  play+ing \
             /      /          \       \
            /   o̶y̶n̶a̶          p̶l̶a̶y̶     \
        sokakta                    in the street
```
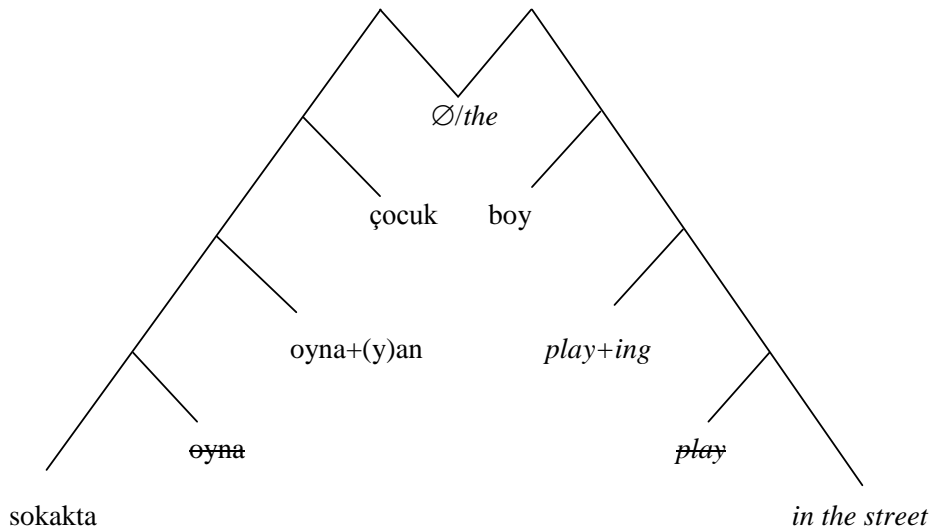
[1] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", *op. cit.*, p. 34 (18).

In (324), we understand that the verb *koş/run* is merged with the affixal nominalizer *-(y)an/-ing,* forming a NomP. The NomP is then adjoined to the noun adam/man, forming the NP *koşan adam/man running.* Then, the NP is merged with a null or overt definite determiner ∅/the to form the DP *koşan adam ∅/the man running.*

Consequently, while clauses in relative force are finite CPs headed by a null complementiser having [WH] and [EPP] features, thus projecting relative pronouns as the specifiers in spec-CP in English, they are infinite CPs which are headed by a null affixal genitive case assigning complementiser in Turkish. For the wh-subject relative clauses, on the other hand, while English operates not only finite CPs in relative force thanks to WH feature of null C position but also NomPs modifying nouns, Turkish only operates NomPs for these structures.

6.4. ADJUNCT CLAUSES

An *adjunct* is "an optional constituent used to specify time, place, manner etc and adjunction is the process by which one constituent is adjoined to another to form a larger constituent of the same type."[1] An *adjunct (or adverbial) clause* is "a subordinate clause which bears to its main clause any of a range of semantic relations similar to those borne by adverbs, such as time, manner, purpose, cause or condition etc."[2] *Subordinators* (or traditionally *subordinating conjunctions*), on the other hand, are described linguistically as "a lexical category, or a member of this category, whose members serve to introduce adverbial clauses."[3] However, considering some cross-linguistic data in adverbial clauses introduced by temporal conjunctions in standard Dutch and Flemish, we assume that adjunct clauses are also finite or infinite CPs which are merged with verbs, nouns, adverbs or adpositions which in time evolved into a single specialized category of words or word phrases called subordinators (e.g. now that, seeing that, so that, in case that, in the event that, in order that, supposing that, assuming that, providing that, on condition that, because,

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[1] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p. 433.
[2] Trask, *A dictionary of grammatical terms in linguistics*, op.cit., p.10.
[3] Ibid, p. 268.

although, since, after, before, until, when, if etc.). According to these data in in standard Dutch and Flemish, the complementiser *that (dat)* is observed between the conjunctor and the following TP.[1] Furthermore, Haegeman citing from Citko (2004) states that "Old English *before* clauses were derived as light headed temporal relatives and the conjunction *before* has developed from a phrase of the form *before the time that.*"[2] Furthermore, this assumption can also be supported by subordinators in Turkish. Some foreign-origin subordinators in Turkish also seem to have been evolved from the combination of relative complementiser *ki* with verbs, nouns or adverbs (e.g. Çün*kü*, Keş*ke*, San*ki*, Madem*ki*, farz et*ki*, yeter *ki*, eğer *(ki)* etc.) which in time evolved into a single specialized category of words or word phrases, serving to introduce adverbial clauses. Therefore, considering Rizzi's Split Projection Hypothesis and Haegeman's suggestion assuming another split projection head SUB (i.e. SUB-FORCE/FIN-TP)[3] over the Force and Fin heads and our minimalist concerns, in our analyses of the finite adjunct clauses, we may assume that subordinators may have been developed from different lexical categories and that-relative, coalescing into a single subordinator, occupying the C position to form CPs. According to Rizzi's Split Projection Hypothesis, remember that when the Topic or Focus heads are not operated, the Focus and Fin heads coalesce into a single head, corresponding to the traditional C head. Similarly, it is not implausible to come to a similar conclusion. Accordingly, regarding the SUBP as a split projection over ForceP, we can also assume that when the Fin and Focus heads are not operated, the SUB, Focus and Fin heads coalesce into a single head, corresponding to the traditional C head since when one of these categories is filled by an overt or null head, the others are given null spellout, as also analyzed by Van Gelderen (2013). Relying on this assumption, we will analyze subordinators as the category of SUB followed by a declarative ForceP, coalescing into a single C, neglecting their syntactical or semantic origins (i.e. whether they are ADVPs or PPs and whether they are causal, conditional or temporal etc). For concerns of the purpose of the study

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[1] Liliane Haegeman, "The syntax of adverbial clauses", *Manuscript, Université Charles de Gaulle,* 2007, p.15.
[2] Ibid, p.14.
[3] Liliane Haegeman, "The internal syntax of adverbial clauses", *Lingua* 120, no. 3, 2010, p. 628-648.

analyzing phrase structures including complementiser phrases functioning as complements, we will not go into a detailed discussion of distinguished properties of different types of adjunct phrases and their internal structures since English and Turkish operate different phrase structures such as CPs, NomPs, PPs, VPs or ADVPs to derive finite or infinite subordinate structures. In terms of their internal structure, suffice it to say that they are headed by subordinators represented in C node deriving adjunct CPs. In terms of their external structures, on the other hand, we will analyze *adjunct clauses (i.e. adverbial clauses)* as subordinate clauses (CPs) adjoined to a verb to form VPs. Now, let's analyze internal structure of some adjunct CPs in both languages:

(325)   when I got to the station[1]
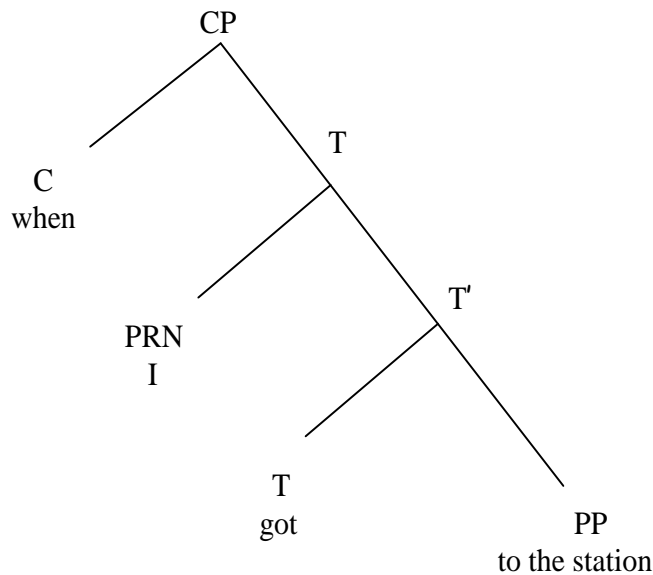
In (325) above, the TP *I got to the station* is merged with the adjunct C constituent *when* to form the adjunct CP *when I got to the station*. In (326) below, we analyzed the conditional subordinator *if*:

(326) if I miss the bus[2]

---

[1] The 'CP' analysis of adverbial clauses and their notation on a tree diagram is adapted from: Elly Van Gelderen, *Clause structure*, Cambridge University Press, 2012, p. 195.
[2] Oxenden-Koenig, *New English File (Pre-Intermediate/B1)*, op. cit., p.140.
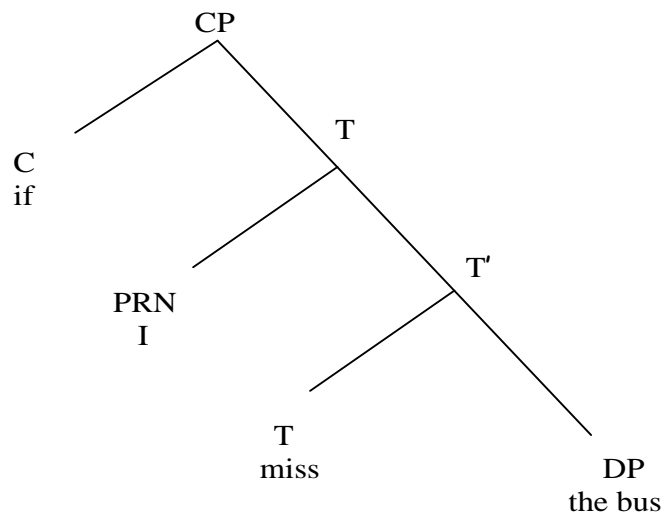
In (326), we understand that the conditional subordinator *if* occupies the complementiser position of the CP to form the adjunct CP *If I miss the bus.* In (327) below, *although* is analyzed as the subordinator of an adverb clause of contrast:

(327)   although the weather was cold[1]
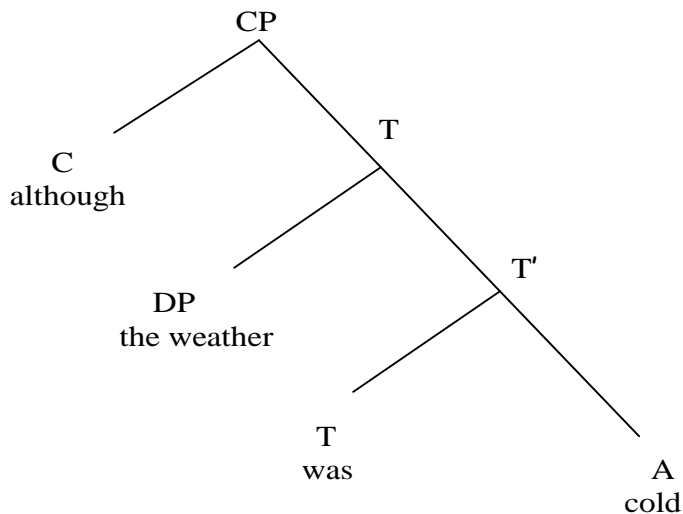
In (327), we understand that the contrastive subordinator *although* occupies the complementiser position of the CP to form the CP *although the weather was cold.* In (328) below, *because* is analyzed as the subordinator of an adverb clause of cause:

(328)   because he was sleepy[1]

---

[1] Azar, Understanding and Using English Grammar, op.cit., p. 363.

```
                    CP
                  /    \
                 /      \
                C        T
             because    / \
                       /   \
                     PRN    T'
                     he    / \
                          /   \
                         T      A
                        was   sleepy
```
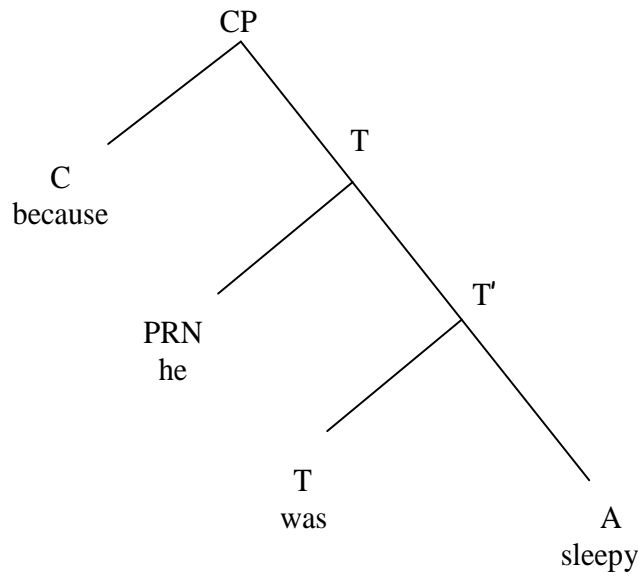
As for Turkish adjunct clauses, finite subordinators are very limited in number (e.g. mI, ki, gibi, diye)[2]. Now, let's analyze the purposive *diye,* as shown in (329) below:

(329) Arkadaşım rahat çalışabilsin *diye*
       so that my roommate could study in peace[3]

```
                    CP
                  /    \
                 /      \
                TP       \
               /  \       \
              /    \       \
            DP      T'      C
         arkadaşım  / \    diye
                   /   \
                 ADV    T
                rahat  çalışabilsin
```
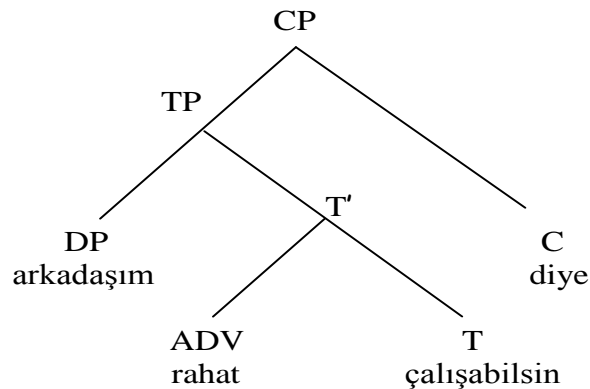
From (329), we understand that the TP *arkadaşım rahat çalışabilsin* (my roommate could study in peace) is merged with the purposive subordinator *diye* (so that) occupying the C position to form the CP *arkadaşım rahat çalışabilsin diye (*so that my roommate could study in peace).

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[1] Azar, Understanding and Using English Grammar, op.cit., p. 359.
[2] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", *op. cit.*, p. 37.
[3] Azar, op.cit., p. 363.

(330) *Bahar geldi mi,* biz hepimiz bahçelere dökülürdük[1]
when spring came, all of us used to take to the gardens

```
                    CP
                   /  \
              TP  /    \
             /  \ /     \
           /    T'       \
          /    /  \       \
        DP    /    \       C
      Bahar  /      \      mi
            /        \
           V          T
          gel        geldi
```
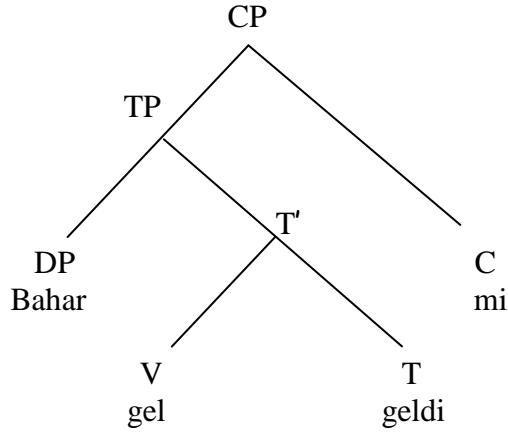
From (330), we understand that the TP *Bahar geldi* (spring came) is merged
with the temporal subordinator *mI* (≅ when) occupying the C position to form the CP
Bahar geldi mi (when spring came). Note that the Que particle *mI* also functions as a
temporal subordinator, forming finite temporal subordinate clauses.

(331) *Tam yine konuşmaya başlayacaktım ki*, yıkık sur kapısını gördüm.[2]
I was just about to run again when I saw the ruined rampart gate

```
                    CP
                   /  \
              TP  /    \
             /  \ /     \
           /    T'       \
          /    /  \       \
       PRN   /    \        C
       Pro  /      \       ki
           /        \
          VP          T
         /\        başlayacaktım
        /__\
    yine koşmaya b̶a̶ş̶l̶a̶
```
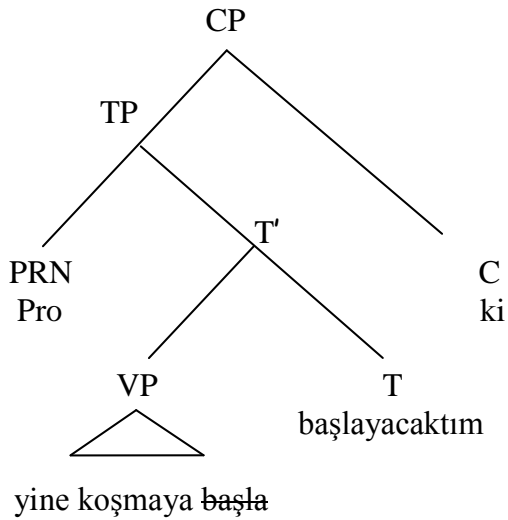
From (331), we understand that the TP *Yine koşmaya başlayacaktım* (I was
just about to run again) is merged with the temporal subordinator *ki* occupying the C

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[1] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", *op. cit.*, p. 38 (43).
[2] Ibid, p. 37 (40).

position to form the CP *Yine koşmaya başlayacaktım ki* (I was just about to run again when ...).

In terms of their external structures, on the other hand, the finite adjunct clauses in both languages can be analyzed as sentence final or sentence initial adverbial clauses.[1] "Adjunction is a different kind of operation from merger in that while merger extends a constituent into a larger type of projection, adjunction extends a constituent into a larger projection of the same type."[2] According to Haegeman, "adjuncts are not arguments of predicates and since arguments are selected while adjuncts are not, adjuncts should be merged after the rest of the structure is built,"[3] which is shown in the following illustrations:

(332) I found that I had missed the last train when I got to the station.[4]

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[1] Haegeman, "The syntax of adverbial clauses", *Manuscript, Université Charles de Gaulle,* 2007, p.15.
[2] Radford, *Minimalist syntax: Exploring the structure of English,* op. cit., p.341.
[3] Haegeman, op. cit., p. 15.
[4] Oxenden-Koenig, *New English File (Intermediate/B2)*, op. cit., p.84.

```
                        CP
                      ╱    ╲
                   C          TP
                   ∅        ╱    ╲
                      PRN         T′
                       I        ╱    ╲
                            T          VP
                          found     ╱    ╲
                                 V′          
                               ╱    ╲         
                             V          ╲      
                            find         ╲      
                                    CP          
                                   ╱──╲          
                                  ╱────╲          CP
                          that I had missed    ╱──╲
                             the last train   ╱────╲
                                          when I got to the station
```
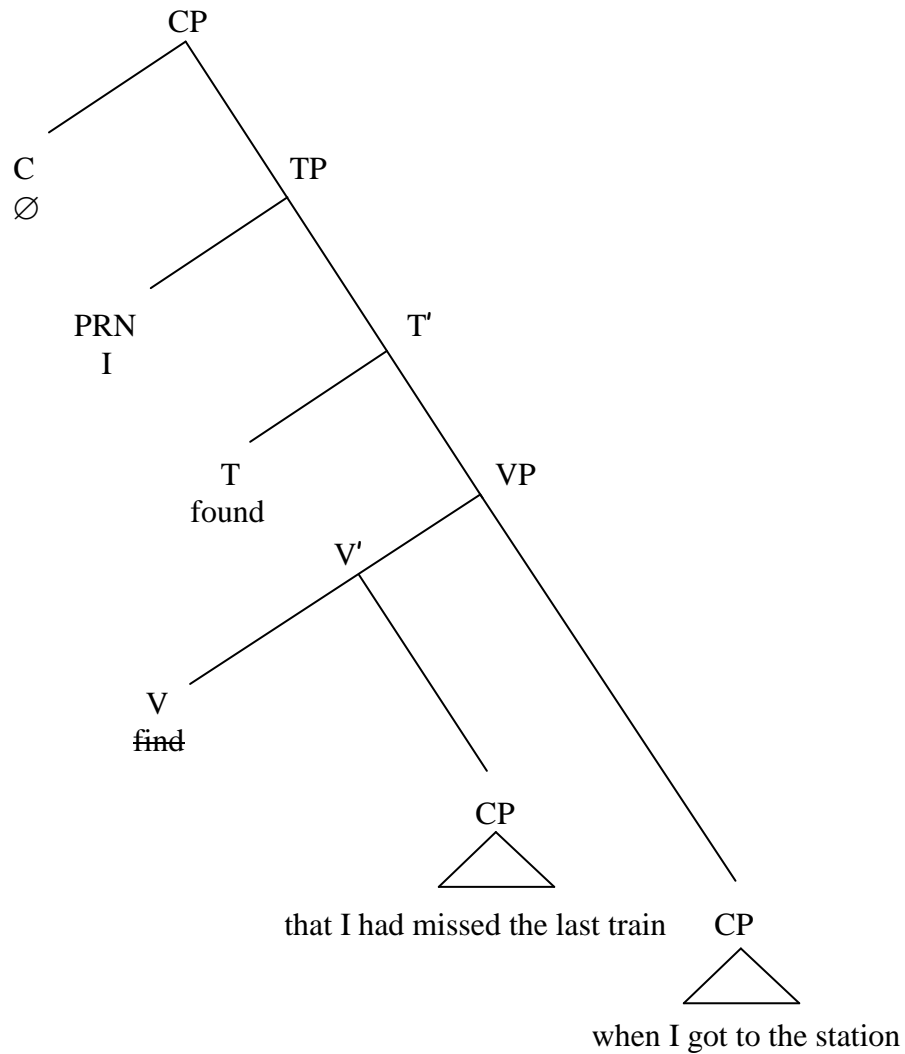
In structures like (332), in a bottom-up fashion, the complement clause CP *that I had missed the last train* is merged with the V *find* to form the V-bar *find that I had missed the last train.* Then the adjunct clause CP *when I got to the station* is adjoined to the V-bar *find that I had missed the last train,* forming the VP *find that I had missed the last train when I got to the station.* The VP then merges with the inflectional past T, forming the T-bar *found that I had missed the last train when I got to the station.* The T-bar projects the subject pronoun *I* as its specifier to form the TP *I found that I had missed the last train when I got to the station.* The resulting TP is then merged with a null declarative complementiser to derive the CP *∅ I found that I had missed the last train when I got to the station.*

As for the external structures of Turkish finite adjunct clauses, let's analyze the matrix clause structure which we illustrated for adjunct CP analysis in (330) above. However, since the original sentence has further operations such as Focus Phrase as another projection in split-CP analysis since the adjunct CP is focused and moved to the sentence initial position, we analyze it in an ordinary syntactical order:

(333)   *Hepimiz bahar geldi mi bahçelere dökülürdük*
        All of us used to take to the gardens *when spring came.*
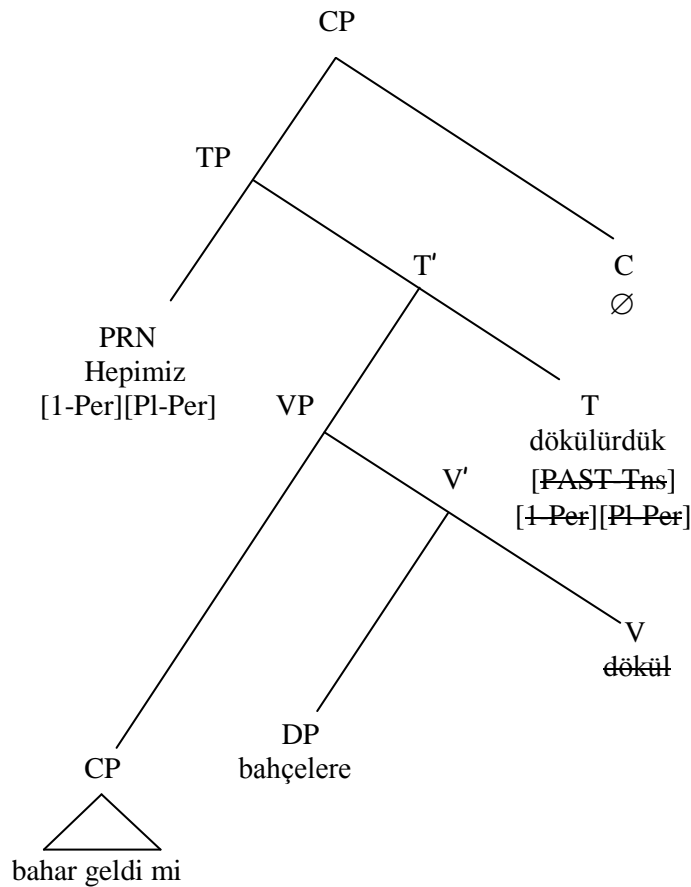
In (333), the DP *bahçelere* (the gardens) is merged with the passive V *dökül* (take to) to form the V-bar *bahçelere dökül* (take to the gardens). Then the adjunct clause CP *bahar geldimi* (when spring came) is adjoined to the V-bar *bahçelere dökül* (take to the gardens), forming the VP *bahar geldimi bahçelere dökül* (take to the gardens when spring came). The VP then merges with the affixal past T, forming the T-bar *bahar geldimi bahçelere dökülürdü* (took to the gardens when spring came). The T-bar projects the indefinite PRN *Hepimiz* (All of us) as its specifier to

form the TP *Hepimiz bahar geldimi bahçelere dökülürdük* (All of us took to the gardens when spring came). The resulting TP is then merged with a null declarative complementiser to derive the CP *Hepimiz bahar geldimi bahçelere dökülürdük* ∅ (∅ All of us took to the gardens when spring came).

The comparative analysis of the adjunct clauses on the M-diagram is shown in (334) below:

(334)   Arkadaşım rahat çalışabilsin *diye* televizyonu kapattım/
        I turned off the TV so that my roommate could study in peace.
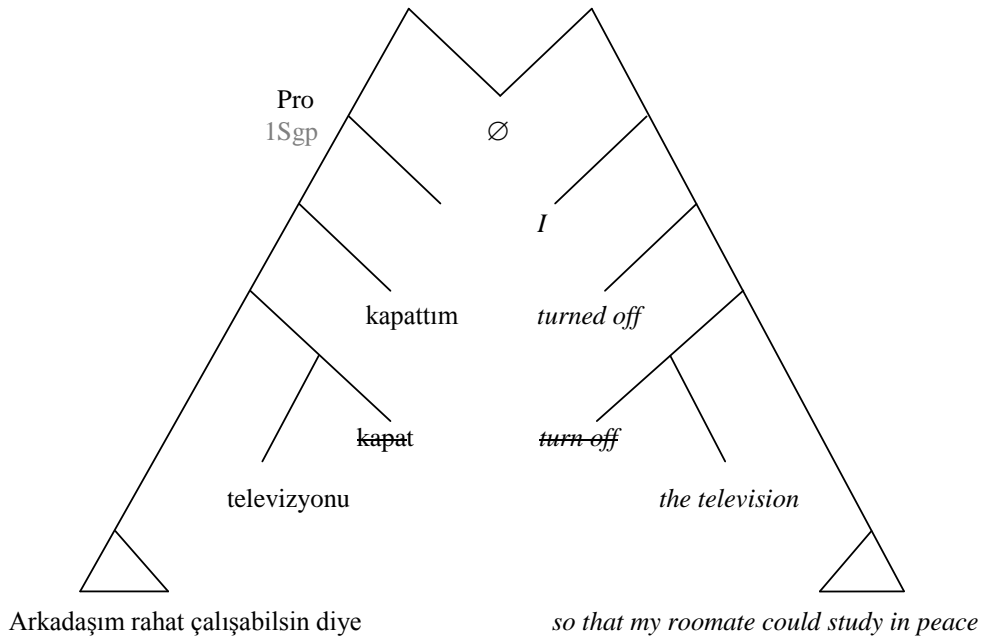
Accordingly, adjunct clauses in both languages are adjoined to a matrix clause as in the case of ADVPs.

As for the non-finite adverbial structures in English and Turkish, on the other hand, we found that corresponding to the present and past participles (i.e. *-ing* and *-ed*) used as adjuncts in English, Turkish has a wide range of subordinating affixes such as *-ArAk, -(y)Ip, -ken* and *-IncA* etc, denoting time, cause, comparison and manner etc.[1] In English grammar, these structures are defined as a 'reduction of adverbial clauses to modifying adverbial phrases',[2] as in the case of non-finite adjective structures we analyzed as NomPs in the previous section (i.e. 6.3). We

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[1] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", op. cit., p. 51.
[2] Azar, Understanding and Using English Grammar, op.cit., p. 376.

analyze these structures as non-finite T constituents, forming a TP which is headed by a nominalizer head to form NomPs, as in the case of other nominalised structures such as gerunds and participles used as adjectives since they do not have agreement features, as analyzed in English below:

(335)   The teacher explained the meaning of modifying phrases, *pointing to the sentence on the board.*[1]
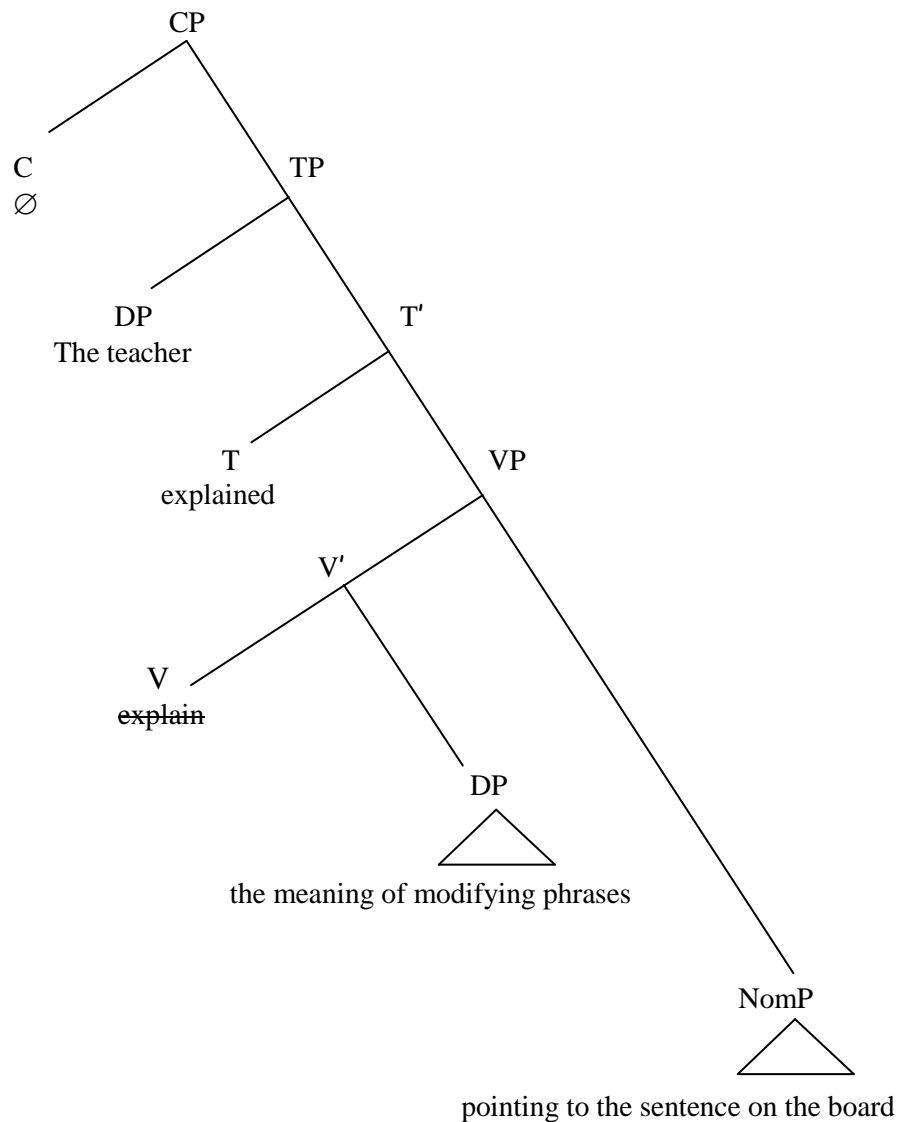
In (335), the DP *the meaning of modifying phrases* is merged with the V *explain* to form the V-bar *explain the meaning of modifying phrases.* Then the

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[1] Azar, Understanding and Using English Grammar, op.cit., p. 376.

adjunct NomP *pointing to the sentence on the board* is adjoined to the V-bar *explain the meaning of modifying phrases,* forming the VP *explain the meaning of modifying phrases pointing to the sentence on the board.* The VP then merges with the inflectional past T, forming the T-bar *explained the meaning of modifying phrases pointing to the sentence on the board.* The T-bar projects the DP *The teacher* as its specifier to form the TP *The teacher explained the meaning of modifying phrases pointing to the sentence on the board.* The resulting TP is then merged with a null declarative complementiser to derive the CP ∅ *The teacher explained the meaning of modifying phrases pointing to the sentence on the board.* Now, let's analyze the following non-finite adjunct structure in Turkish below:

(336)   Bana doğru eğilerek anlatmaya başladı.[1]
        He started to explain, bending over towards me.
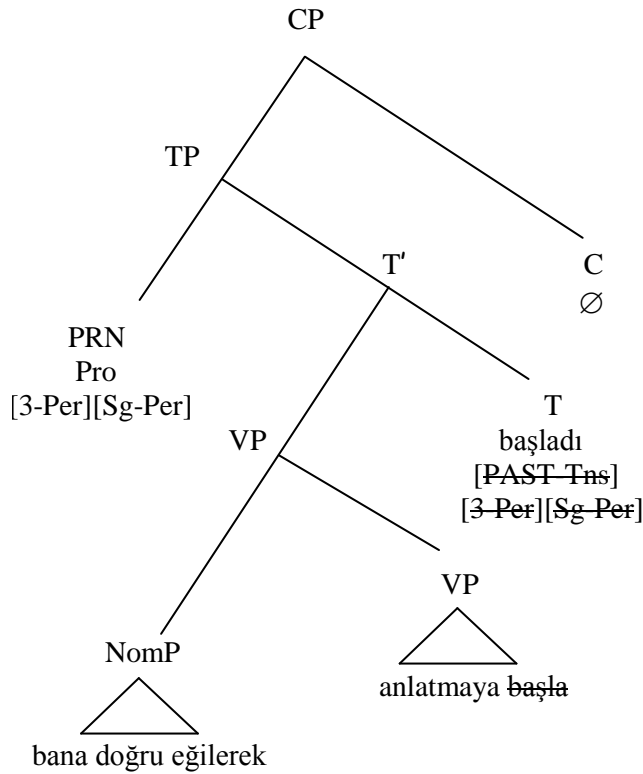
In (336), it is understood that the NomP *bana doğru eğilerek* (bending over towards me) is adjoined to the V *anlat* (explain), which is then merged with a Nom head to form a gerundive NomP. This NomP is then merged with the verb *başla*

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[1] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", op. cit., p. 52 (150).

(start) to form a VP *bana doğru eğilerek anlatmaya başla* (start to explain bending over towards me). The VP then merges with the inflectional past T, forming the T-bar *bana doğru eğilerek anlatmaya başladı* (started to explain bending over towards me). The T-bar projects the 3SgP Pro as its specifier to form the TP *Pro bana doğru eğilerek anlatmaya başladı* (He started to explain bending over towards me). The resulting TP is then merged with a null declarative complementiser to derive the CP ∅ *Pro bana doğru eğilerek anlatmaya başladı* (∅ He started to explain bending over towards me).

Now, let's analyze these structures comparatively on an M-diagram:

(337)   Gülümseyerek odaya göz gezdirdi/[1]
He glanced round the room smiling

Pro   *He*

odaya göz gezdirdi/*glanced around the room*

gülümseyerek   *smiling*
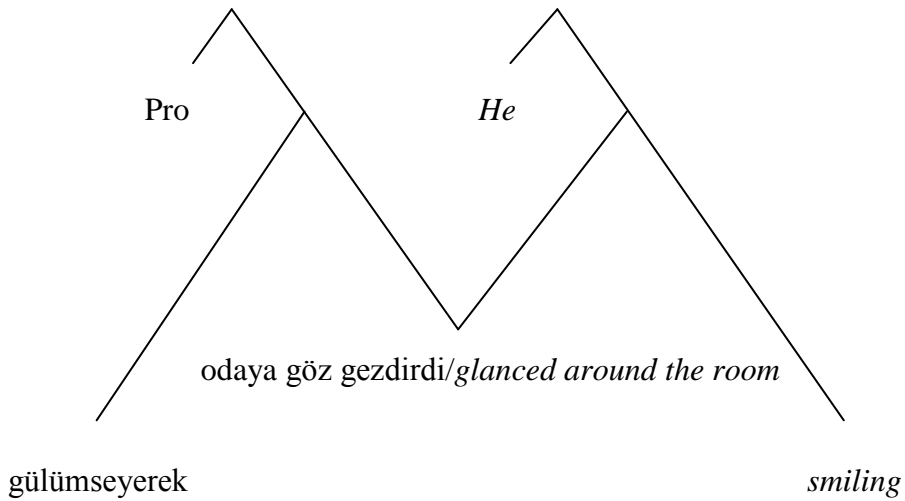
Accordingly, from the NomP analysis so far, it is understood that NomP structures in both languages are adjoined to verbs as noun complements or adverbs and nouns as adjectives. If their PRO features are taken in to consideration (e.g. o gelince/when pro coming), whether these structures can be described as infinite CP structures or not may be discussed in further studies.

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[1] Aydın, "Türkçede Yan Tümce Türleri ve İşlevleri", op. cit., p. 52 (149).

CHAPTER 7: FINDINGS AND DISCUSSIONS

In our study, the purpose of which is to explain English grammatical structures through Turkish grammatical knowledge in terms of universal principles and parametric variations and to identify English grammatical structures as those requiring grammatical and lexical learning on the basis of Turkish grammar, we initially described the notions of 'Traditional Grammar', 'Universal Grammar' and 'Minimalist Grammar' and introduced the differences in their approach to grammar. In these descriptive analyses, we described the innovations brought by the MP, according to which we analyzed phrasal and clausal structures in English and Turkish languages comparatively and contrastively. Phrasal and clausal structures in both languages were analyzed through 'labelled tree diagrams' and 'unlabelled bilingual M-diagrams' comparatively and contrastively under the terms of the UG principles suggested by the Minimalist Program. Then, 15 parametric variations identified during the analyses of each phrasal or clausal derivation were described for either language, including Head Parameter, D Parameter (I, II), Null-Possessor PRO Parameter, P Parameter (I, II), T Parameter, Null-Subject Parameter, PASS Parameter, Modal Aux Parameter, Neg Parameter, C Parameter (I, II, III) and Fin (Infinite C) Parameter in the related sections of the study. From these parametric variations, we tried to determine how much of English grammar requires grammatical learning with reference to Turkish grammar.

The results of the comparative and contrastive structural analyses we obtained during the study are reported in terms of parametric variations within the conditions of the Minimalist Program and the Principles and Parameters Theory. We report the results belonging to each phrase structure in both languages in a similar order in which we analyzed these structures (e.g. noun phrases, adjective phrases etc). For each structure, findings for either language or both languages are reported.

For the comparative analysis of the phrasal structures in our study, we made use of unlabelled cross-lingual M-diagrams in order to illustrate comparative and contrastive results. Through these diagrams, we could illustrate parametric variations in the same phrase structure derivations in both languages thanks to the resulting

symmetrical and assymetrical appearances on the diagram. In addition, we also used labeled tree diagrams in order to be more explanatory in drawings by using a traditional tree diagram. As for the analyses of phrase structures, we analyzed phrase structures in both languages in terms of their derivational properties such as head, complement and specifier relations described by universal principles such as Binarity, X-bar (Bare Phrase structure), Projection levels, Headedness etc. From these analyses, it was found that the 'head parameter' determining whether a given language in question is of 'head-first' or 'head-last' property varies in English and Turkish phrase derivations. As a result, we got the following 'parametric variation':

1. Head Parameter

i. English is a 'head-first' language

ii. Turkish is a 'head-last' language

Accordingly, while English is a 'head-first language', Turkish is a 'head-last' language, which resulted in the following symmetrical M-diagram.
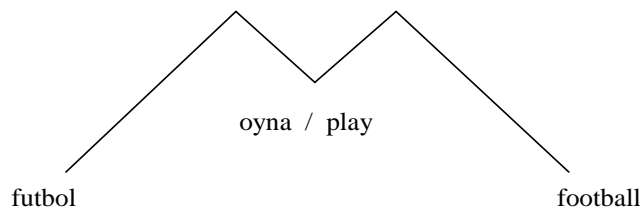
In the derivation of this structure, it is understood that head parameter appears as the parametric variation. In terms of 'Extended Projection Principle', on the other hand, we found that English and Turkish demonstrate similarity in terms of the positions of subject specifiers, that is, both languages are 'specifier-first' languages resulting in the following asymmetry on the M-diagram:
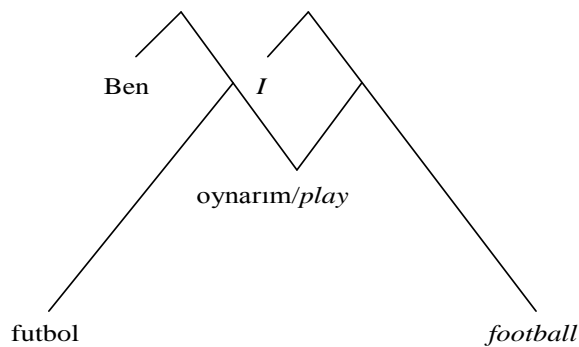
In the derivation of this structure, ignoring the tense and agreement features, it is understood that head parameter appears as the only variation. The asymmetry resulted from the fact that while Turkish consistently has the subject specifiers on the opposite side of the heads in all its phrases, English consistently has them on the same side.

After analyzing the base phrase structures in both languages, we started to analyze the internal structures of the phrases headed by five fundamental lexical categories (i.e. nouns, adjectives, adverbs, adpositions and verbs) with their related functional categories severally. Initially, we started with the noun phrases. In this part of analyses, we found that nouns are adjoined adjectives in the specifier position in both languages (i.e. specifier-first), resulting in the following single tree diagram:
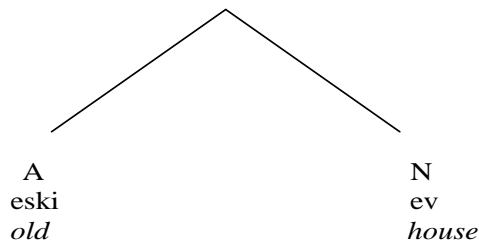
```
            /\
           /  \
          /    \
         /      \
        A        N
        eski     ev
        old      house
```

Accordingly, it is understood that in the derivation of this structure, no any parametric variation occurs. Adjectives in both languages are adjoined to nouns on the specifier direction, forming NPs, revealing no any variations in derivation. From the analyses of the possessors, demonstrators and quantifiers, we came to the conclusion suggesting that these categories of words (i.e. demonstrators or quantifiers) are not included in the category of D or Q (Quantifiers) forming DPs or QPs, but they are modifiers like descriptive adjectives between D and N, forming NPs, resulting in the same phrase structure derivation:
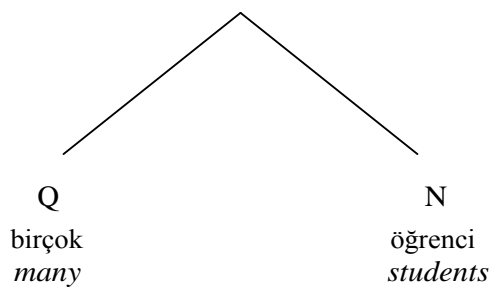
```
            /\
           /  \
          /    \
         /      \
        Q        N
        birçok   öğrenci
        many     students
```

It is understood that in the derivation of this structure, no any parametric variation occurs. Then, it was found that NPs in both languages are selected by a higher functional category of determiners in both languages. We found out that while the category of D in English is filled by an overt or null determiner, it is filled by an affixal null determiner having unvalued person and number features in Turkish (e.g. kitab-ı), leading, in turn, to a 'D parameter'. That is, while spec-DP undergoes agreement-checking (i.e. person and number checking) relations with the D overtly in Turkish, this operation does not take place in English, which we attributed to morphology selectional (i.e. m-selectional) or category selectional (i.e. c-selectional) properties of the D category in the two types of languages, resulting in a 'D parameter' suggesting:

2. D Parameter I

  i. In English, D has c-selectional properties.
  ii. In Turkish, D has m-selectional properties.

Accordingly, while D in Turkish has m-selectional properties such as agreement morphology, D in English does not, resulting in the following derivation:
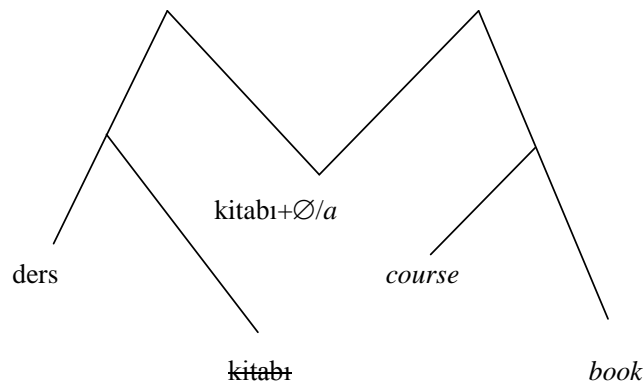
In the derivation of the structure above, the variations between the two languages can be observed in the agreement morphology in NPs, affixal null and non-affixal overt category of D and head parameter in the phrase structure. In DP analyses, as also observed on the M-diagram above, we also found that D in Turkish appears as an affixal category attracting the nouns. However, D in English is non-

affixal. As for English and Turkish, this parametric variation may be suggested as the following:

3. D Parameter II

i. In English, D is overt or null non-affixal.

ii. In Turkish, D is null affixal.

Accordingly, while Turkish null D can attract the NP and attact to it, English overt D cannot, which we also introduced as the reason for overt case assignment at PF in Turkish (e.g. ders kitabı-*nı* ver) and covert case at LF in English (e.g. close the door). Another parametric variation we described for the DP structures was that while the possessive prononuns may be dropped in Turkish thanks to the person and number morphology on the noun at PF, resulting a 'PRO' specifier, this is not the case for their English counterparts. We explained this condition by a PRO-drop parameter determining whether a language allows a null pronominal specifier (i.e. a possessor) or not depending on the morphological features of the language,[1] resulting in a PRO-drop parametric variation in DP structures between English and Turkish languages:

4. Null-Possessor PRO Parameter

i. In English, pronominal possessors are not allowed to be dropped.

ii. In Turkish, pronominal possessors are allowed to be dropped.

Accordingly, while possessive prononuns in Turkish may be dropped thanks to the morphological agreement features, those in English cannot since D in English does not have morphological agreement features just as in the case of subject parameter, resulting in the following derivation:

---

[1] Cook-Newson, *Chomsky's Universal Grammar*, Oxford, 1996, p. 348.
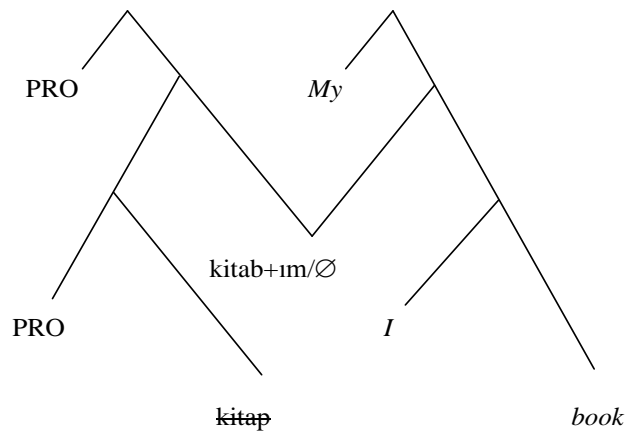
In the derivation of this structure, it is understood that possessor PRO-drop or non-Possessor PRO drop parametrs thanks to the agreement morphology in Turkish, head-first or head-last parameter and affixal or non-affixal null determiner appear as the parametric variations. In these analyses, we regarded agreement morphology in Turkish as unvalued person and number features requiring to be checked in genitive case assigning DP structures just like the case assumed for TP derivations in the MP.

For adjectival phrases, we analyzed phrases headed by adjectives or extended by adverbs of degree. Comparative and superlative adjectives were also analyzed in both languages. For these structures, we initially analyzed adjectives licencing adpositional phrases (e.g. fond of/-A düşkün etc), resulting in the following M-diagram:
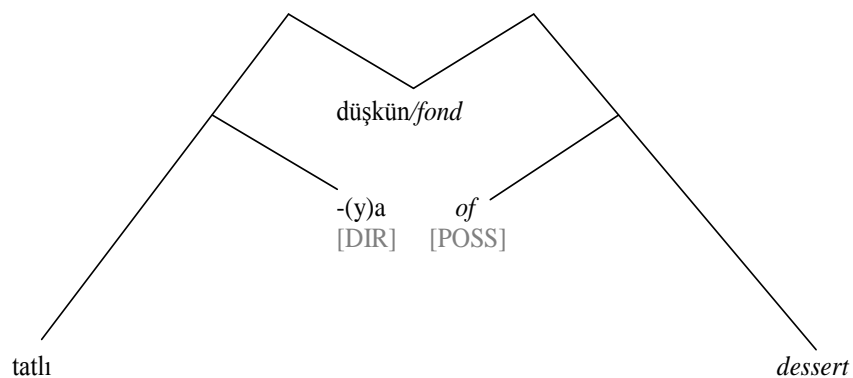
Accordingly, it is understood that adjectives in both languages may licence PPs, the head of which may appear as an inherent case paradigm (i.e. directive (DIR) or possessive (POSS) case paradigms) assigned by thematic roles in Turkish. This structure is derived with the parametric variations in affixal or adpositional case

paradigms as well as the head-parameter in either language. In AP analyses, we also analyzed adjectives extended by adverbs of degree (e.g.very slowly/çok yavaş). Despite Abney (1987)'s suggestion of DEGP, which posits that "adjectives, adverbs and quantifiers are degree phrases headed by DEGs since they are a different category of words from adverbs," we prefered to categorize adjectives specified by comparative and superlative as well as other adverbs of degree as APs since we consider the cross-linguistic concerns about DEGs which occupy the specifier position of the AP projections just as in the case of possessors, quantifiers and adjectives within NP structures in Turkish which is a head-last language, resulting in the following analysis:
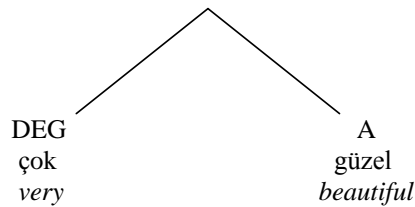
DEG   A
çok   güzel
very   *beautiful*

It is understood that in the derivation of this structure, no any parametric variation occurs. In terms of APs, we also analyzed APs specified by adverbs of degree such as *too, enough, as* and licensing PPs as well, resulting in the symmetrical M-diagram below:
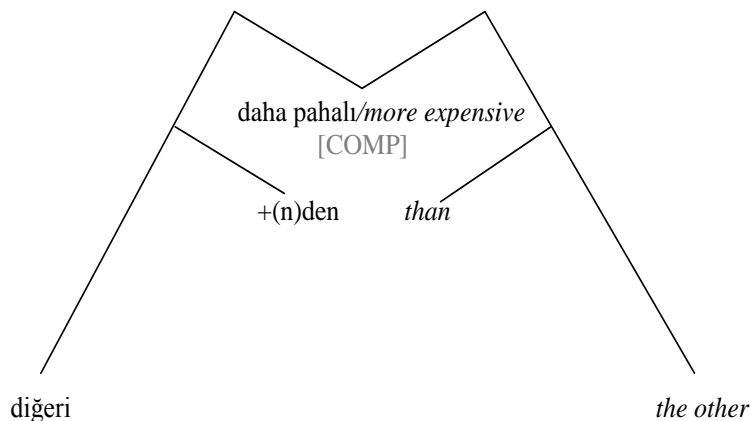
daha pahalı/*more expensive*
[COMP]

+(n)den   *than*

diğeri   *the other*

In these structures, it was found that the derivation only differs in terms of the inherent case paradigms (whether affixal or adpositional) and head parameters (whether head-first or head-last). The superlative structures were analyzed as shown in the resulting M-diagram:
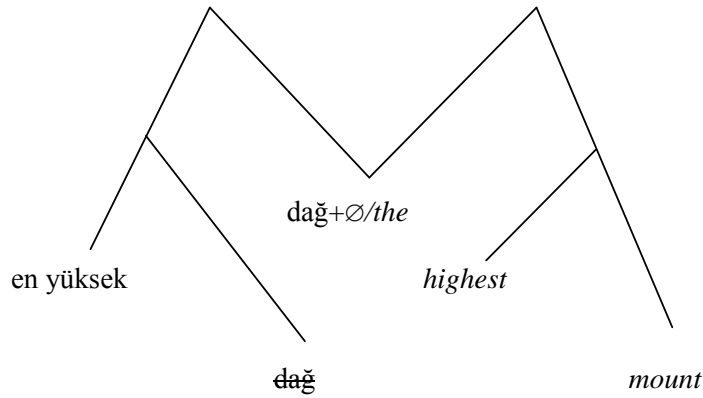
In the derivation of this structure, it is understood that head-first or head-last parameter and affixal null or non-affixal overt determiner appear as the parametric variations. As for adverbial phrases, in addition, the same projection structures containing adverb of degrees, comparative and superlative forms were analyzed. In both phrase structures (i.e. AP and ADVP), the derivations were observed having the same derivational properties, except for the head-parameter which we discussed above. Moreover, it was also found that in English, mono-syllable adjectives have inflectional properties in their comparative and superlative forms and adverbs in both languages are/may be derived from adjectives through derivational morphology such as *-ly* in English and *-çA* in Turkish.

Next, we analyzed adpositional phrases. Considering Asbury's and Bittner and Hale's proposals and revising them with minimalist principles, we analyzed adpositions as inherent cases and suggested that cases vary as to their derivational positions in the syntax. Accordingly, 'genitive' case is assigned to other DPs under D by D itself. DP, on the other hand, is the position where structural cases such as 'nominative', 'accusative' and 'dative' are checked since all NPs are ultimately DPs and all DPs indirectly have uninterpretable case features as well as interpretable person and number features which undergo feature cheching with the other categories. The other cases expressing spatial relations or semantic roles assigned by predicates spell out as P heads filled by affixal or lexical (i.e. non-affixal) case paradigms such as locative, ablative, possessive, sociative, instrumental etc. In the analyses, we found that adpositions in both languages selects DPs or pronouns as their complements, resulting in the following M-diagram:
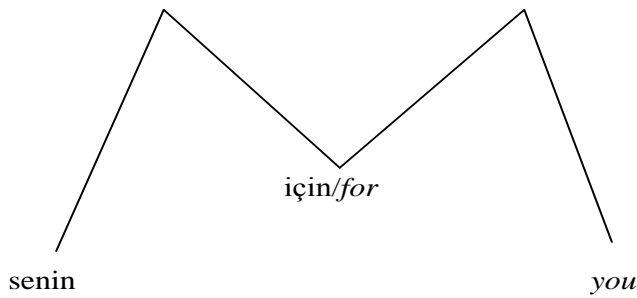
```
         için/for

senin                              you
```

In the derivation of this structure, head parameter appears as the only parametric variation. The thematic relations between the adpositions and the complementiser nouns were described in terms of case paradigms. It was found that the same case paradigm (i.e. locative/LOC) represented as an affixal case in one language may be represented as an adposition in the other, resulting in the following M-diagram:

```
         [LOC]
         -de/at

ev                              home
```
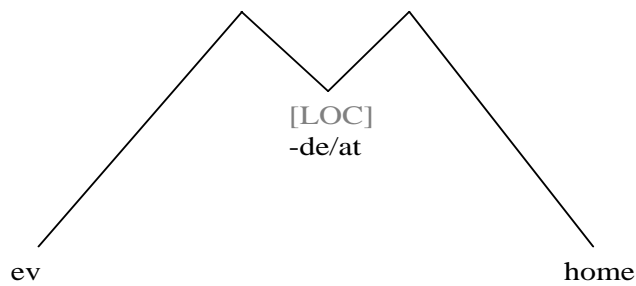
In this kind of structures, it was found that the derivation only differs in terms of the inherent case paradigms (whether affixal or adpositional) and head parameter (whether head-first or head-last). This condition was described as the following P parameter:

5. P Parameter I

 i. Prepositions in English are non-affixal.

ii. Postpositions in Turkish are either affixal or non-affixal.

Accordingly, while Turkish P has either affixal or non-affixal features, P in English has non-affixal feature for inherent case paradigms. It was also found that affixal case paradigms represented as P in the syntax, like structural cases, do not have interpretable [GEN-Case] feature (e.g. biz-de/we-LOC). As for another finding, adpositions in both languages were found assigning structural cases to their

complement pronouns. That is, while Turkish postpositions assign genitive case (e.g. ben-*im* için) to their complement pronouns, English prepositions assign accusative case (e.g. for *me*) to their pronominal complements, resulting in the following M-diagram:

için / for
[GEN-Case] [ACC-Case]

sizin you
onun him
benim me

[~~GEN-Case~~] [~~ACC-Case~~]
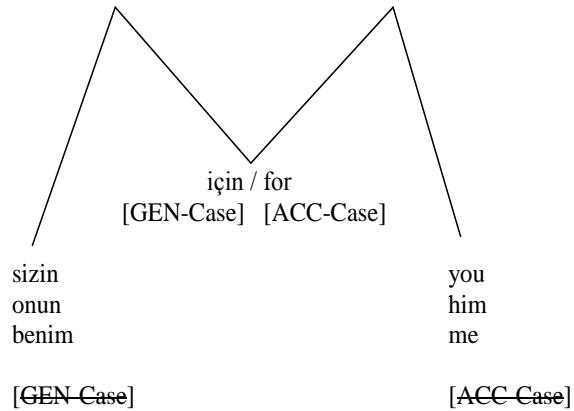
This condition was described as another parametric variation between English and Turkish, leading to a second parametric variation of P:
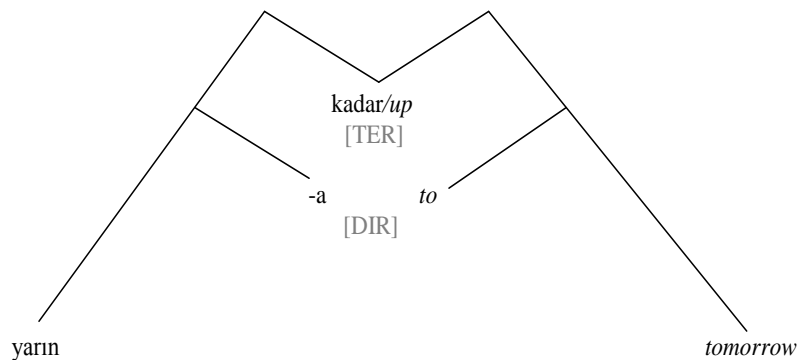
6. P Parameter II

i. Lexical Prepositions in English have interpretable [ACC-Case] feature.

ii. Lexical Postpositions in Turkish have interpretable [GEN-Case] feature.

Accordingly, while pronominals are assigned structural ACC case by lexical adpositional P heads in English, they are assigned structural GEN-Case in Turkish. However, this was not the case for the other complements such as nouns and other inflected pronouns (i.e. pronouns with nominal affixes such as plural -*s* in Turkish and possessive pronouns in both languages etc.) which are not assigned genitive or accusative cases (e.g. *Ali* ile/ with *Ali*, *seninki* için/ for *yours*), as shown in the M-diagram below:

[SOC]
ile / *with*

Ali   *John*
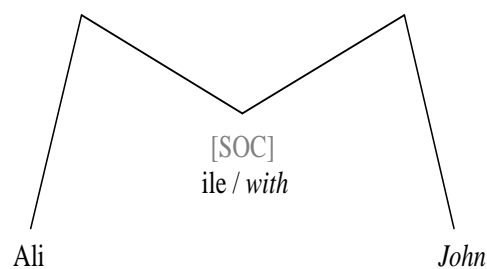
Note that the derivation only differs in terms of the head parameter (whether head-first or head-last). This condition was explained by the fact that while pronouns enter the derivation derivation with their [u-case] features as complements of adpositions since they are regarded as D-expressions having definite feature, nouns are assumed to enter the derivation as complements of D forming DPs which are then selected as complements by adpositions. In our PP analyses, we also analyzed PPs projections in English, extended by adverbial or adjectival expressions. Although these structures were analyzed as PP projections having adjectival or adverbial specifiers in English, they were analyzed as AP/ADVPs in Turkish, which is resulted from the head-parameter variation in both languages. Therefore, for the analysis of these structures, considering crosslingual, or universal, concerns, we suggested AP/ADVP analysis in both languages based on the analysis of the data obtained fromTurkish, resulting in the following comparative M-diagram analysis:

In these structures, it is understood that the derivation only differs in terms of the head parameter (whether head-first or head-last) and the inherent case paradigms (whether affixal or adpositional). In PP analyses, we also analyzed secondary adpositions as another group of PP structures made up of at least three constituents in both languages, the heads of which are adpositions merging with nouns, resulting in the following M-diagram analysis:
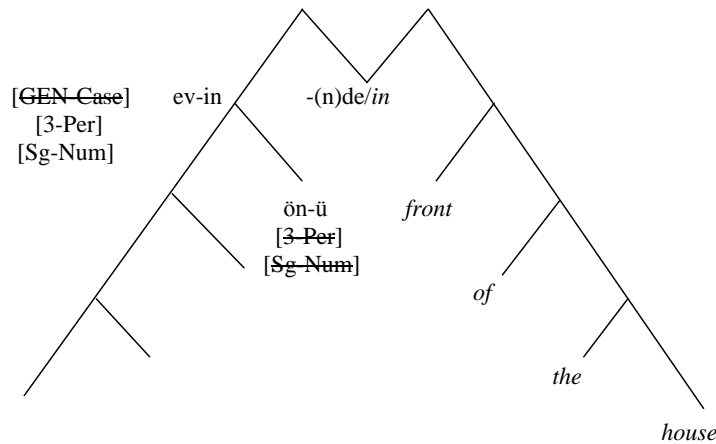
While we analyzed these structures as derivations composed of three or more components including a head P and an 'Axial Part' (AxPrt) and a possessive adposition (rather than structural genitive case) finally merging with the DPs in English (e.g. in front of the house), it appears as a genitive assigning DP structure as in the case of other nominal expressions modified by DPs or PRNs in Turkish (e.g. onun evinde, evin önünde). We also analyzed and listed common case paradigms represented as affixal cases or overt adpositions in both languages. Accordingly, there are common paradigms in the lexicon of both languages which are spelled out in different phonetic forms (PF) (i.e. as overt lexical prepositions or morphological cases) but with the same thematic function (i.e. LOC, DAT, ABL or GEN). Therefore, we determined and listed common morphological and syntactical case paradigms. Consequently, we listed morphological case paradigms in English and Turkish as shown in the table below:

Affixal and Lexical Case Paradigms in English and Turkish

Case	Description	English	Turkish
Nominative	subject	N-∅	N-∅
Accusative	definite object	PRN *(him, me)*	N/PRN-*I*
Genitive	possessor	PRN *(my, his)*	N-*In* PRN *(ben-Im)*
Dative	goal /recipient	*to* N *oblique PRN (me)*	N/PRN -*A*
Ablative/Elative	source	*from* N	N/PRN -*dAn*
Possessive	relation, affinity	*of* N	N/PRN-*In* *(GEN)*
Inessive	at interior	*in* N	N-*In içinde*
Superessive	at exterior	*on* N	N-*In üstünde*
Adessive	at proximity	*at/on* N	N-*dA*
Instrumental	means/instrument	*by/with/through* N	N *ile* / N-*lA*
Sociative	togetherness	*with* N	N *ile* / N-*lA*
Causal	for the sake of	*for* N	N *için*
Abessive	lack/shortness	*without* N	N-*sIz*
Addirective	orientation	*toward* N	N-*A doğru*
Relative	comparison	*than* N	N-*dAn*
Subessive	at under	*under* N	N-*In altında*
Terminative	until/by	*until/by* N	N-*A kadar*
Postessive	at behind	*behind* N	N-In arkasında
Directive	direction	*to* N	N-*A*
Antessive	at front	*in front of* N	N-*In önünde*
Temporal	at/in/on (time)	*at/in/on* N	N-*dA*

From the table, we understand that while some case paradigms are represented as affixal cases in Turkish, they are represented as adpositions in English (e.g. adessive -dA/ at). Moreover, some case paradigms such as casual paradigms are represented as overt adpositions in both languages (e.g. *for* you/ senin *için* etc.). Some paradigms such as antessive case, on the other hand, are represented as phrasal structures, or secondary adpositions (e.g. *in* front *of* / ön-*ün-de* etc.). We can also see that whereas lexical (i.e. non-affixal) postpositions in Turkish are very limited in number and most of the inherent case paradigms are represented by morphological case markers in the syntax, adpositional case paradigms in English are much more in number, corresponding to a wide range of the morphological case paradigms in

Turkish. NOM case can be observed occuring as the bare form of complement nouns. Other affixal spatial case paradigms such as DIR, ABL or LOC etc in Turkish can be seen to overlap with non-affixal prepositions in English.

As for the verb phrases, we analyzed verbs as head constituents as well as complements of functional categories such as Nom, PASS, Asp, Mod, NEG and T. As head constituents (i.e. VPs), verbs merging with DPs and PPs or verbs adjoined adverbs were analyzed. In these analyses, we compared and contrasted transitive, intransitive, one, two or three place predicates etc. in both languages and found that both languages operate the same derivational operations differing only in head parameters we have reported for the other phrase structures so far, resulting in the following M-diagram:
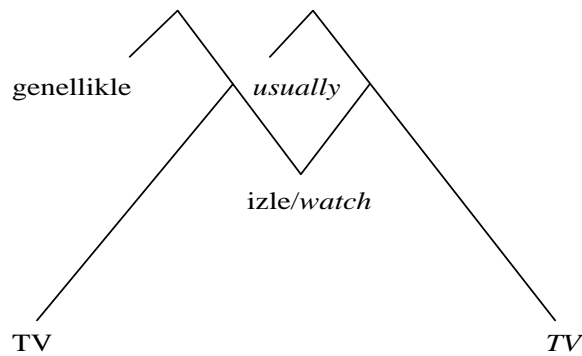
genellikle   *usually*

izle/*watch*

TV   *TV*

In the derivation of this structure, head parameter appears as the only parametric variation. As for grammatical features, argument DPs and pronouns were found being assigned structural cases by the verbs depending on the thematic role of the internal arguments, resulting in the following M-diagram:

yardım et*/help*

[GOAL]
bana   [DAT Case]   *me*

In the derivation of this structure, head parameter appears as the only parametric variation. For the same thematic role, internal argument pronouns are assigned dative case. For the analyses of the two-place predicates (or verbs), we

followed the split vP analysis in both languages. According to these analyses, the causative operations in both languages were also given examples for the split *v*P structures explained by a null causative light verb, resulting in the following M-diagram:
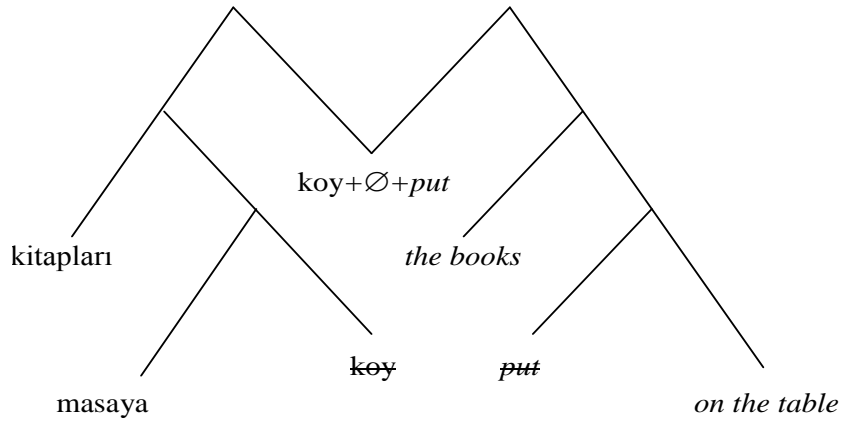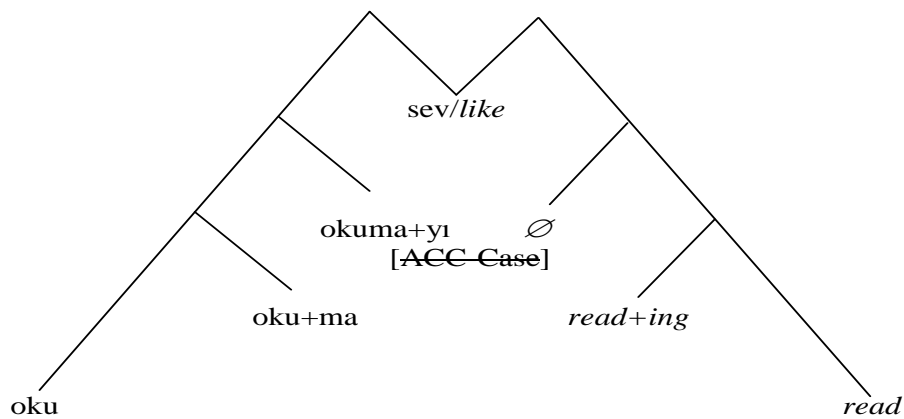

In the derivation of this structure, head parameter appears as the only parametric variation except for the inherent case represented by affixal DIR case paradigm in Turkish (i.e. masa-ya) and adpositional LOC case paradigm in English (i.e. on the table). Causative structures in both languages were also analyzed by the split vP analysis, resulting in the following M-diagram:
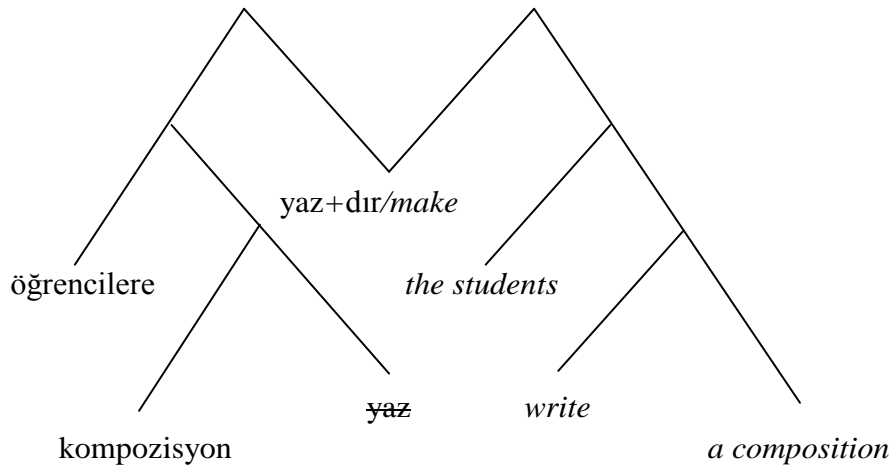
In the derivation of this structure, head parameter and affixal or non-affixal causative verb appear as the only parametric variations. For the verbs as complements of functional subcategories, on the other hand, we initially analyzed verbs headed by a non-finite nominaliser (i.e. gerunds), which function as

complements of Ds. From the examples we analyzed, we suggested a nominalizer phrase (NomP) which is headed by the affixal nominalizer head *-ing,* triggering the raising of the complement verb and then either merged with D finallt to become complements of Vs or Ps. We assumed gerunds having nominal features as nouns do. Accordingly, in both languages, verbs are merged with a nominalizer affix to form a NomP, ultimately merging with a D, resulting in the following M-diagram:

In the derivation of this structure, head parameter and overt affixal or null lexical (i.e. non-affixal) category of D appear as the only parametric variations between the two languages.

It was also understood from the analyses that for a predicate verb to develop into a maximal projection, or a propositional phrase, it should be merged with a functional category of 'tense' which may also contain other functional subcategories such as aspect, modality or passive. As for the analysis of tense phrases, we analyzed verbs under T having interpretable present and past tense features not only in English but also in Turkish. In these analyses, it was found that the affixal T in English and Turkish has 'm-selectional' properties, that is, since it is affixal, it specifies the verb as the category to which it can attach, which was described as a common parametric property suggesting that *in English and Turkish, T has 'm-selectional' properties,* resulting in the following M-diagram analysis:
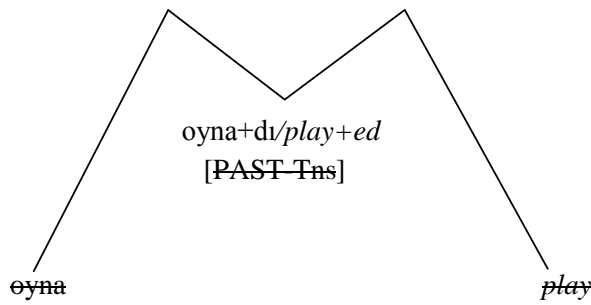
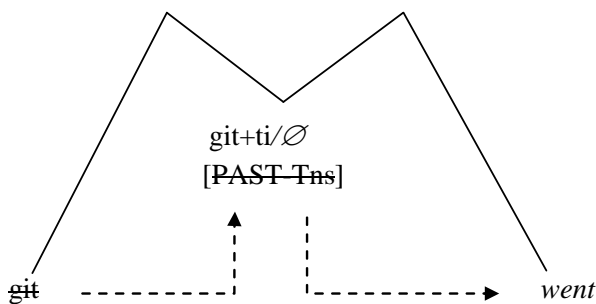oyna+dı/*play+ed*
[~~PAST Tns~~]

oyna   *play*

In the derivation of this structure, head parameter appears as the only parametric variation between the two languages. Still, a parametric variation with respect to the relative strength of a given type of head, which is known as 'Head-Strength Parameter', was needed to be set between the two languages due to the rich agreement morphology in Turkish and do-insertion (or do-support) in negative and interrogative structures in English, which was set as a parametric variation between English and Turkish languages, described as the following:

7. T Parameter

i. In English, T has a weak affixal feature.

ii. In Turkish, T has a strong affixal feature.

Accordingly, while T in English has weak affixal morphology, T in Turkish has strong affixal morphology. This variation, in turn, was referred to explain the verbal expletive insertion (i.e. auxiliaries such as do, does, did) in English for the further analyses of negative and interrogative structures in English. That is, since the category of T is weak in English, it cannot attract the verb but lower the affix/or inflected past form (i.e. irregular forms) on to the main verb, resulting in the following M-diagram analysis:

git+ti/∅
[~~PAST Tns~~]

git   *went*

In the derivation of this structure, head parameter and head strength parameter of T appear as the parametric variations between the two languages. In addition, this parametric variation allowed us to explain the agreement morphology in both languages. While English has weak agreement morphology, Turkish has rich person and number agreement morphology, resulting in the following M-diagram analysis:
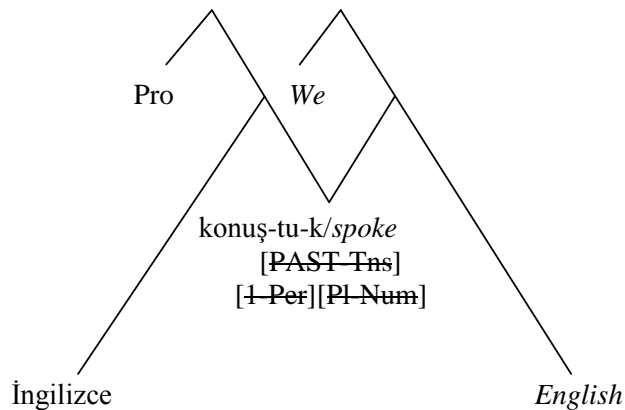
In the derivation of this structure, parametric variation in head strength parameter of T results in overt agreement morphology in Turkish, which is not observed in English. It should also be noted that pronominal subject in Turkish is dropped or null (i.e. small Pro), resulting from the strong agreement morphology in Turkish, which was described as a Pro-Drop Parameter (or Null-Subject Parameter) which determines whether any language allows a null-subject or not:

8. Null-Subject Parameter

i. In English, Null- Subject (Pro) is not allowed

ii. In Turkish, Null- Subject (Pro) is allowed

Accordingly, whereas the Turkish T allows the subject pronoun to be dropped (Pro) thanks to the strong agreement features, the English T does not allow the subject pronoun to be dropped due to weak agreement features.

Forming the maximal projection TPs in both languages was also observed involving some other selectional subcategorial projections such as passivization (PASSP), auxiliary (AuxP), aspect (AspP) and modality (ModP). Since PASSPs, AuxPs, AspPs and ModPs were analyzed as the subcategorial functional phrases of

TPs, we followed the order of bottom-up merging operations in both languages to explain the derivation of these functional phrases extended from the VP projections to TPs. Accordingly, under the TP analysis, we found out that TPs derived in a bottom-up order start from PASSP in both languages. However, it was also observed that PASSP in English contains a verb and an affixal PASS head which attracts the verb to the upper position and inflects it for a passive participle form. Since the PASS itself has a nominal feature, a verbal expletive (i.e. auxiliary verb) is inserted under T. Therefore, passive participle form of the verb is merged with the *auxiliary* (Aux) *be* (or sometimes *get*) to form the AuxP. On the other hand, from the contrastive minimalist analyses, it was also understood that Turkish PASSP derivations also contain a verb and an overt affixal head which attracts the verb, attaching *-ıl/-n* to it, resulting in the following M-diagram analysis:
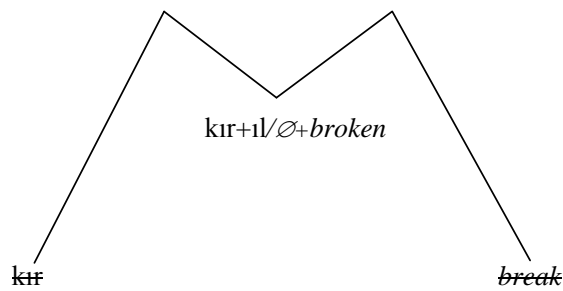
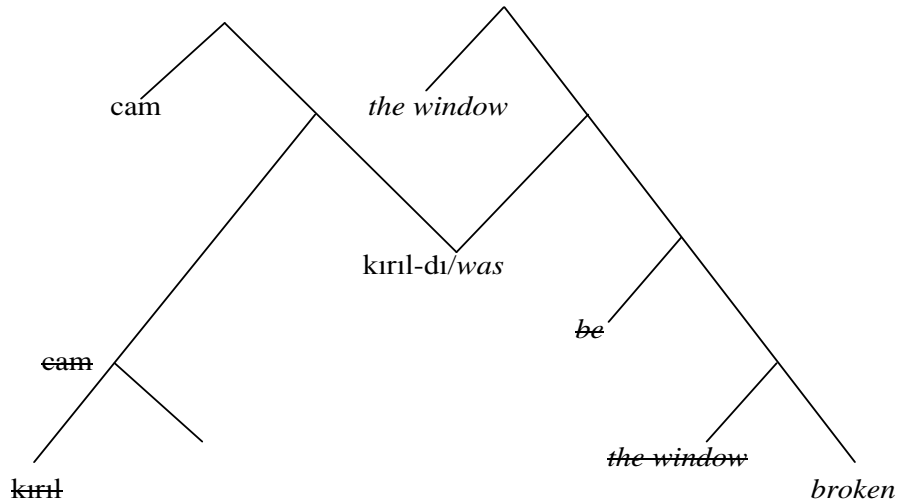kır+ıl/∅+broken

k̶ı̶r̶   *b̶r̶e̶a̶k̶*

In the derivation of this structure, head parameter appears as the only parametric variation between the two languages. It was also found that the affixes *–ıl /-n* are affixal heads having verbal feature, which yielded up another parametric variation between English and Turkish languages. In this context, while, in Turkish, the PASS morpheme has verbal feature, it has nominal features in English, which was described as the following parametric variation:

9. PASS Parameter

  i. In English, affixal PASS is nominal (i.e. [+N]).
ii. In Turkish, affixal PASS is verbal (i.e. [+V]).

Accordingly, while the verbal feature of PASS in Turkish allows the passive verb to move to T having m-selectional properties, the nominal property of the PASS morpheme in English does not allow the nominalized verb to move to T having m-

selectional properties, due to which a verbal expletive (i.e. Aux) is inserted under T (e.g. be stolen). In these structures, it was also understood that the specifier position of the TPs is filled by the thematic (i.e. THEME) complement of the passive verbs, moving from the complement position to the spec-TP by the A-movement opearation in both languages, resulting in the following M-diagram analysis:

In the derivation of this structure, head parameter and an auxiliary insertion resulted from PASS Parameter appear as the parametric variations between the two languages.

As for the aspectual subcategory, we found that Asp is nominal both in English and Turkish. Accordingly, the affixal Asp morphemes in English and Turkish have periphrastic aspect, that is, they have nominal features, which may be described as a common parametric property suggesting that *in English and Turkish, Asp is nominal (i.e. [+N]).* We also found that this common parameter, in turn, results in the fact that the nominal property of the Asp morpheme in English and Turkish does not allow the nominalized verb to move to T having m-selectional properties, due to which a verbal expletive (i.e. Aux) is inserted under T (e.g. *was* doing or *yapmış idi/yapmıştı*). Furthermore, it was revealed that aspectual categories in English (i.e. perfective and progressive) and Turkish are affixal (e.g. *do+ne* or *do+ing* in English and yap+*mış* or yap+*ıyor* in Turkish) in nature and inflect the complement verb into nominalized forms having nominal features. It was also found that while Aux and T in modern Turkish are syncretised as an affixal or lexical (i.e.

non-affixal) T head, Aux in English is filled by aspectual auxiliaries carrying perfective or progressive features in English (e.g. *be* doing, *have* done), which is finally attracted and inflected by the m-selectional T. Furthermore, in terms of aspectual paradigms, we found that English operates two inflectional aspects as Asp head (i.e. perfective and progressive aspects) in contrast to Turkish which operates five affixal aspects: perfective, progressive, prospective and habitual aspects as well as an imperfective aspect which is a multi layered (i.e. perfect progressive) derivation in English, resulting in the following M-diagram:
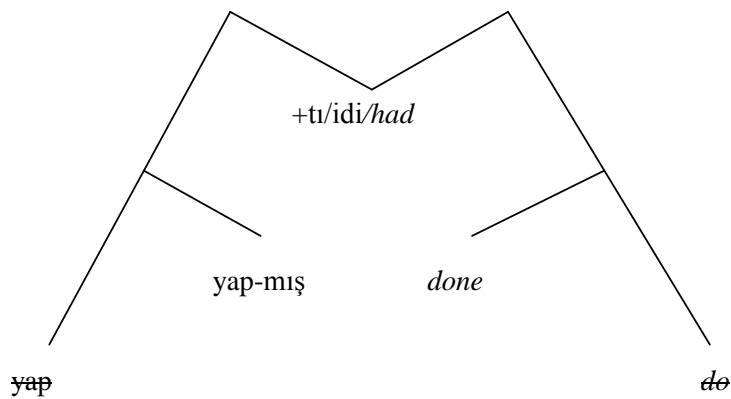
In the derivation of this structure, head parameter appears as the only parametric variation between the two languages. In this section of the study, we also arrived at a conclusion that Asp head itself is of nominal feature since these affixes are originally nominalizers and derive nominal structures like participles in English. This assumption was also illustrated by some derivational suffixes used to derive adjectives or nouns such as '*kes-er* (cut-HAB → adze), *oku-r yaz-ar* (read-HAB write-HAB → literate), *geç-miş* (pass-PER → past), *er-miş* (mature-PER → matured) or *gel-ecek* (come-PROS → future/next)' etc in Turkish. It was also found that for a nominal phrase to be a predicate requires a copula which is an auxiliary having valued tense and agreement features (e.g. idi/-(y)dI,-dIr, -(y)Im etc). This copular markers were described and analyzed as syncretised (i.e. Aux+T) affixal or lexical T constituents, by referring to Old Turkish (i.e. *er* in Orkhon Turkic).

For another functional category, we analyzed modal phrase structures in both languages. Considering all the features identified for auxiliaries above and

minimalist concerns with economy of derivation and representation, we analyzed modals as syncretised T constituents rather than individual Aux or Mod nodes since they had aspect, mood, auxiliary and tense properties collapsed into a single T head (i.e. Asp+Mod+Aux+T), thus selecting verbs as complements. We analyzed them as synretised T constituents, once having been full verbs, gradually lost their full verb meanings and some of their morphological features (i.e. they lost their infinitival, participial and full tense forms) and transformed from full verbs to auxiliary status as in the case of affixal or lexical modal auxiliaries, referring to their former uses in both languages, resulting in the following M-diagram:
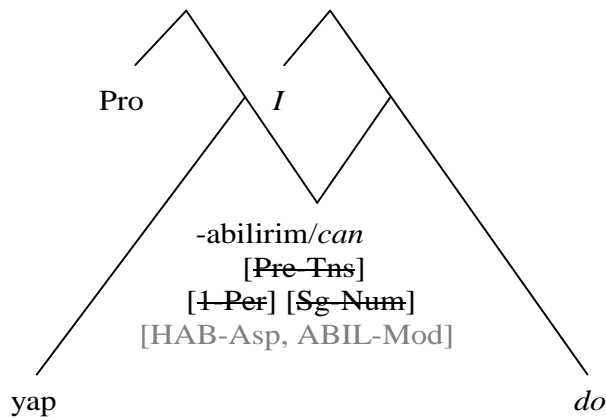
In the derivation of this structure, head parameter and null-subject parameter as well as agreement features appear as the parametric variations between the two languages. In our analyses, we also noted that although the other auxiliaries undergo agreement feature checking with their specifier, modal auxiliaries do not, which was described by the free category parameter. Then, this condition was described as a parametric variation between English and Turkish languages as the following:

10. Modal Aux Parameter

i. In English, modal Aux is free.

ii. In Turkish, modal Aux is bound.

Accordingly, while modal Aux in English is free since it does not undergo agreement checking with its specifier, Aux in Turkish is bound since it has agreement features with its specifier.

In multiple layered TP structures in both languages, it was found that Asps having nominal feature are merged with an AuxP to form TPs. Bare auxiliaries (i.e. *be* in English and *ol* in Turkish) are then merged with affixal/or non-affixal syncretised T constituents, resulting in the M-diagram below:
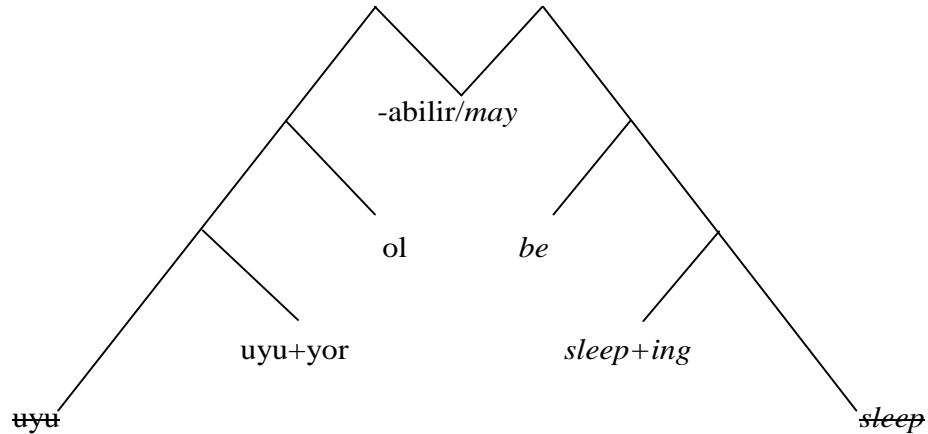
In the derivation of this structure, head parameter and null-subject parameter appear as the parametric variations between the two languages.

In our analyses, VPs were also analyzed as complements of Negation constituents, forming a NegP. That is, they were regarded as syntactical constituents headed by a null or overt affixal or lexical constituent in Neg node. In universal sense, considering Turkish NegPs headed by the affixal Neg *-ma* and the overt lexical Neg *değil* and English NegPs headed by *not,* we followed a NegP analysis appropriate for both languages in our study. Owing to the cross-lingual concerns, we preferred to analyze 'not' as the Neg constiuent in English rather than an ADV. Considering negative nominal structures such as NomPs and AspPs as well as other lexical categories such as nouns, adjectives and prepositions which are always headed by a tensed auxiliary to form a predicate phrase (e.g. not good, not doing, not done etc) and adapting ideas from Pollock (1989), Ouhalla (1991) and Radford (2004), we concluded that 'Neg c-selects Pred' which may be a verbal (e.g. VP or AuxP) or a nominal (e.g. AspP, PASSP) complement but not T. We also found that Neg hosts two different morphological heads: bound and free. While affixal bound Neg (i.e. *-mA* in Turkish) c-selects verbal predicates such as VPs or AuxPs, non-affixal free Neg (i.e. *not* in English and *değil* in Turkish) c-selects nominal

predicates. However, it was also found that English only operates free Neg *not* for all predicates. Accordingly, we found that Turkish bound Neg is filled by an affixal head *-mA* and the non-affixal free Neg *değil* in contrast to the case in English which only operates free Neg *not* for all predicates. Relying on these results, in terms of the properties of the affixal Neg, on the other hand, we described a parametric variation between English and Turkish:
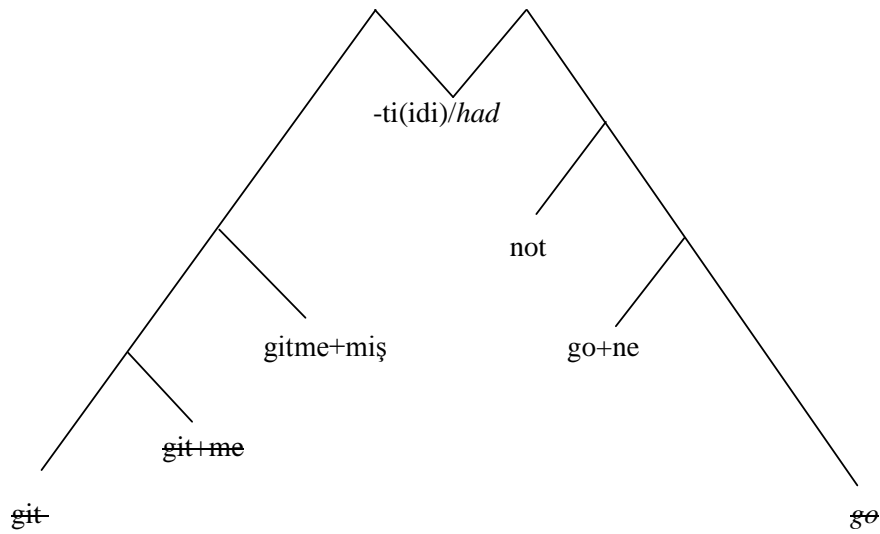
11. Neg Parameter

i. In English, Neg is free.

ii. In Turkish, Neg is bound or free.

Accordingly, while, in Turkish, nominal complements are negated by non-affixal free Neg *değil* and verbal complements are negated by an affixal head *-mA*, in English, both structures are negated by the non-affixal free Neg *not* for all predicates, resulting in the following M-diagrams:
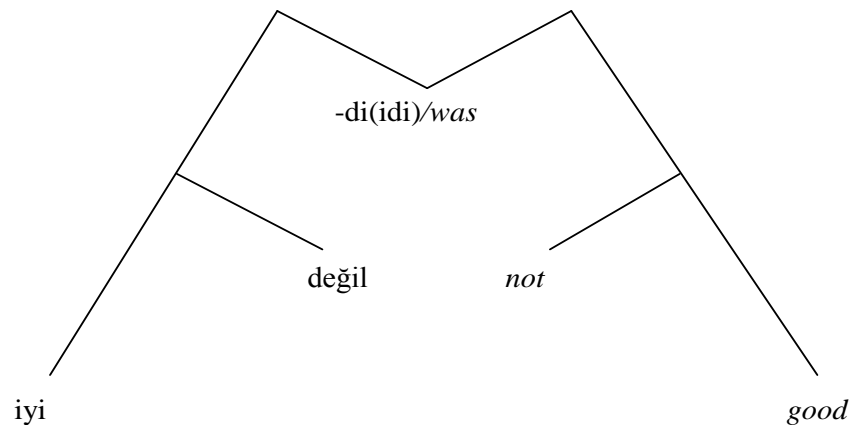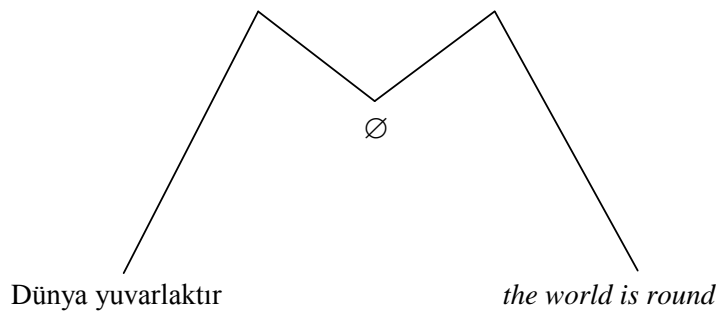

In the derivation of this structure, head parameter appears as the only parametric variation between the two languages.

In the derivation of this structure, head parameter and bound/free Neg parameter appear as the parametric variations between the two languages.

As for the highest functional head in a clause structure, we analyzed complementiser phrases headed by a complementiser (C). We analyzed the category of C in both languages based on the assumptions of 'Split-CP Hypothesis'. Accordingly, we analyzed Force and Fin heads functioning as null or overt complementisers forming finite or infinite CPs in both languages. Initially, we analyzed ForcePs as complementiser phrases in main clauses having declarative and interrogative forces. Main caluses are analyzed as TPs merging with a null ($\varnothing$) declarative complementiser, resulting in the following M-diagram:

In the derivation of this structure, head parameter appears as the only parametric variation between the two languages.

For interrogative main clause structures, on the other hand, we found that while the interrogative-force complementiser position in English main clauses is

empty (i.e. null) but having [EPP], [WH] and [TNS] features, this position is filled by the Que particle *mI* having [EPP] and [TNS] features but lacking [WH] feature in Turkish, described as the following C parameters:

12. C Parameter I

 i. In English interrogative main clauses, C is null.
ii. In Turkish interrogative main clauses, C is non-null.

Accordingly, while interrogative C is an empty category (i.e. $\varnothing$) in English, it is filled by the Que particle (i.e. mI) in Turkish. As for grammatical features, in addition, we needed to set another parametric variation, which was described as the following:
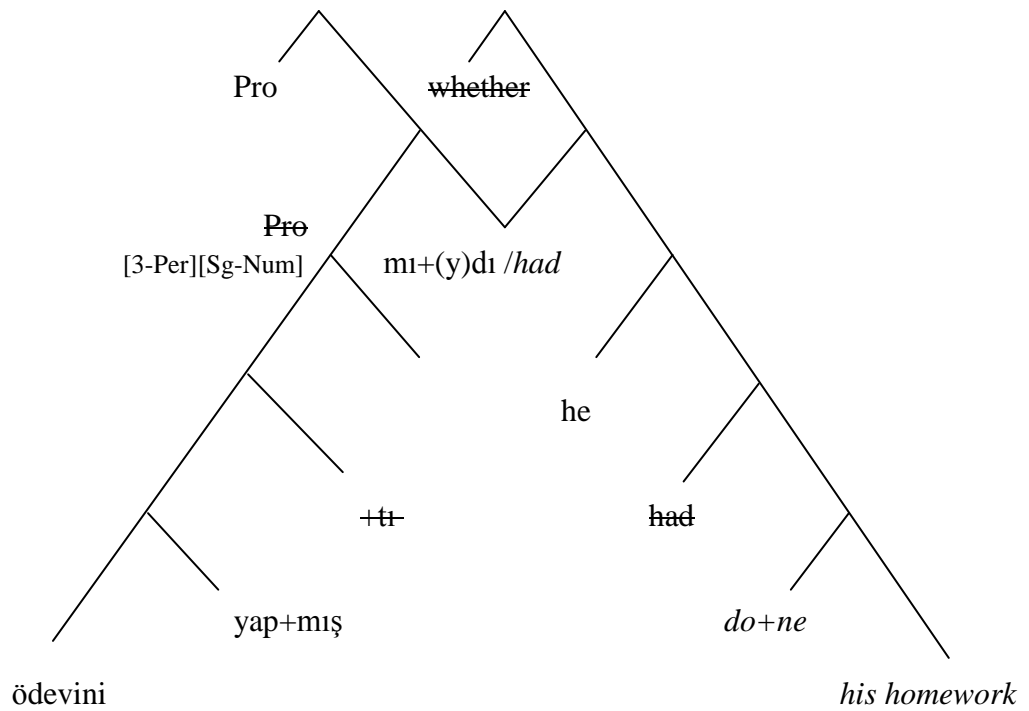
13. C Parameter II

 i. In English, C carries a [WH] feature.
ii. In Turkish, C does not carry a [WH] feature.

Accordingly, C in English attracts wh-operators and projects them as its specifier not only in interrogative main clauses, but also in declarative noun clauses and relative clauses, whereas in Turkish, it does not attract wh-operators but projects the lower spec-TP constituent as its specifier (i.e. spec-CP) in order to satisfy the main clause requirements (i.e. EPP). In terms of TNS feature, in addition, we identified another parameter, which was described as the following:

14. C Parameter III

 i. In English, interrogative C attracts T.
ii. In Turkish, interrogative C attracts T having [+N] feature.

Accordingly, while in English, null C attracts T constituents (i.e. tensed auxiliaries, modal auxiliaries) even if there is not an overt one (i.e. do-insertion), in Turkish, C can only attract T constituents having [+N] feature (i.e. affixal tensed auxiliaries) since interrogative C is nominal and C in Turkish is filled by the nominal Que *mI*, resulting in the following cross lingual M-diagram:

Pro   ~~whether~~

~~Pro~~
[3-Per][Sg-Num]   mı+(y)dı /*had*

he

+tı   ~~had~~

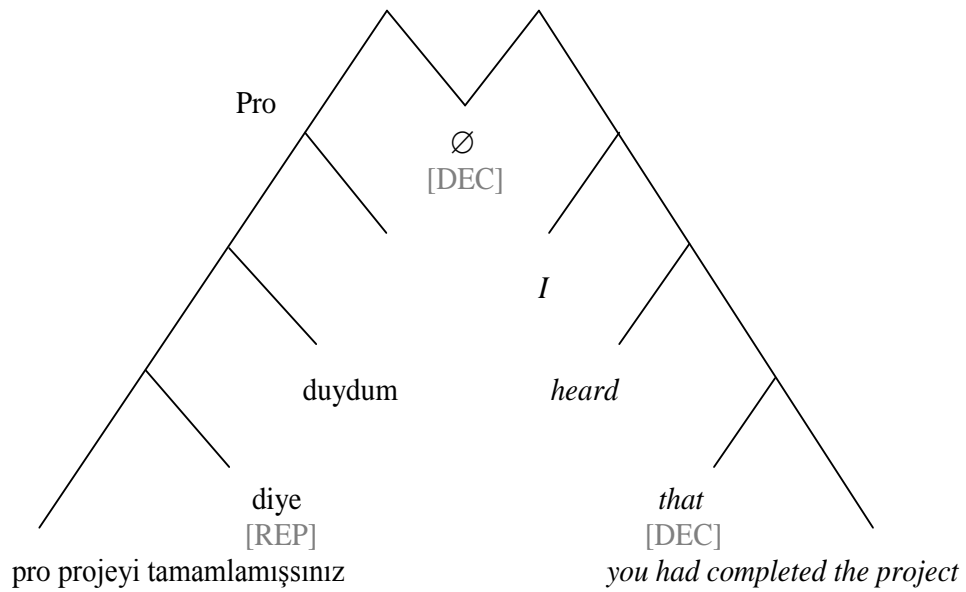yap+mış   *do+ne*

ödevini   *his homework*

In the derivation of this structure, head parameter; null and non-null affixal C and variations in grammatical features such as [WH] appear as the parametric variations between the two languages. In addition, for the interrogative in situ structures, considering in situ wh-expressions in Turkish as well as wh-subject structures in English interrogative structures, we suggested that these TPs are headed by a C in declarative force. That is, these structures are not headed by an interrogative main clause C but headed by a null declarative main clause C, resuting in the M-diagram below:
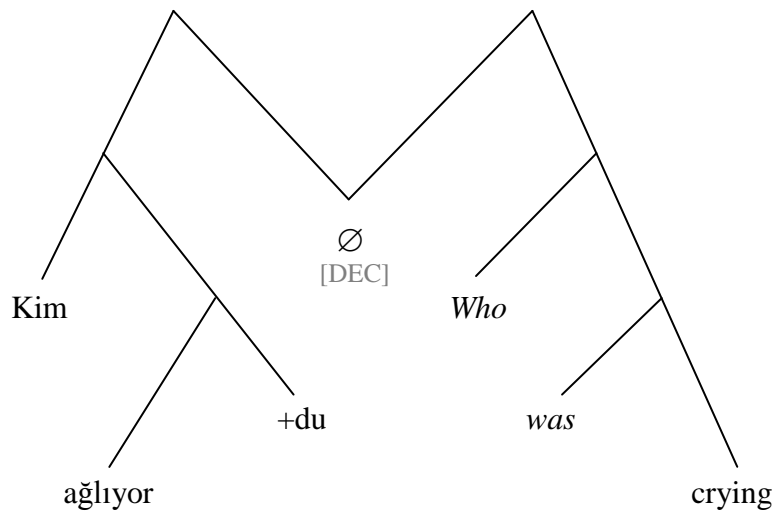
In the derivation of these interrogative structures, head parameter appears as the only parametric variation between the two languages.

After introducing the category of C and its grammatical features in both languages and analyzing complementiser phrases in main clauses, we analyzed finite and infinite complement, relative and adjunct clauses in both languages. From the analyses of finite complement clauses in our study, while the C head as a universal category was found as a position filled by overt or null *that* in declarative force and wh-operators (i.e. whether, what, where, when, who, how, why etc) in interrogative force, it was found as a position only filled by overt *diye* in reportive force and *gibi* in predictive force but none in other forces such as declarative or interrogative in Turkish, resulting in the following M-diagram:

Pro

∅
[DEC]

I

duydum   *heard*

diye   *that*
[REP]   [DEC]

pro projeyi tamamlamışsınız   *you had completed the project*

In the derivation of these matrix clauses, head parameter appears as the only parametric variation between the two languages, ignoring the internal derivations of the subordinate clauses and the force of C (i.e. reportive and declarative) in either language.

For infinite complement clauses, we analyzed the infinite complementiser as a Fin head as the lowest C position in split-C analysis. In English, *for-to* non-finite clauses are assumed to be FinPs since they are headed by the infinitival complementiser *for.*In our analyses, we found that while Turkish keeps operating a null affixal complementiser having EPP, GEN-Case assignment and agreement features attracting infinite T constituents such as *-dIk* and *-AcAk* English operates either an overt or null adpositional complementiser which is a null variant of *for.* Therefore, we analyzed the Fin P in Turkish as a C head filled by a variant of a null complete determiner which is affixal in nature, assigning genitive case to the specifier of the infinite T constituents and thus having EPP and GEN-Case features. It was also found that the affixal infinite T constituents *-dIk* and *-AcAk* in Turkish are of nominal feature as in the case of the nominalizer head *–mA* which can also function as an infinite T constituent projecting a CP, denoting a modal event. However, we analyzed the affixal *-mAk* as the infinitive T particle projecting a control clause TP but not a CP. The other affixal infinite T markers such as *-dIk* and

-AcAk were regarded as infinite T constituents having nominal features which are finally headed by a null affixal infinite C having EPP, GEN-Case and agreement features. In cosequence, from the analyses of the infinite complementiser phrases (FinP), it was understood that while English Fin is filled by an overt or null lexical complementiser (i.e. a null counterpart of the adpositional *for)* and selects infinite TPs having specifiers assigned [ACC] case by the adpositional complementiser, thus c-selectional, Fin in Turkish is affixal and m-selects infinite T constituents, thus m-selectional, which was described as a parametric variation of Fin (or infinite C) as the following:

15. Fin (Infinite C) Parameter

*i. In English, Fin is c-selectional.*

ii. In Turkish, Fin is m-selectional.

Accordingly, while C in English infinite complement clauses has pronominal or DP complements being the specifier of the following licensed infinite TP, Turkish infinite C attracts the lower infinite T from T to C and its specifier from spec-T to spec-C as the specifier of CP in genitive case, resulting in the following M-diagram:
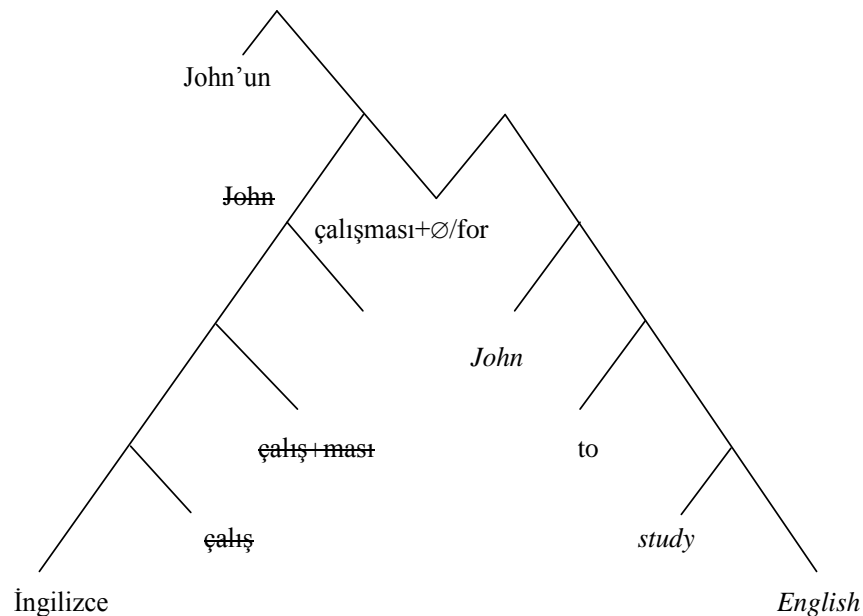
In the derivation of these infinite CPs, head parameter, grammatical features such as EPP and genitive-Case assignment and null affixal head appear as the parametric variations between the two languages.
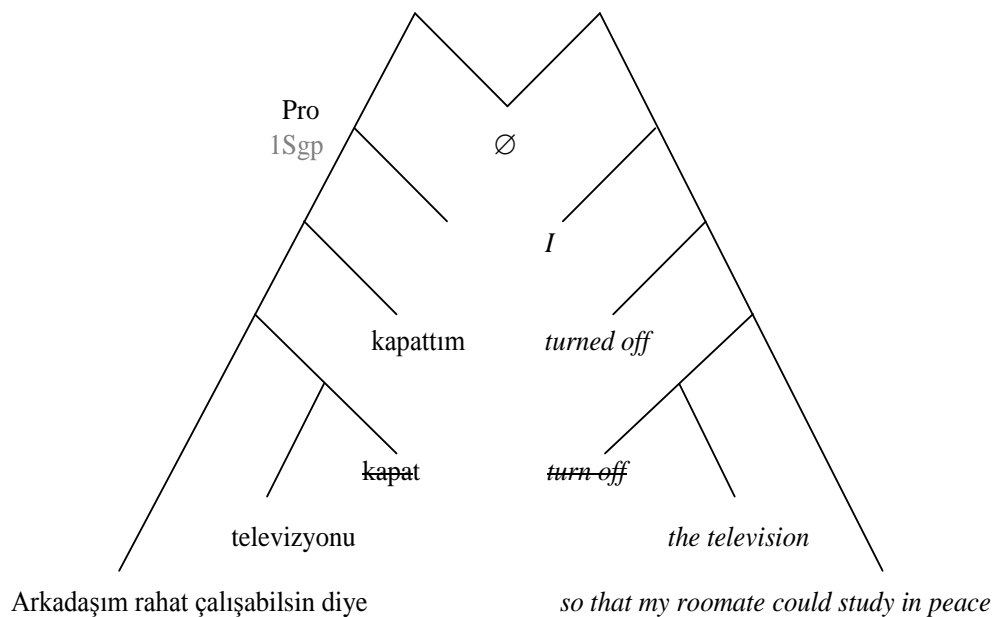
For the analyses of relative clauses, we found that they are finite CPs headed by a null complementiser having [WH] and [EPP] features and the highest specifier positions (i.e. the spec-Force) of which are filled by relative operators, thus projecting relative pronouns as the spec-CP in English, while they are infinite CPs which are headed by a null affixal genitive case assigning complementiser as in the case of infinite complement clauses containing affixal infinite T constituents *-dIk* and *-AcAk* in Turkish. It was also found that when the noun to which the embedding clause is adjoined is the subject of the verb (i.e. for the wh-subject relative clauses), the nominalizer affix (i.e. participle) (e.g. *-(y)An, -AcAk, -mIş*) is operated in Turkish rather than a CP derivation since this affixal marker does not carry tense, person and number features as other infinite T constituents do. We analyzed these structures containing participles as nominalizer phrases (NomPs) which function as adjuncts (i.e. adjectives or adverbs) in the syntax of both languages. Accordingly, it was found that while English operates not only finite CPs in relative force thanks to [WH] feature of null C position but also NomPs (i.e. *-ing* or *-ed*) modifying nouns, Turkish only operates NomPs as modifying phrases, resulting in the following M-diagram below:
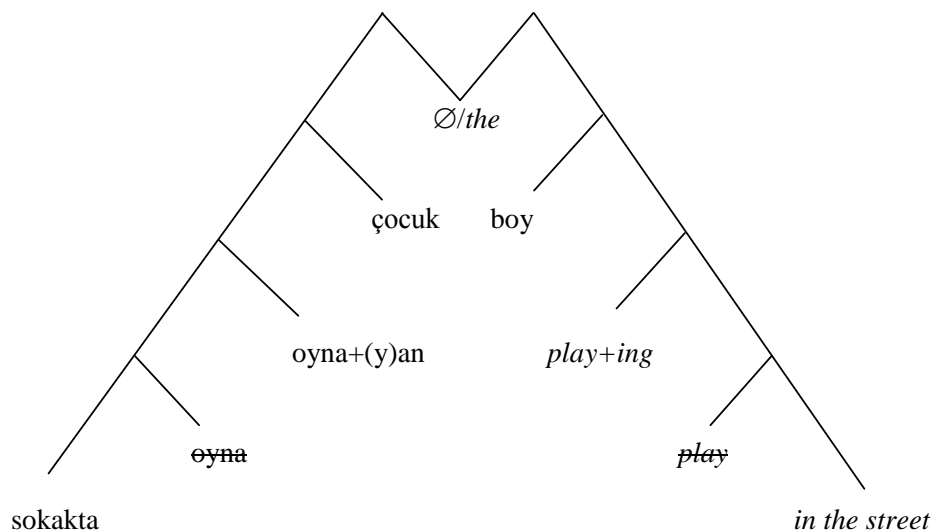
In the derivation of these non-finite structures, head parameter and null or non-null D parameter appear as the parametric variations between the two languages.

As for the adjunct clauses, we analyzed them as subordinate clauses (CPs) adjoined to verbs to form VPs. These clauses were also taken as finite CPs headed by a complementiser in both languages. While C in English adjunct CPs are filled by subordinators such as *because, although, when, while, for, if, since, after, before* etc, in Turkish, they were observed in a very limited number (e.g. mI, ki, gibi, diye), resulting in the following M-diagram:

Pro
1Sgp
∅
I
kapattım
turned off
~~kapat~~
~~turn off~~
televizyonu
the television
Arkadaşım rahat çalışabilsin diye
so that my roomate could study in peace

In the external derivation of these finite CPs, head parameter appears as the only parametric variation between the two languages.

In terms of infinite adjunct structures, we found that Turkish has a wide range of subordinating affixes such as *-ArAk, -(y)Ip, -ken* and *-IncA* etc, denoting time, cause, comparison and manner etc, corresponding to present and past participles (i.e. *-ing* and *-ed*) used as adverbs in English. For these structures in Turkish, we suggested a NomP analysis as in the case of NomPs modifying nouns because they lack person and number agreement features. We analyzed these structures as non-finite T constituents, forming a TP which is headed by a nominalizer head to form NomPs, as in the case of other nominalised structures such as gerunds and participles

used as adjectives since they do not have agreement features, resulting in the following M-diagram:
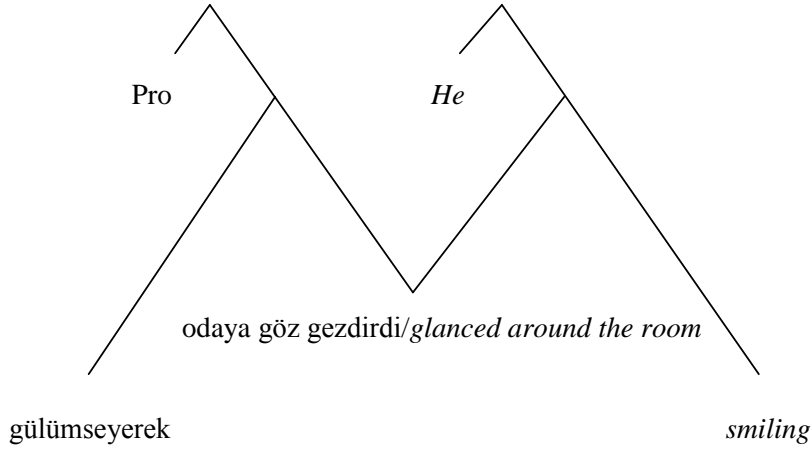
In the derivation of these non-finite structures, head parameter and null or non-null Pro parameter appear as the parametric variations between the two languages.

Accordingly, through the NomP analysis in our study, we described non-finite gerundive, adjectival and adverbial structures as NomPs whose internal structures function as verbs having DP or PP complements or adverbial adjuncts in both languages but whose external structures of these verbs function as nouns, adverbs or adjectives. Taking their PRO features into consideration (e.g. o gelince/when pro coming), we also wondered whether these structures can be analyzed as infinite CP structures or not. However, we left this assumption as an unsolved problem, suggesting it for further studies.

In this study, we analyzed English (as a target language) and Turkish (as a reference language) grammatical structures through the 'universal principles' based on minimalist suggestions (i.e. the MP) and tried to identify parametric variations accordingly. Target grammatical structures in English were introduced, compared and contrasted with their Turkish counterparts with reasonable justifications, based on linguistic theories such as the Minimalist Program and Principles and Parameters Theory (or GB). Although the primary aim of our study is to analyze phrase structures to identify parametric variations between English and Turkish languages,

'grammatical learning' may be regarded as the secondary aim of our study since we are not only interested in the unconscious knowledge (i.e. principles) of the derivational rules in English and Turkish grammatical structures, but also the parametric variations between these languages. Starting from Chomsky's notion that "what we know innately are the core grammar principles and the parameters associated with them but what we have to learn are the values of the parameters"[1], we tried to reveal the values of parameters in English and Turkish grammar. Assuming that learning a new language is similar to first language acquisition in that "FL learner already has language background (as in the case of UG when learning first language) interfering with his successive language experiences,"[2] we associated learning foreign language grammar with the UG which is assumed to be manifested in L1. These ideas as well as discussions on accessibility to UG (i.e. partial access view) during second language acquisition as we discussed in the theoretical part of the study (see 3.2.4) led us to the assumption that the UG concepts such as 'grammatical learning' and 'lexical learning' defined for first language acquisition can also be viable for learning English as a foreign language, marking all parametric variations and language particular grammatical features as 'grammatical learning' and the rest as 'lexical learning'. Therefore, through analyzing English and Turkish grammatical structures and determining parametric variations between these languages, one being the target language (i.e. English) and the other reference language, we outlined the parametric variations in order to identify what is to be 'lexically learned' and what is to be 'taught' by a learner who has competence in Turkish grammar (i.e. native speaker).

As a consequence, we arrived at a conclusion revealing the extent of grammatical and lexical learning in English grammar (limited to the grammatical structures which we analyzed) for a Turkish speaking learner, or what is left behind as 'English' grammar after extracting universal principles and common parameters and indeed common grammatical features operated in both languages. Accordingly,

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[1] Noam Chomsky, *Principles and parameters in syntactic theory,* London,1981b, p.118.
[2] Bley-Vroman, "The logical problem of second language learning" in Cook and Newson, *Chomsky's Universal Grammar*, op. cit., p.53.

grammar of English for a Turkish speaking learner covers the following grammatical learning, ignoring the universal principles and common parameters and extracting them from what is known as the 'grammar of English'. It should also be noted that parameters are also explained by simple prescriptive rules given in parentheses:

- *English is a 'head-first' language (Always take the head first)*
- *D has c-selectional properties (Use lexical Ds to express definiteness)*
- *D is overt or null non-affixal (No AGR and no overt structural case at nouns)*
- *Pronominal possessors are not allowed to be dropped (Do not drop possessors)*
- *Prepositions are non-affixal (Use Ps to express spatial and temporal cases)*
- *Prepositions in English have interpretable [ACC-Case] feature (Use ACC pronouns when you merge them with adpositons)*
- *T has a weak affixal feature (No overt AGR at verbs; Insert do if there is something between a verb and the T or over the T)*
- *Null-Subject (Pro) is not allowed (Do not drop pronominal subjects)*
- *Affixal PASS is nominal (i.e. [+N]) (Insert be)*
- *Modal Aux is free (Use Mod Aux in all persons)*
- *Neg is free (use overt neg particle both for verbals and nominals)*
- *In interrogative main clauses, C is null (No Que particle)*
- *C carries a [WH] feature (Take the Wh- first if it is not a declarative main clause)*
- *Interrogative C attracts T (Use T instead of Que)*
- *Fin is c-selectional (Use bare verbs in non-finite clauses)*

According to these results, we suggest that 'grammatical learning of English' for a Turkish learner is limited to those parametric variations listed above for the structures analyzed in scope of this study, whereas the rest requires 'lexical learning' like looking up in a dictionary. Furthermore, identifying what is to be 'lexically learned' and what is to be 'taught', a grammar syllabus appropriate for Turkish speaking English learners will be able to set, giving priority to the introduction of the structures derived by language universals, or universal principles, and rising

awareness for language particular parameters and grammatical features requiring 'grammatical learning' and avoiding unnecessary grammatical explanations for the universal properties which are already accessible, regarding the rest as 'lexical learning'. And based on the results in the study, we also hypothesize that learning English grammar will be simpler and easier for Turkish speaking learners if it is introduced in a way by which they can achieve accessibility to UG, which requires further methodological research.

CONCLUSION

This theoretical study titled 'A Minimalist Approach to Analyzing Phrase Structures Through Universal Principles and Parameters to Identify Parametric Variations Between English and Turkish Languages' focuses on the universal principles and language particular parameters in Turkish and English grammatical knowledge within the terms of Universal Grammar. Since the universal principles and parametric variations between the two languages were analyzed and set based on the Minimalist Program, a particular version of the Principles and Parameters Theory under the concept of Universal Grammar, requiring the representation of necessary components of sound and meaning but abolishing superfluous elements in order to represent languages more universally but simpler, this study has a minimalist approach to linguistic analysis.

In this study, we aimed to analyze the grammatical phrase structures in terms of universal principles and accordingly to find out parametric variations in Turkish and English languages and identify English Grammar for a Turkish speaking English learner in terms of grammatical and lexical learning. Referring to this purpose, we looked for the answers to the questions such as to what extent it is possible to observe universal principles, common parameters and language particular parameters between Turkish and English languages within the context of the Universal Grammar, what the parametric variations and common parameters are between these languages, based on the parametric variations identified in the study, to what extent English grammar requires grammatical or lexical learning with reference to Turkish grammar, whether we can describe derivations in phrasal and clausal structures in English and Turkish languages comparatively and contrastively through Principles and Parameters Theory and the Minimalist Program, whether we can explain certain problematic structures which cannot be solved through traditional grammar approaches in both languages through the Minimalist Program.

In order to find answers to the questions outlined in our dissertation, we used qualitative and descriptive research tools to analyze Turkish and English grammatical structures. Content analysis, exemplification, sample sentence analyses

through labelled tree diagrams, the unlabelled cross-lingual M-diagram and tables were applied as data analysis techniques. In order to increase reliability and validity of the target structures to be analyzed in both languages, we referred to grammar reference books in both languages. Since traditional grammar modules may vary from one language to another and may have a special terminology describing its language particular properties, we particularly refer to the Turkish grammar studies written in English, using almost the same terminology. Sample phrasal and clausal structures in both languages were analyzed under the terms of the Minimalist Program. Initially, we introduced ideas on grammar in three sections. In the first section, we introduced traditional views on grammar. Then, we introduced Universal Grammar with its historical developmental stages including 'Transformational and Generative Grammar', 'Standard Theory', the 'Extended Standard Theory', 'Government and Binding Model', 'Principles and Parameters Theory' and the 'Minimalist Program' successively. In these sections, the concepts such as principles, parameters, parametric variations and grammatical learning, constituting the fundamental terminology of our study were explained. Then, we introduced target grammatical categories of words which are overtly take part in English phrase structures. These grammatical categories were introduced and described with their semantic and morphological properties in English grammar. Doing so, we analyzed them in two distinct groups; lexical and functional categories. For the second part of the analyses, we analyzed phrasal structures in both languages comparatively. For these analyses, we used traditional labelled tree diagrams in order to illustrate analysis of derivations in either language. We also made use of an unlabelled bilingual M-diagram in order to illustrate comparative bilingual analyses particularly for the languages having contrasting head parameters. Through this diagram, we intended to lay out parametric variations between two languages cross-linguistically. The findings obtained from the linguistic analyses were also illustrated through M-diagrams. Finally, we analyzed clausal structures. For these comparative analyses, we analyzed finite and infinite subordinate clauses in terms of their internal and external structures in both languages.

In this study, we reported some interesting and significant linguistic results such as feature checking relations between nouns, determiners and specifiers which explains person and number agreement and genitive case morphology in Turkish, representation of inherent case paradigms as adpositional P constituents in Turkish, AspP, AuxP, PASSP and NegP analyses explaining aspect, modality, passivization and negation in multi layered TP derivations in both languages, C analysis in declarative and interrogative main clauses explaining the difference between in situ and inverted questions in both languages, nominalizer phrase (NomP) analysis for participles having gerundive, adjectival and adverbial functions in both languages, infinite CP analysis in Turkish, which may help to explain some problematic structures in cross-linguistic studies. We also wondered whether participles analyzed as NomPs can be analyzed as infinite CP structures, but we left it unsolved as a problem, which we could not explain in the study. As a consequence of these analyses, we found out 15 parametric variations, including Head Parameter, D Parameter (I, II), Null-Possessor PRO Parameter, P Parameter (I, II), T Parameter, Null-Subject Parameter, PASS Parameter, Modal Aux Parameter, Neg Parameter, C Parameter (I, II, III) and Fin (Infinite C) Parameter, which, we think, are responsible for the derivational differences in English and Turkish grammars limited to the structures we analyzed in this study. Next, relying on the ideas of accessibility to UG and discussions of initial state for L2, particularly being proponents of the partial access view, we also interpreted the parametric variations in terms of their implications for grammatical and lexical learning. The findings obtained from the comprehensive data which were analyzed in terms of universal principles and parameters under the conditions of the Minimalist Program were revised and reduced to simple prescriptive statements in terms of grammatical and lexical learning of English in reference to Turkish grammar. Therefore, from these results, we also concluded that what are to be grammatically learned in English Grammar (limited to the structures we analyzed) for a Turkish speaking learner are those parametric variations we found out in the study.

As for the limitations of this study which aims to analyze English and Turkish grammatical structures in terms of universal principles and identify parametric

variations accordingly to benefit from Turkish grammatical competence in explaining English grammar, we can say that this study is limited to analyzing universal principles and parametric variations only between Turkish and English languages. Therefore, the parameters set in this study are only binding on these languages but they may not be on others. In addition, grammatical structures to be analyzed in the study are limited to the basic phrase structure modules headed by overt lexical categories (i.e. nouns, verbs, adjectives, adverbs and adpositions) in English and their related functional categories (i.e. determiners, pronouns, auxiliaries, infinitival to and complementisers). Therefore, the study may not involve every grammatical item or feature described in traditional grammar modules in both languages. In addition, the UG principles are also limited to the fundamental principles suggested or revised by the MP which we described in the theoretical framework of the study. Therefore, the study may not involve every universal principle described in UG modules. Finally, Turkish grammar contents used in analyzing universal principles and parametric variations in this study are limited to the English structures described above. Therefore, the study may not also involve every grammatical item or feature of Turkish grammar.

As a consequence, in terms of the initial targets in the study, we analyzed phrasal and clausal structures in terms of universal principles and identified parametric variations between English and Turkish languages and introduced to what extent English grammar involves grammatical and lexical learning for a Turkish speaking English learner. We found out from the results of the study that we can describe 15 parametric variations requiring grammatical learning in English grammar on the basis of Turkish grammatical knowledge. We also set and described the parametric variations and common parameters severally for almost each phrasal structure limited to the phrase structures we analyzed. Analyses of some structures such as case paradigms and non-finite relative and adverbial clauses were found problematic. For these structures, we either followed one of the suggestions reviewed, proposed an alternative analysis considering the fundamental linguistic theories or left as an unsolved problem for further studies. It was also found out that to a large extent, we could describe English grammar in terms of parametric

variations, common parameters and universal principles between English and Turkish languages through minimalist suggestions under the terms of the MP.

In conclusion, considering the implications for grammatical learning, we think that the problem in foreign language learning in Turkey partly lies in here. Current foreign language teaching methods and materials designed accordingly regard foreign language grammatical knowledge as the Big-Bang and introduce it as an absolute zero process without considering L1 competence. Respected English course books prepared for Turkish foreign language learners do not have any space for the tasks which reveal the parametric variations of the target and the native languages. Therefore, a language teaching syllabus based on a hierarchy of difficulty, giving priority to language particular parameters for grammatical learning, rising awareness for the language universals and common parameters but avoiding unnecessary grammatical explanations for these universal and common properties which are already accessible and regarding the rest as lexical learning, may be a good solution. In other words, what we suggest is to present the target grammar communicatively but in an appropriate order, beginning from the construction of similar structures in both languages only involving lexical learning. The parametric variations and grammatical features should be introduced as to the requirements of the bottom-up merging constructions which designate the natural order of grammar acquisition. Of course, designing such an English syllabus for every nation would be a difficult and expensive job for the publishers, requiring extensive research and time. Therefore, this dissertation is important not only for the language practitioners and the Board of Education and Discipline of the Ministry of National Education but also for the syllabus designers and publication houses since it may help them to design a Turkish competence based syllabus, revealing the parametric variations between English and Turkish languages.

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GLOSSARY

A

A:	Adjective
ABL/Ablative:	An adpositional case paradigm denoting source.
ACC:	Accusative case
Acquisition:	The process by which people acquire their first language
Adjective:	A category of word which often denotes state (e.g. happy, sad etc)
Adjunct:	It is used to denote an optional constituent used to specify time, place or manner. In another use, it is used to denote a constituent which has been attached to another.
Adjunction (or adjoin):	This is a process by which one constituent is adjoined to another to form a larger constituent.
Adj/Adjunctor:	Subordinators for Adverbial clauses.
Adposition:	A cover term used for preposition (e.g. for you) and postposition (e.g. senin için).
ADV/Adverb:	This is a category of word which typically indicates manner (e.g. slowly) or degree (e.g. too, very).
Affix/Affixal:	This term is typically used to describe a grammatical morpheme which cannot stand on its own as an independent word, but which must be attached to a host word.
AGENT:	This is used to describe the semantic (or thematic) role by which a particular type of argument plays in a given sentence. This role in particular denotes a person who deliberately causes some state of affairs.
AGR/Agreement:	An operation by which the person/number features of the T constituent undergo checking with the subject (i.e. getting assigned the same person and number values as those of its subject).
A-movement:	Movement from one argument position to another.
A-position:	A position which can be occupied by an argument.
Antecedent:	An expression which is referred to by a pronoun.

AP/Adjective phrase:	A phrase headed by an adjective.
Argument:	It is a term used to describe the role played by particular types of expressions in the semantic structure of sentences. Complements are also referred as **internal arguments** and subjects as **external arguments.**
Article:	A term used in traditional grammar to describe a particular subclass of determiners (i.e. a/n, the). *A/n* is traditionally called the **indefinite article**, while *the* is called the **definite article**.
Asp/AspP:	Aspect/Aspect Phrase.
Aspect:	A term typically used to denote the duration of the activity described by a verb (e.g. progressive, perfect, prospective etc).
Aspectual Auxiliaries:	Auxiliaries which mark aspect (e.g. be, have).
Attract:	'A head X attracts a constituent Y' means that 'X triggers movement of Y from its original position to a higher position on the edge of XP'.
AUX/Auxiliary:	A term used to categorise items such as will/would/can/could/may/ might/must/shall/should etc.
AUXP/Auxiliary Phrase:	A phrase headed by an auxiliary.
AxPrt/Axial Part:	It is a term used to describe nominal parts in secondary adpositions (i.e. in *front* of).

B

-bar:	When used with category labels such as 'T-bar', it denotes an intermediate projection which is larger than a word but smaller than a phrase.
Bare:	without any suffixation, particle, determiner etc
Binarity Principle:	A principle of Universal grammar specifying that all non-terminal nodes in syntactic structures are binary-branching.
Binary:	In a two-way.
Binary-branching:	A tree diagram in which every non-terminal node has two daughter constituents.
Bind/Binding:	'X binds Y' means that X determines properties of Y.
Bottom-up:	'A syntactic structure is derived in a bottom-up fashion' means that the structure is built up from bottom to up, or from lower parts of the structure to higher parts.

Bound:	In parametric variations, it means 'a constituent which cannot stand alone'. In UG principles, it means 'a constituent which has a binder (i.e. antecedent)'.
Bracketing:	A technique for representing the categorial status of an expression through square brackets (e.g. [PRE-Tns]).

C

C/Complementiser:	A particular category of clause-introducing word such as *that/for* etc.
Canonical:	It means 'usual', 'typical' or 'normal'.
Case:	Different forms of a pronoun, which is determined by the position the pronoun has in different sentences (e.g. he, him, his etc).
Category:	A term used to denote a set of expressions which share a common set of linguistic properties (or, in traditional grammar, 'parts of speech') (e.g. noun, verb, adjective etc).
CAU/Causal:	An adpositional case paradigm denoting 'cause' (or 'for the sake of').
Causative verb:	A verb which has the sense of 'cause', i.e. 'to be cause of the successive action done by s.b. else' (e.g. make s.b. do sth).
C-command:	A structural relation between two constituents. 'X c-commands Y' means 'X is no lower than Y, or X is higher up in the structure than Y'.
Clause:	A clause is an expression which contains at least a subject and a predicate (and selectional complements and/or adjuncts).
Closest:	In structures, if X attracts Y, this means, it attracts the closest constituent in accordance with the **Attract Closest Principle** of UG.
COMP/Comparative:	An adpositional case paradigm, denoting comparison.
Comparative:	The comparative form of an adjective (e.g. tall-er).
Competence:	A term used to represent native speaker's knowledge of the grammar of his/her native language.
Complement:	It is an expression which is directly merged with a head word.
Conj/Conjunction:	A word which is used to join two or more expressions

together (e.g. and, or etc).

Constituent:	An expression which is one of the components out of which a phrase is derived.
Constraint:	A structural restriction which blocks the application of some process in a particular type of structure.
Content:	1. **Semantic content**: meaning of a word,
	2. **Phonetic Content**: phonetic form of a word.
Control (clause):	**N**on-finite clauses with a PRO subject which has an antecedent. The antecedent is the controller of PRO.
Copula/Copular verb:	A linking verb used to link a subject with a non-verbal predicate.
Copy/copying/Copy theory of Movement:	An operation in the MP by which a moved constituent leaves behind a trace (or copy) of itself when it moves with having its phonetic features deleted and so being null (i.e. ~~copy~~).
Co-referential:	Two expressions are co-referential if they refer to the same entity.
CP/Complementiser Phrase:	A phrase headed by a complementiser.
Crash:	A derivation issaid to crash (or fail) if one or more features carried by one or more constituents is illegible at either or both of the interface levels (i.e. at PF or LF).
Cyclic:	Syntactic operations are said to apply in a cyclic fashion, which means a head X is merged with one or more other constituents in a new cycle of operations.
D	
D:	**T** the category of determiner.
DAT:	Dative case
Declarative:	A term used as a classification of the Force (i.e. a CP level) of a clause which denotes 'statement'.
Definite/+Def:	An expression which is assumed to be known to the addressee, containing determiners like *the/that/this*.
Definiteness:	Whether an expression is definite or indefinite.

DEG/Degree:	A degree word (or head) modifying adjectives or adverbs (e.g. too/very).
Dem/Demonstrator:	Words like *this/that/these/those* which indicate a location relatively nearer to or further from the speaker.
Derivation:	A set of syntactic operations used to form the relevant structure.
Derivational morphology:	Suffixes which deal with the ways in which one type of word can be formed from another.
Derive:	'to derive' a structure means 'to form a structure with specific operations'.
Derived Structure:	A structure which is produced by a series of syntactic operations
Det/Determiner:	A word used to modify a noun (e.g. the/this/that).
DIR/Directive:	An adpositional case paradigm denoting direction.
DP/Determiner Phrase:	A phrase in which a noun is headed by a determiner (e.g. *the book*).
Do-support:	This refers to the requirement for the meaningless auxiliary DO to be used to form questions, negatives or tags in sentences which would otherwise contain no auxiliary.
DP Hypothesis:	The hypothesis suggesting that all nominal arguments have the status of DPs.
E	
Earliness Principle:	A universal principle suggesting that linguistic operations must apply in a derivation as early as possible.
Economy:	A fundamental minimalist approach, requiring that all other things being equal, syntactic representations should contain as few constituents as possible.
Ellipsis/elliptical:	It is a process by which an expression is omitted in order to avoid repetition.
ELA/Elative:	An adpositional case paradigm denoting 'from interior'.
Embedded Clause:	A clause which is positioned internally within another constituent

Empty:	'A constituent is empty (or null)' means 'it is silentwith no overt phonetic form.
EPP/Extended Projection Principle:	This is originally (i.e. in UG) an abbreviation for the 'Extended Projection Principle' suggesting that every T constituent must be extended into a TP projection which has a specifier. In the MP, it is also used as a grammatical feature **[EPP]** of any grammatical category which requires projecting a specifier.
EXPERIENCER:	A thematic role to denote the external subject argument which experiences some emotional or cognitive state.
Expletive:	A dummy constituent with no inherent semantic content (e.g. it/there as subjects).
F	
F:	An abstract functional head.
Feature:	A term which is used to describe a particular grammatical property.
Filled:	For a given position in the syntax, it means the position is not empty or it is occupied by an overt constituent of an appropriate kind.
Fin/Finite/FinP:	The term **finite verb** denotes a verb having valued tense, person and number features. The term **finite clause** denotes a clause containing a finite verb. And an **infinite clause** headed by an infinite complementiser in split CP projections is called a **FinP**.
Foc/Focus/FocP:	A position in a sentence occupied by a constituent which is highlighted in some way in order to mark new information. It is assumed to be a split CP projection headed by an abstract focus head.
Function:	Expressions such as subject, specifier, complement, object, head and adjunct are said to denote grammatical functions.
Functional Category:	A word which has no descriptive or lexical content but grammatical function.
G	
GEN:	Genitive case.
Generate/Generative:	The syntactic component of a grammar specifying how

to form a set of syntactic structures.

Gerund: Verb forms ending in *–ing* when they are used as subjects or complements of verbs or adpositions.

GOAL: A thematic role to denote the entity towards which something moves.

Grammar: In traditional terms, it is includes morphology and syntax of a given language. In UG, a grammar of a language is a computational system which derives Phonetic and Logical Form of expressions.

Grammatical: An expression is **grammatical** if it contains no morphological or syntactic error, and **ungrammatical** if it contains one or more morphological or syntactic errors.

Grammatical Competence: It is the cognitive state that encompasses all those aspects of form and meaning and their relation, including underlying structures that enter into that relation, which are properly assigned to the specific subsystem of the human mind that relates representations of form and meaning.

Grammatical Features: Features which play a role in grammatical operations.

Grammatical Learning: In UG, it is described as the level of the act of acquiring knowledge of any language, requiring the learner to learn about the grammar of sentences.

H

Head: The head of a phrase is the key word which determines the properties of the phrase.

Headedness Principle: A universal principle specifying that every constituent must be headed.

Head-first/last: A head-first structure is one in which the head of a phrase is positioned before its complement, while a head-last structure is the one in which the head of a phrase is positioned after its complement.

Head movement: Movement of a word from one head position to another.

Head Movement Constraint/HMC: A universal principle which specifies that head movement is only possible between the head of a given structure and the head of its complement.

Head Parameter: It determines whether a language is head-first or head-last language.

Head-strength It determines whether a given kind of head is strong

Parameter:	enough or too weak to trigger movement of a lower head to attach to it.
Host:	A expression to which a clitic or affix attaches.

I

I/INFL:	A category whose members include finite auxiliaries.
Inflection/Inflectional:	An **inflection** is an affix which marks grammatical properties such as number, person, tense, or case. **Inflectional** means having these features with appropriate affixes or in appropriate forms.
Inherent Case:	Cases assigned in the syntax by thematic roles.
In situ:	Remaining in its original place in the syntax
INS/Instrumental:	An adpositional case paradigm denoting 'by means'.
Interface Levels:	Phonetic Form (Speech system) and Logical Form (Thought system)
Intermediate projection:	A structure which is larger than a word but smaller than a phrase
Interpretable:	If a feature is interpretable, this means that it has semantic content.
Interrogative:	A clause or sentence which asks a question.
Inversion/inverted:	A movement process by which the relative order of two expressions is reversed.
Irrealis:	An infinite hypothetical event which has not yet happened and may never happen.

K

K:	Case particle

L

L1:	First language, native language, mother tongue
L2:	Second language/Foreign language
Label:	A notational device used to represent linguistic properties of constituents (e.g. N of Noun, D of Determiner etc).
Labelled:	With labels
Language Faculty:	Human beings have this algorithm for acquiring the grammar of their native language.
Language Particulars:	Linguistic characteristics of a particular language, which are to be learnt as part of the task of acquiring

native language.

Lexical/Lexicon:	**Lexicon** is the list of all the words in a language. A **lexical item** is a word. **Lexical entry** is the entry in the dictionary for a particular word.
Lexical category:	It is a category whose members are items with descriptive content.
Lexical learning:	It is the level of the act of acquiring knowledge of any language, requiring the learner to learn nothing about the grammar but lexical items/words
LF/Logical Form:	It is the semantic component which converts the syntactic structures produced by merger and movement operations.
Light verb:	This term is used to denote an abstract affixal verb to which a noun, adjective or adverb adjoins in VP-Shells.
LOCATIVE:	A thematic function which denotes place.
LOC/Locative:	An adpositional case paradigm denoting location.
M	
M-diagram:	A form of cross-lingual graph used to represent the syntactic structure of a phrase or sentence comparatively and contrastively in two different languages having different head parameters.
Main Clause:	Root or independent clause.
Maximal Projection:	It is a constituent which is not contained within any larger constituent with the same head.
Merge/Merger:	An operation by which two constituents are combined together to form a single larger constituent.
Minimalism/Minimalist Program:	A theory of grammar developed by Chomsky, suggesting that grammars are minimally complex, perfect systems of optimal design.
Minimal Projection:	It is a constituent which is not a projection of some other constituent (i.e. heads of phrases are minimal projections).
Modal/Modality:	A modal auxiliary is an auxiliary which expresses modality (i.e. notions such as possibility, necessity, advisability, certainty etc).
Modifier/Modify:	Items which attributes some property to verbs or nouns.
Module:	An individual component of a larger system.
Morpheme:	The smallest unit of a grammatical structure.

Morphology/Morphological:	Study of morphemes. Morphological properties are properties relating to the form of words (inflections, affixes or suffixes etc).
N	
n:	light noun in split nP analysis
N/Noun:	A category of word which typically denotes an entity of some kind.
Natural Language:	A language acquired in a natural setting.
NEG:	The head constituent of a negation phrase (NEGP).
Negation:	An operation or construction in which some proposition is said to be false. Negation involves negative items or adverbs.
Node:	A term used to denote each point in a tree diagram which carries a category label.
Nom:	The head constituent (**Nominalizer**) of a nominalizer phrase (**NomP**).
NOM:	An abbreviation for nominative case.
Nominal:	It is an adjective associated with the word noun. A nominal expression is an expression containing a noun.
Nominalization:	It is a process by which some other type of expression is converted into a nominal expression.
Non-finite:	An expression having no finite or infinite tense feature.
Noun Phrase/NP:	A phrase whose head is a noun.
Null:	A null constituent is one which is silent or unpronounced or so has no overt phonetic form.
Null-Subject Parameter:	A parameter whose setting determines whether a language allows a subject (**Null subject)** which has grammatical and semantic properties but no overt phonetic form.
Num:	An abbreviation for the feature number. It is also a category label denoting a particular head which is assumed to be the locus of number properties. A phrase headed by a **Num** constituent is labeled 'number phrase' (**NumP**).
Number:	A grammatical feature to denote the contrast between singular and plural forms.
O	

Object:	The complement of a transitive item.
One-place predicate:	A predicate which has only one argument.
Operator:	It is term in syntax denoting interrogative or negative expressions which have syntactic properties that trigger auxiliary inversion.
Overt:	An overt expression has a non-null phonetic form.
P	
Parameter:	grammatical variation within and across languages.
Parameter setting:	Originally in UG, it is the process by which children determine which setting of a parameter is appropriate for the native language. However, in this study, we use it as determining the appropriate value of a parameter in a given language.
Parametric variations:	The differences in the language particular parameters between languages.
Participle:	A non-finite verb form which encodes aspect or voice.
Particle:	A term used to describe a range of items which are invariable in form.
PASS/Passivisation:	A movement operation whereby an expression which is the thematic complement of a verb becomes the subject of the same clause.
Past/PAST:	Past tense.
PATIENT:	A thematic role denoting an entry which suffers the consequences of some action.
Per/Person:	A grammatical feature describing one of the three grammatical persons (first, second or third).
PER:	Perfect Aspect
Perfect:	An aspect of verb which denotes actions happening before or until a specified time.
PF/Phonetic Form:	Phonetic component of a grammar is the morphological and phonological operations at Phonetic representation.
Phrase:	the term phrase is used to denote an expression larger than a word which is a maximal projection.
Pl/Plural:	A number feature which denotes more than one entity.
POSS/Possessive:	It is an adpositional case paradigm denoting possession.
Possessor:	A type of determiner denoting possession (i.e. adjectives).

Postposition:	A type of word which is the counterpart of a preposition in head-last languages.
PP/Prepositional/ Postpositional Phrase:	A phrase whose head is a preposition/postposition.
PRE:	Present Tense.
Precede:	positioning to its left
Predicate:	It is the expression which describes the activity in which internal and external arguments are engaged.
Predicate Internal Argument Hypothesis:	It is the hypothesis that all arguments of a predicate originate within a projection of the predicate.
Predicate Internal Subject/ Hypothesis/PISH:	It is he hypothesis that subjects originate internally within a VP/vP.
Prefix:	An affix which is attached to the front of the words.
Preposition:	A preposition is a word generally used to express location, manner (at, in,on under, to, for etc).
Principles/Principles of Universal Grammar/ UG Principles:	They describe potentially universal properties of natural language grammars.
Principles and Parameters Theory/ P&P Theory:	This theory developed by Chomsky (1981) suggests that natural language grammars incorporate not only a set of innate universal principles which account for those aspects of grammar which are common to all languages, but also asset of parameters which account for those aspects of grammar which vary from one language to another.
PRN:	Pronoun
PRO:	A null-case pronoun known as 'big PRO' which represents the understood subject of an infinite complement of a control predicate.
Pro:	A nominative-case pronoun known as 'little PRO' which represents the understood null subject of a finite clause in a null subject language.
PROG:	Progressive aspect
Projection:	A projection is a constituent containing a head word.
Pronoun:	It is a word used in place of a noun expression.
PROS/Prospective:	Future aspect.

Q

Q/Quantifier:	It is a special type of determiner used to denote quantity.
QP/Quantifier phrase:	A phrase whose head is a quantifier.
Que:	An abbreviation for question operator.
Que-particle/operator:	An overt or null interrogative operator in the analysis of yes-no questions.

R

Raising:	It denotes any movement operation which involves moving a constituent from a lower to a higher position**.**
Reference/referential:	The reference of an expression is the entity in the external world to which it refers.
Representation:	A syntactic representation is a notation (typically a tree diagram or labeled bracketing) used to represent the syntactic structure of an expression.

S

Selection(al):	When a word has a particular type of complement, it selects the relevant type of complement.
Sentence:	It is usually used to denote a root clause.
Sg/Singular:	A single entity in number feature.
Shell:	This term is used in connection with the idea that verb phrases comprise two different projections an outer **vP shell** headed by a light verb and an inner **VP core** headed by a lexical verb.
Silent:	Null, with no phonetic representation.
SOC/Sociative:	An adpositional case paradigm denoting togetherness.
SOURCE:	A thematic role denoting an entity from which something moves.
Spec-:	Terms like spec-CP, spec-TP etc denote specifier position within a phrase
Specifier:	The grammatical function fulfilled by certain types of constituent which precede the head of their containing phrase.
Specifier-first:	A structure which has its specifier positioned in front of its head.
Spellout:	The point in a derivation at which one part of a syntactic structure is sent to the PF component and the

other to the LF component.

Split CP/NP/VP: Some phrase structures (i.e. CP, VP, NP) can be split into a number of distinct projections with outer and inner phrase structures.

Stem: The stem of a word is the form to which inflectional affixes are added.

Strong/STRONG: A **strong** head is one which can attract another head. A **weak** head is one which cannot trigger movement.

Subject: The subject of a clause is a noun (or DP) or pronoun expression which is normally positioned between a complementiser and a finite verb.

Substantive: A substantive category is a category whose members are contentives (i.e. items with descriptive content).

Successive-Cyclic Movement: Movement in a succession of short steps.

Suffix: Morpheme which attaches to the end of the word.

Superlative: It is a form of adjective/adverb used to mark the highest value for a particular property in comparison with others (e.g. the tall-est).

Syncretise/syncretised: Collapse of two or more separate heads into a single head carrying their features with no intervening constituent between them.

Syntax: the component of a grammar which determines how words are combined together to form phrases and sentences.

T

T: A tense marking constituent containing either a tensed auxiliary or a null/overt or abstract tense affix –Tns or a non-finite tense particle.

Taxonomy: It is a classification system of words into different types.

TEMP/Temporal: An adpositional case paradigm denoting points in time (e.g. at, in, on).

Tense: Finite verbs in English and Turkish show a binary tense contrast: **present** and **past** tense forms.

Tensed: A tensed verb form is one which carries present or past tense features.

Terminal node: A node at the bottom of a tree.

TER/Terminative:	An adpositional case paradigm denoting temporal termination.
Ternary:	Three-way. A ternary-branching constituent is one which has three daughters.
Thematic:	On the thematic hierarchy which specifies where an argument carrying a given should be merged.
THEME:	A thematic role (also termed **PATIENT**) representing the entity undergoing effect of some action.
Theta-Criterion:	A principle of UG which specifies that each argument should bear one and only one theta role to a single predicate.
Theta-role/Ө-role:	The semantic role played by an argument in relation to its predicate (e.g. AGENT, THEME, GOAL etc).
Three-Place Predicate:	A predicate which takes three arguments (e.g. *He* gave *me a pencil*).
Tns:	Tense feature (i.e. PRE-Tns/PAST-Tns).
Top/Topic/TopP:	An expression which represents old or familiar information is called a **topic**. In split CP projections, topic expressions are assumed to be contained within a Topic phrase (**TopP**) projection headed by an abstract **Top** constituent.
TP:	Tense phrase headed by a tense marked auxiliary or an overt or null tense morpheme.
Trace:	A trace of a moved constituent is a null copy left behind (as a result of movement).
Transitive:	A word which is traditionally used for a head constituent requiring noun or pronoun complement, to which it assigns accusative case. An **intransitive** head, on the other hand, is the one which has no complement, thus, not assigning accusative case to any complement.
Tree diagram:	A form of graph used to represent the syntactic structure of a phrase or sentence.
Two-place predicate:	A predicate which has two arguments (e.g. *He* broke *the door*).
U	
Uninterpretable:	A feature having no semantic content
Ungrammatical:	not grammatical, with one or more morphological or syntactical error/s.

Universal Grammar/UG:	Those aspects of grammar which are universal and which are assumed to be part of the innate knowledge which a child is born with.
Unvalued:	not assigned any grammatical value
V	
V/Verb:	A category of word which has the morphological property that it can carry a specific range of inflections and the syntactic property that it can have internal and external arguments.
v:	light verb in split vP analysis
Value:	To value a feature is to assign it a value.
Verb phrase/VP:	A phrase which is headed by a verb.
Voice:	Active or passive forms of verbs.
vP:	A phrase headed by a light verb.
W	
Weak:	A **weak** head is one which cannot trigger movement.
Wh:	It is used as a feature carried by constituents which undergo wh-movement.
Wh-word/ **Wh-expression/** **Wh-operator**:	An expression containing a wh-word, beginning with wh, and having wh-feature.

A MINIMALIST APPROACH TO ANALYZING PHRASE STRUCTURES THROUGH UNIVERSAL PRINCIPLES AND PARAMETERS TO IDENTIFY PARAMETRIC VARIATIONS BETWEEN ENGLISH AND TURKISH LANGUAGES

ABSTRACT

In this study, we analyzed English which is an Indo-European language and Turkish which is a Uralic-Altaic language in terms of universal principles and parameters outlined by the Principles and Parameters Theory revised by the Minimalist Program. In this context, we analyzed the phrasal and clausal structures in both languages comparatively and contrastively in terms of universal principles and parameters in order to identify the parametric variations between the two languages. During these analyses, it was found out that to a large extent, we could describe English and Turkish languages in terms of parametric variations, common parameters and universal principles through minimalist suggestions under the terms of the MP. Analyses of some structures such as inherent case paradigms and non-finite relative and adverbial clauses were found problematic. We identified and described the parametric variations or similarities in the derivations severally for almost each phrasal structure we analyzed. Accordingly, we described total 15 parametric variations requiring grammatical learning in English grammar on the basis of Turkish grammatical knowledge. Then, considering the ideas such as 'accessibility to UG through L1 competence' and 'initial state of L1 in learning L2', we interpreted these linguistic findings in terms of grammatical and lexical learning during foreign language learning process. As a result, we found that although these two languages are classified in different categories in terms of their origin and structure, to a large extent, English grammar involves lexical learning for a Turkish speaking English learner, except for the limited parametric variations requiring grammatical explanations. Therefore, this study is not only important for the linguists or grammarians since it introduces comparative and contrastive cross-linguistic data but also significant particularly for syllabus designers since it may help them to design a Turkish competence based English syllabus.

İNGİLİZCE VE TÜRKÇE'DEKİ DEĞİŞTİRGENSEL FARKLILIKLARI SAPTAMAK İÇİN EVRENSEL İLKELER VE DEĞİŞTİRGENLER YOLUYLA ÖBEK YAPILARIN ÇÖZÜMLENMESİNE MİNİMALİST BİR YAKLAŞIM

ÖZET

Bu çalışmada, Hint-Avrupa dil ailesi içinde yer alan İngilizce ile Ural-Altay dil ailesi içinde yer alan Türkçe ana hatları İlkeler ve Değiştirgenler Kuramı tarafından belirlenen ve daha sonra Minimalist Program ile tekrar yorumlanan evrensel ilkeler ve değiştirgenler açısından incelendi. Bu bağlamda, evrensel ilkeler ve değiştirgenler çerçevesinde, her iki dil arasındaki değiştirgensel farklılıkları tespit etmek için, bu dillerdeki öbek ve tümce yapılar karşılaştırmalı ve karşıtlamalı bir şekilde çözümlendi. Bu çözümlemeler sırasında, Türkçe ve İngilizce dilbiligisinin, 'Ortak Değiştirgenler ve Evrensel İlkeler' ve 'Minimalist Program' tarafından önerilen dilbilimsel yaklaşımlarla büyük oranda açıklanabildiği görüldü. ROL-kaynaklı içsel durumların ve zaman çekimsiz sıfat ve zarf yan tümcelerinin sözdizimsel çözümlenmesi sorunlu yapılar olarak görüldü. Tek tek çözümlenen hemen her öbek yapısı için türetimlerde değiştirgensel farklılıklar veya türetimsel benzerlikler tespit edildi. Buna göre, Türkçe dilbilgisi temel alındığında, İngilizce dilbilgisinde toplamda dibilgisel öğrenme gerektiren on beş sel farklılık tanımlandı. Daha sonra, 'birinci dil edinci vasıtasıyla Evrensel Dilbilgisine erişimin sağlanabileceği' ve 'birinci dilin ikinci dil öğreniminde başlangıç durumu olduğu' varsayımlarından hareketle, bu dilbilimsel bulgular yabancı dil öğrenimi sürecinde, dilbilgisel öğrenme ve sözcüksel öğrenme bağlamında yorumlandı. Sonuç olarak, bu iki dil kökenleri ve yapıları itibarıyla farklı dil grupları içerisinde sınıflandırılsa da, İngilizce dilbilgisinin bu dili öğrenmeye çalışan bir Türkçe konuşucu için, sınırlı sayıda dilbilgisel öğrenme gerektiren değiştirgensel farklılıklar dışında büyük oranda sözcüksel öğrenme içerdiği sonucuna varıldı. Bu nedenle, bu çalışma kaşılaştırmalı ve karşıtlamalı dilbilimsel veriler sunduğundan, sadece dilbilimciler ve dilbilgisi ile ilgilenenler için değil, Türkçe dilbilgisi edincini temel alan bir İngilizce izlencesi geliştirmeye yardımcı olabileceğinden, program geliştiriciler için de çok büyük bir önem taşımaktadır.

Anahtar Kelimeler: Minimalist Program (MP), Evrensel Dilbilgisi, İlkeler ve Değiştirgenler, Değiştirgensel Farklılıklar, Dilbilgisel Öğrenme, Sözcüksel öğrenme, İngilizce Dilbilgisi, Türkçe Dilbilgisi.

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