SUSPENDED AFFIXATION IN TURKISH

FURKAN ATMACA

BOĞAZİÇİ UNIVERSITY

2020

SUSPENDED AFFIXATION IN TURKISH

Thesis submitted to the
Institute for Graduate Studies in Social Sciences
in partial fulfillment of the requirements for the degree of

Master of Arts
in
Linguistics

by
Furkan Atmaca

Boğaziçi University
2020

Suspended Affixation in Turkish

The thesis of Furkan Atmaca

has been approved by:

Prof. Dr. Aslı Göksel _____
(Thesis Advisor)

Prof. Dr. _____

Prof. Dr. _____
(External Member)

May 2020

DECLARATION OF ORIGINALITY

I, Furkan Atmaca, certify that

- I am the sole author of this thesis and that I have fully acknowledged and documented in my thesis all sources of ideas and words, including digital resources, which have been produced or published by another person or institution;
- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

Signature: . . . . . .

Date: . . . . . .

ABSTRACT

Suspended Affixation in Turkish

”Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.”

ÖZET

Türkçede Ertelenmiş Ekler

”Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.”

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 Aim and outline of the thesis

The aim of this thesis is to explore the constraints affecting SA and how SA can relate to sentence processing. I use both theoretical and empirical devices for the inferences I draw. In Chapter 1, I introduce what is considered generally as SA in Turkish. I present some conventions I use for representing language examples, the prominent examples of SA, conjoiners in Turkish, morphological assumptions I utilize, some sentence processing approaches, and the method of statistical inference used in the study. In Chapter 2, I present the current theoretical considerations of SA in Turkish followed by SA or related phenomena in other languages. I then present different accounts for how conjunctions are represented. In Chapter 3, I present 2 exploratory experiments with 214 and 160 participants. Both try to answer to following questions respectively:

- Is SA reserved for the inflectional paradigm?
- Does the amount of SA in local environments affect processing difficulty?

In the pursuit of answering these questions I provide two experiment designs one of which is an acceptability study and the other one is a self paced reading. In Chapter 4, I present an experiment with 132 participants that tries to answer the following question:

- How can SA interact with sentence processing?

In the pursuit of answering this question I present what process is assumed to take place in SA by the structural analyses provided for it in Broadwell (2008); Kornfilt (2012); Guseva and Weisser (2017); Erschler (2018). Instead of trying to justify which analysis best represents what SA is, I take on the prediction that all the analyses would make and consequences of which for sentence processing. I present a language environment where the effects can be investigated and how the results can

be interpreted. In Chapter 5, I present some analyses for SA drawing inferences from the experiment results and the theoretical outlines. I present analyses for the suffixes *ile/=lA* and *-(y)Ip*. In Chapter 6, I give my conclusions and the further points that can be pursued for the study of SA. I provide what were my expectations and the workflow I had during the process of writing this thesis.

1.2 Conventions utilized in the thesis

In Turkish there are many phonological changes that the affixes are subjected to. These usually include voice assimilations and vowel harmony. As is the convention in Turkish, such phonological elements that are subject to such changes are represented by capital letters. I give the capital letters and what sounds they correspond to below:

- A: [ɑ] - [e]
- I: [ɯ] - [i] - [u] - [ü]
- C: [ʤ] - [ʧ]
- D: [d] - [t]
- K: [k] - [ɣ]

Phonological pronunciation and the written of Turkish is near a perfect fit, that's why I dont provide full phonetic equivalents of words. I provide the equivalent phonemes of non-English characters below:

- c - [ʤ] as in 'jail'
- ı - [ɯ] ∅
- ö - [ø] ∅
- ç - [ʧ] as in 'child'
- i - [e] as in 'eel'
- ş - [ʃ] as in 'show'
- ğ - [ɣ] ∅
- j - [ʒ] as in 'genre'
- ü - [ʉ] $emptyset$

I follow leipzig glossing conventions (Comrie et al., 2008) in glossing of the language data. Concatenated morphemes are separated with a dash '-' like *araba-lar* (cars) 'car-PL', and non-concatenative morphemes are separated with a dot '.' like

araba-m (my car) 'car-POSS.1SG'. In this thesis I use square brackets '[]' to indicate a morpheme with zero exponent like *git-ti.* (S/he went) 'go-PST[3SG]'. Words that hold specific relations are provided subscripts. For example, a subscript 'i, j, k, ...' is used to indicate referents like 'He$_i$ and Ahmet$_j$', a case assigning preposition or postposition can be marked by the case it assigns like 'of$_{ACC}$'. The first line of the language examples can be used to indicate the language name, or the specific point of the example like in (1). Not all example I provide belong to me, yet I make small stylistic changes to the glossings of the borrowed examples for the sake of consistency. Example numbering is reset for each chapter to avoid accumulation of numbers. A chapter specification is provided alongside the example number if an example outside the chapter. is cross-referenced.

(1) SA of ACC

Kitap ve kalem-i al-dı.
book AND pencil-ACC take-PST[3SG]
'S/he took the book and the pencil.'

1.3 Suspended affixation in Turkish

Suspended affixation is a morphological phenomenon where only one of the conjuncts carries some affixal parts that are shared with the other conjuncts. An abstract representation is given in (2).

(2) a. A conjoiner B-α

b. A-α conjoiner B-α

For now consider both of the expressions as equal in their denotation. Although it is not often given as examples, SA is also possible with more than two conjuncts (3).

(3) a. A conjoiner B conjoiner C-α

b. A-α conjoiner B-α conjoiner C-α

SA usually appears in languages as a backwards process, where the linearly rightmost conjunct bears the shared morphemes. Limited examples from Caucasian languages can also be found (Erschler, 2012, 2009) where affixal parts that occupy the left edge

of the word are shared. (4) shows an example for SA of ALL where the leftmost conjunct bears the overt suffix.

(4) a. $\alpha-$A conjoiner B

b. $\alpha-$A conjoiner $\alpha-$B

c. *s-jə-pɕaɕe-re ʧ'ale-re zezaox*
1SG-ALL-girl-AND boy-AND fight.each.other
'My son and daughter are fighting.'

Adapted from Erschler (2012)

In the following paragraphs I lay out the examples and configurations of Turkish SA in two parts. First is the nominal domain and the second is the verbal domain. Most examples of SA in the nominal domain are made with the CASE, POSS, and PL suffixes in Turkish. Table 1 shows the suspendable suffixes in the nominal domain.

Table 1. Suspendable Turkish Suffixes in Nominals

Case		Possessive				Plural
ACC	*-(y)I*		1^{st}	2^{nd}	3^{rd}	*-lAr*
DAT	*-(y)A*	SG	*-(I)m*	*-(I)n*	*-(s)I*	
LOC	*-DA*	PL	*-(I)mIz*	*-(I)nIz*	*-lArI*	
ABL	*-DAn*					
GEN	*-(n)In*					

All of the suffixes in Table 1 can be interpreted as φ-features and thereby inflectional, but some claim that derivational suffixes can also be suspended which is going to be addressed in the following sections. In (5), I give some possible examples of SA in the nominal domain.

(5) a. SA of ABL

Hoca ve ders-ten kork-uyor-um.
instructor AND course-ABL scared_of-PROG-1SG
'I am scared of the instructor and the course.'

b. SA of POSS-ABL

Hoca ve ders-im-den kork-uyor-um.
instructor AND course-POSS.1SG-ABL scared_of-PROG-1SG
'I am scared of my instructror and my course.'

c. SA of PL-POSS-ABL

Hoca ve ders-ler-im-den kork-uyor-um.
instructor AND course-PL-POSS.1SG-ABL scared_of-PROG-1SG
'I am scared of my instructors and my courses.'

The sentences in (5) show examples of full SA in a string of PL-POSS-CASE in the first conjunct. Performing SA for all the suspendable suffixes is not obligatory, only CASE in a string of PL-POSS-CASE can also be suspended. (6) illustrates this point.

(6) SA of ABL in a string of PL-POSS-ABL

Hoca-lar-ım ve ders-ler-im-den kork-uyor-um.
instructor-PL-POSS.1SG AND course-PL-POSS.1SG scared_of-PROG-1SG
'I am scared of my instructors and my courses.'

The sentence in (6) shows the suspension of only CASE in the first conjunct in a string of PL-POSS-CASE. Some deem an SA of POSS ungrammatical in the example (7) where there is a suspension of POSS-CASE in a string of PL-POSS-CASE.

(7) *Hoca-lar ve ders-ler-im-den kork-uyor-um.*
instructor-PL AND course-PL-POSS.1SG scared_of-PROG-1SG
'?I am scared of my instructors and my courses.'

SA is not exclusive to the conjunctions formed by *ve* 've', it can also take place in a conjunction formed by a negator like *değil* 'not', as shown in (5).

(8) a. SA of PL-ABL

Ders değil hoca-lar-dan kork-uyor-um.
course NEG instructor-PL-ABL scared_of-PROG-1SG

b. SA of ABL

Ders-ler değil hoca-lar-dan kork-uyor-um.
course-PL NEG instructor-PL-ABL scared_of-PROG-1SG
'I am not scared of the courses but the instructors.'

SA in the verbal domain has two shapes two it, one is the SA of agreement after TAM I markers, or SA of TAM II and agreement marker. In Table 2 I provide a list for inflectional suffixes in the verbal domain. In (9) I give some possible examples for SA in the verbal domain.

Table 2. TAM I, II, and Agreement Markers

TAM I		TAM II		Agreement		
Progressive	*-Iyor*	Past	*-(y)DI*		SG	PL
Aorist	*-Ir*	Evidential	*-(y)mIş*	1^{st}	*-(I)m*	*-k*, or *-(I)z*
Future	*-(y)AcAK*	Conditional	*-(y)sA*	2^{nd}	*-(sI)n*	*-(sI)nIz*
Necessitive	*-mAlI*			3^{rd}	-	*-lAr*
Perfect/Evidential	*-mIş*					
Conditional	*-sA*					
Past	*-DI*					

Adapted from Göksel (2001)

(9) a. SA of 1SG

Ev-e gid-ecek ve dinlen-eceğ-im
house-DAT go-FUT AND rest-FUT-1SG
'I will go home and rest.'

b. SA of EV-1SG

Ev-e gid-ecek ve dinlen-ecek-miş-im.
house-DAT go-FUT AND rest-FUT-COP.EV-1SG
'I was supposed to go home and rest.'

c. SA of EV-1SG-PROB

Ev-e gid-iyor ve dolan-ıyor-muş-um-dur.
house-DAT go-FUT AND stroll-PROG-COP.EV-1SG-PROB
'I might have been going home and strolling.'

The sentences in (9) show the suspension of only Agreement(1SG), suspension of TAM II and Agreement (EV-1SG), and suspension of TAM II, Agreement, and Probability marker *-DIr* (EV-1SG-PROB). The important observation made by the given examples is that SA is a rightward-bound process, meaning that the suspension of only α in a string of $\alpha - \beta$ is not allowed. It is either suspension of β, or α-β.

Additionally there are two configurations: one in compounding, and one in serial verb constructions in Turkish that could be considered as SA. The example in (10) shows SA of compound/agreement marker (POSS.3SG in glosses) on an inner compound. This marker's status as being phonologically overt or covert is optional in some cases. This optionality with interpretability can be seen as suspension of the compound marker *-(s)I(n)*.

(10) *Beykoz koru-(su)* *mesire alan-ı*
B grove-(POSS.3SG) picnic area-POSS.3SG
'Beykoz grove's picnic area'

Another example of SA comes from serial verb constructions in Turkish. It is achieved with the suffix *-(y)Ip* (Predicate Concatonator) PC in glosses). (11) shows an example of possible SA for the tense and agreement suffixes. Here the insertion of the suspended affixes is not allowed unlike the examples given so far.

(11) SA of PST-1SG

Ev-e *gel-ip* *uyu-du-m.*
House-DAT come-PC sleep-PST-1SG
'I came home and slept.'

It is unclear if derivational suffixes can be suspended. Limited examples in either number or acceptability can be found. In (12) I give some possible example of SA taking place with derivational suffixes: *-lI*, *-sIz*, *-lIK*, and *-CI* (DER in glosses).

(12) a. *-lI*

Çilek *ve* *çikolata-lı* *dondurma*
strawberry AND chocolate-DER ice_cream
'Ice cream with chocolate and strawberry'

b. *-sIz*

Şeker ve *yağ-sız* *yiyecek-ler*
sugar AND fat-DER food-PL
'Sugar and fat free foods'

c. *-lIK*

Bahar ve *yaz-lık* *ceket*
spring AND summer-DER jacket
'Spring and summer jacket'

d. *-CI*

futbol *ve* *basket-çi*
football AND basketball-DER
'Football and basketball player'

1.4 Conjunctions in Turkish

In this study a conjunction refers to the whole structure of conjoined elements, for example conjunction of two nouns like *kalem ve kitap* 'pencil and book'. A morpheme that signals or carries out the conjunction is called the conjoiner *ve* 'and', and the individual elements that are conjoined are called the conjuncts *kalem* 'pencil', and *kitap* 'book'. I stick by these explanations in the rest of my study.

In Turkish there are two free form conjoiners *ve* 'and' and *veya* 'or'. These can be used both in verbal and nominal domains to conjoin arguments and sentences. (13) shows some examples for the conjoiners *ve* 'and' and *veya* 'or'.

(13) a. *ve* 'and' conjoining nouns

Kalem ve kitap çok pahalı.
pencil AND book very expensive
'The pencil and the book is expensive.'

b. *ve* 'and' conjoining sentences

Ahmet ev-e gel-di ve Mehmet on-u gör-dü.
A[NOM] house-DAT come-PST[3SG] AND M[NOM] him-ACC see-PST[3SG]
'Ahmet came home and Mehmet saw him.'

c. *veya* 'or' conjoining nouns

Ahmet kalem veya kitap al-mak iste-m-iyor.
A[NOM] pencil OR book buy-NMLZ want-NEG-PROG[3SG]
'Ahmet does not want to buy a book or a pencil.'

d. *veya* 'or' conjoining sentences

Ahmet ev-e gel-di veya Mehmet kapı-yı aç-tı.
A[NOM] house-DAT come-PST[3SG] OR M[NOM] door-ACC open-PST[3SG]
'Ahmet came home or Mehmet opened the door.'

These conjoiners can have different functions depending on what they conjoin or in which environment they are used. A conjoiner like *ve* 'and' can have additive effects when used with nouns *kalem ve kitap* 'pencil and book', ordering effects when

used with verbs *koştum ve geldim* 'I ran and came'. A conjoiner does not need to be necessarily overt, prosodic breaks can signal conjunction like in *domates, biber, patlıcan* 'tomato, pepper, and eggplant'. In Turkish there are some overt prosodic operators that function similar to the conjoiners. These are: *hem . . . hem (de). . .* , *ya . . . ya (da) . . .* , and *(ya). . . ya da . . . .* I give some examples in (14).

(14) a. *Ahmet hem kitab-ı hem (de) kalem-i al-dı.*
A[NOM] hem book-ACC hem (=FOC) pencil-ACC take-PST[3SG]
'Ahmet bought both the book and the pencil'

b. *Ahmet ya kitab-ı ya (da) kalem-i al-dı.*
A[NOM] ya book-ACC ya (=FOC) pencil-ACC take-PST[3SG]
'Ahmet either both the book or the pencil'

1.5 Morphological machinery

In the literature, what the term 'morpheme' means has recently become ambiguous. The dictionary description for 'morphology' as it is used in other fields refers to the shape or form of an object. In the case of language this usually boils down to the words and their identifiable lexical and functional parts. In this study I stick by the explanations that regard a functional head as a morpheme and not the identifiable or concatenative forms. This means that an expression like *fell* consist of two morphemes: one lexical *fall* and one functional PST. In this study, some terms of Distributed Morphology (DM) (Halle and Marantz, 1993, 1994) are used. Namely the notions; Abstract Morphemes, Roots, Vocabulary Items, Subset Principle, Readjustment Rules as they are adapted from Embick and Halle (2005), and Impoverishment as adapted from Bonet (1991). I give the following descriptions for each of the terms.

- Abstract morphemes are composed exclusively of non-phonetic features, such as PST or PL.
- Roots make up the open-class vocabulary. They include items such as $\sqrt{CAT}$, $\sqrt{OX}$, or $\sqrt{SIT}$, which are sequences of complexes of phonetic features,

along with abstract indices (to distinguish homophones) and other diacritics (e.g. class features).

- Vocabulary items pair a morphosyntactic context with a phonological exponent.
- Subset principle, a phonological exponent of a Vocabulary Item is inserted into a morpheme of the terminal string if the item matches all or only a subset of the grammatical features specified in the terminal morpheme.
- Readjustment rules are phonological rules which effect changes in a given morphosyntactic context and that typically include lists of Roots that undergo or trigger these changes. Conditioned by both morphosyntactic and Root-specific information. These rules are underspecified for syntactic-o-semantic environments they appear in.
- Impoverishment is a morphological readjustment rule where a less specific morpheme is selected for vocabulary insertion.

For example in an expression like *çök-tü-m.* (sit.down-PST-1SG) 'I sat down' in Turkish, there are 1 lexical morpheme and 2 functional morphemes. The vocabulary items for the lexical morpheme (also the root in this case), and the functional morphemes are: *çök* for the root, *-di* for PST, and *-m* for 1SG. The items are then inserted and form *çök-di-m*, after this point phonological readjustments begin. The assimilation and vowel harmony takes place, and the expression becomes *çök-tü-m.* 'I sat down'.

In this study I adopt the tools of DM for my analyses and arguments. Yet I do not use the compositional properties that DM assigns to morphology that views it as an integrated or a continuous module to syntax.

1.6 Approaches to sentence processing

In this section I introduce some approaches to sentence processing that relate to the experiment hypotheses and analyses. In general there are two main lanes of

approaches to sentence processing, or how a parser operates. These two lanes are serial and parallel parsing. In this section I introduce two variants of serial parsing. The first is the garden path model (Frazier and Fodor, 1978; Frazier, 1987), which I will refer to as the deterministic serial parser. The second is a combination of the unrestricted race model (Traxler et al., 1998; van Gompel et al., 2001, 2005), constraint-based approach (MacDonald et al., 1994), and surprisal (Levy, 2008) which I will refer to as the probabilistic serial parser. Additionally I introduce the good enough approach (Ferreira et al., 2001, 2002) that proposes that the parser does not always parse complete forms that are fully accounted for. These are not an exhaustive representation of the sentence processing field. I present only the ones I intend to utilize in my experiment predictions and analysis when necessary.

The notion 'parser' refers to the cognitive agency of someone while processing language material. The parser goes through the language input in encodings of different but related parts. These encodings can include the syntactic structure, semantic denotation, and pragmatic information. In this study I will refer to each distinct category of encoding as features. These features can be the lexical category of the word like noun and verb, the semantic information like number and animacy, and the pragmatic information like the referent. These features can have different value settings. A bundle of features can be turned into a chunk. A chunk can be incorporated into further chunks. The approaches I present deal specifically with the nature of how the upcoming input is integrated to the chunks formed so far and what the parser's choices are in this integration process.

1.6.1 Deterministic serial parser

In a garden path model of sentence processing, the parser operates in a deterministic manner that is strongly biased in using structural information regardless of other possible information. The parser always operates in a manner that integrates the input according to the structural norms it has. In structurally unambiguous points in the input, this operation faces no problems in deriving structurally sound chunks and

integration of them. In ambiguous points in the input the parser is left to make a choice, the key feature of a garden path model is that the parser always chooses one way to continue the integration no matter how. If the parser is later proven wrong and forced to change its commitment, this causes reanalysis which has an extra processing cost (Frazier and Fodor, 1978). The garden path model is also referred to as the two-stage model, because of the two constraints that it is set to operate with. The constraints are minimal attachment and late closure (Frazier, 1987). Minimal attachment dictates that the parser does not form unnecessary structural nodes. This means that when possible, the parser selects the route of integration that is structurally more minimal. An example for minimal attachment could be the example in (15) where a main clause analysis 'hit with a book' of the PP 'with a book' is preferred as opposed to the modified noun analysis 'the girl with a book'.

(15) John hit the girl with a book.

as cited in Frazier (1987)

Late closure dictates that the integration of new input should be made to the existing phrase, or chunk, as long as grammatically permissible. An example for late closure could be the example in (16) where the attachment of the adverb 'yesterday' to the subordinate clause attachment 'left yesterday' is preferred as opposed to the main clause attachment 'said yesterday'.

(16) Joyce said Tom left yesterday.

as cited in Frazier (1987)

In the cases where the parser is proven to be wrong in choosing one attachment over the other, reanalysis takes place. That in turn causes increased processing cost, Frazier holds this cost as evidence for two constraints. An example of the reanalysis could be the famous example of (17) where the minimal attachment requires the verb 'raced' to be attached as the main verb for the noun 'the horse', this choice is proven wrong by the actual main verb 'fell'. In this case the verb 'raced' turns out to be a reduced relative clause version of 'which was raced'.

(17) The horse raced past the barn fell.

as cited in Frazier (1987)

In the literature, these kinds of attachments are referred to as 'local ambiguity' since the sentence itself is unambiguous yet at specific points of the input, more than one attachment (integration) is possible.

1.6.2 Probabilistic serial parser

What I am calling as probabilistic serial parser here is an amalgamation of different approaches. These approaches can differ in aspects that are not related to this study. What all the approaches of constraint based model (MacDonald et al., 1994), unrestricted race model (van Gompel et al., 2001), and surprisal (Levy, 2008) have in common that the parser can make use of information that is not always provided by the input. In incorporating the upcoming input to the existing one, the parser can make use of information that is not structural or even extra-linguistic (Willits et al., 2015). These can range from semantic compatibility, pragmatics, and frequency of what kind of structure is encountered. This is a broad representation of what a probabilistic serial parser is. It makes use of variables that are not always structural, these variables can have different importance or effect on processing. The parser still operates on an incremental basis and builds up a full integration of the given input. At every point the parser can make use of information such as semantic compatibility of an argument and a verb, or the frequency of certain structures.

1.6.3 Good enough approach

In both the approaches of deterministic and serial parsers. The parser is committed to integrate compatible material according to its way of operation. Dependencies and relations are completed to the full, if not processing difficulty increases. The parser is oriented towards making all the input as fully integrated as possible. Some research on memory interference shows that the parser aims for a full match. This happens when the parser is looking for a specific set of values in the memory and comes

across a partial match. In order to bypass this partial match the parser has to allocate more resources, increasing processing difficulty (van Dyke and Johns, 2012; van Dyke and McElree, 2006). On the other hand another line of research suggests that these partial matches can cause illusory effects in sentence comprehension (Parker and Phillips, 2016; Mendia et al., 2018; Wagers et al., 2009). This points to the realization that the parser might accept a partial match for resolving a dependency even though it is not grammatical. In Good enough approach to sentence processing, the parser may choose to partially fulfill the requirements of a dependency (Ferreira et al., 2001, 2002). The type of the task for a parser can affect how it behaves in terms of partially fulfilling dependency requirements (Swets et al., 2008; Logačev and Vasishth, 2016). This means that the parser is task-oriented and if the task does not require it, some dependencies can be partially resolved.

1.7 Statistical inference

In this study I conduct some experiments and provide results of average values and statistical models. Most people are acquainted with an indicator of significance such as the p value in experiment results. The machinery behind it actually works a bit counter-intuitive for language related data. Such a value is a result of a process called null hypothesis significance testing. In it a value of null hypothesis is agreed on like something happening with %50 probability. You then collect data points regarding that the event can happen. You count the number of times that it happened and compare the proportion to the null hypothesis, if it is outside a range you accept as 'reasonable' it refutes the null hypothesis, and you have your effect of significance. For a representation, let's consider the following idea. You are given a coin which has two sides: heads and tails. You don't know if it is a fair coin or not. To find out you perform an experiment of flipping it. Now the possibilities for a coin toss is either heads or tails. Only one of them comes upside after you flip the coin. In this case the null hypothesis has %50 probability. This means that in a hypothetical word, if a fair coin were to be flipped endlessly the probability for either side to come up would be

so close to %50 that it would practically be considered as %50. If we flip the coin we have in the real word, we might end up with proportions ranging from %40 to %60. If we were to accept only a deviance of %5 because of the limited number of flips we have, we would regard the coin as unfair. After this, it can be revealed that the coin was fair after all. The problem here is to assume a hypothetical world with unlimited trials.

In a Bayesian inference on the other hand, the world we have is not considered to consist of infinite trials. It is based on updating the information on the hypothesis with the collected data. In the coin example, this would mean to use a null hypothesis that comes from an informed probability space, rather than an estimation of infinitely drawn data. Let's say that you have previously flipped a fair coin which you knew to be fair. The probability for a side was varying from one day to other. You can represent this variance as a probability distribution. This becomes your $prior$ about flipping a coin. Now you perform the flips with the coin you are given which you don't know if it is fair or not. You now get a value around %50, which is your likelihood. You can now calculate if the coin was fair or not using your $prior$ and $likelihood$. This way you have used an example from the real world, instead of relying on an imaginary one. Assuming a world with infinite number of trials for testing an hypothesis is not natural for the consideration of probability in language. In a basic Bayesian inference, both the hypotheses and the data are assigned a probability space. Thereby one does not have an imaginary world of infinite trials.

In the psycholinguistic research using a statistical inference that assumes a world of infinite trials is shown to be problematic (Vasishth et al., 2018; Wagenmakers, 2007; Kruschke, 2011). As a linguist one might not be aware of the inner workings of an statistical inference method. A Bayesian inference is more intuitive for understanding the workings of language as existing in the real world instead of having a hypothetical world with infinite trials.

The results I present for my experiments show the $posterior$ probability distributions for the variables, and do not have a value of significance like the p value.

It is rather the probability space for varying estimates that are calculated given the data ($likelihood$) and the $prior$ distribution for the variables. Exact formulation of the models are done by the brms package (Bürkner and Others, 2017) in R (R Core Team, 2013). I rather define the model variables and set contrast codes and the type of data point I have. The contrast codings determine what sort of prior probability distribution is assigned to the variable. The effects are evaluated mostly on a logarithmic scale. The data point type, or the family of the distributions for a trial follows from its nature, if it is a response to a yes no question a bernoulli distribution is used to draw samples from. If the type of data is a reading or response time, a lognormal distribution is used to draw samples from. This way the model tries to represent the real world as close as possible, instead of assuming repetitive trials in a hypothetical world. These distributions reflect on what type of probability space that the trial value can fall in.

CHAPTER 2

LITERATURE SURVEY

Lewis (1967) is credited with the term SA and first observations of it in Turkish. Categorized as an agglutinating language with many inflectional and derivational functions represented by distinct morphemes, Turkish has many affixes that can be suspended, both in nominal and verbal domains. Some papers that exclusively examine SA in Turkish are: Orgun (1995), Kabak (2007), Broadwell (2008), Kornfilt (2012), Kharytonava (2012a,b), and Akkuş (2016).

Some other papers investigating SA in other languages are: Erschler (2012), and Erschler (2018) for Ossetic, Yoon (2017) for Korean, Despić (2017) for Serbian, Guseva and Weisser (2017) for Mari, and Pounder (2006) for German. These papers range from giving the relative data and its limitations to the structural accounts and predictions for SA. In this chapter I first summarise the literature regarding SA in Turkish, later I summarise the literature regarding SA in other languages.

2.1 Suspended affixation in Turkish

2.1.1 Orgun (1995)

Orgun argues for an analysis of SA as a structural sharing process. He provides the examples in (1). These examples show that SA of POSS is ungrammatical in a string of PL-POSS. This is peculiar considering that in (2), SA of POSS is grammatical.

(1) a. SA of POSS

**tebrik-ler ve teşekkür-ler-im*
congrats-PL AND thanks-PL-POSS.1SG

b. SA of PL-POSS

tebrik ve teşekkür-ler-im
congrats AND thanks-PL-POSS.1SG
'My congratulations and thanks'

(2) a. SA of POSS

Kitap ve kalem-im
book AND pencil-POSS.1SG
'My book and my pencil'

Orgun proposes to place the suffixes PL and POSS on the same hierarchical level as in Figure 1. This way he explains the ungrammatical SA of POSS (1a) and grammatical SA of POSS (2). The string of PL-POSS are interpreted as hierarchically equivalent so SA can not target only one of them.

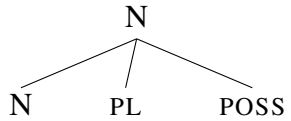

Figure 1. Ternary branching analysis of Orgun (1995)

He provides a three-way ambiguity of an expression like *it-ler-i* 'dog-PL-POSS' (3) for the support of ternary branching (1). The three way ambiguity results from the order of composition. All items are on the same hierarchical level, so the order of composition becomes ambiguous resulting in the different readings.

(3) *it-ler-i*
dog-PL-POSS
'her/his dogs'

'their dog'

'their dogs'

Adapted from Orgun (1995)

Reading in between the lines, I assume that Orgun takes PL and POSS suffixes to have a different interaction than any other suffix holds, in a way that they form a complex head when they are adjacent. What he is proposing is not a ternary branching but a complex head formation. A representation of this formulation reflected on the ungrammatical SA in (1a) is given in Figure 2.

Forming a complex head of PL-POSS makes the interpretation of the word *tebrikler* and the suffix *ler-im* 'PL-POSS' ungrammatical. The same complex head, however, does not cause a problem for the grammatical SA in (1b) as Figure 3 shows.

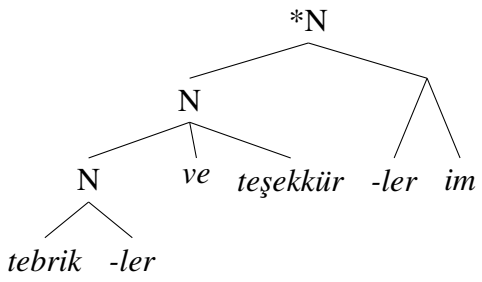

Figure 2. PL and POSS forming a complex head in ungrammatical SA

Figure 3 has equivalent conjuncts and an interpretable relation between the complex suffix *-ler-im* 'PL-POSS' and the nouns *tebrik* 'congrats', and *teşekkür* 'thanks'.

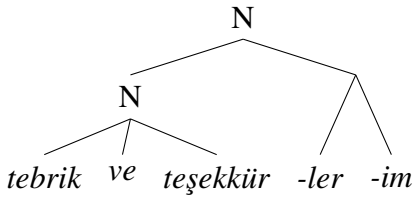

Figure 3. PL and POSS forming a complex head in grammatical SA

Orgun goes on to show that ternary branching is needed for some morphological configurations to satisfy the minimal phonological size ($\sigma\sigma$) constraint, citing Itô and Hankamer (1989), together with Orgun and Inkelas (1992). He proposes a structural sharing analysis for SA and a ternary branching for PL and POSS suffixes to capture the inseparable SA of PL-POSS. Support for ternary branching in SA comes from somewhat unrelated phonological constraints in affixation of monosyllabic words, i.e. **do-m* [σ] 'do-POSS.1SG', *sol-üm* [σ-σ] 'sol-POSS.1SG'. The ungrammatical SA in (1) is not subject to such a constraint and the three way ambiguity of an expression like *it-ler-i* 'dog-PL-POSS' is not convincing enough to propose ternary branching. In finalizing the observation that Orgun makes, I provided Figures 2 and 3 following the discussion and the examples provided in Orgun (1995) to paint a more comprehensible picture of his analysis.

2.1.2 Kabak (2007)

Among the papers discussing SA in Turkish, Kabak's paper seems to be the most extensive in terms of providing how SA can take shape in both verbal and nominal

domains. The paper provides some conditions for SA. The analysis of Kabak relies on the definition of a morphological word. He claims that any inflectional morpheme can be suspended as long as the remainder is a morphological word. Kabak proposes the following:

- Terminal suffix: *A suffix that is allowed to appear at the end of a word, where further affixation is not obligatory.*

He claims that only terminal suffixes can be suspended. He posits that bare verbs are not morphological words in Turkish. He provides Table 3 for Verbal terminal suffixes. If any suspension attempt is made with these morphemes, it is only permitted under the condition that what is left is a morphological word.

Table 3. Verbal Terminal Morphemes

(i) Agreement markers	
(ii) Aspect/ Modality markers	AOR *-(I)r/(A)r* PROG *-Iyor* FUT *-(y)AcAK* EV *-mIş* NEC *-mAlI*
(iii) Converb markers	*-(y)IncA* *-(y)Ip*

Adapted from Kabak (2007)

Kabak classifies clitics like *=mI* '=Q', and *=DA* 'FOC' as non-terminal morphemes but recognizes their ability to end an expression in Turkish (4).

(4) a. *koş-tu-n mu?*
run-PST-2SG =Q
'Did you run?'

b. *ağla-mış-sın da*
cry-EV-2SG =FOC
'It looks like you have cried also.'

Adapted from Kabak (2007)

Kabak argues against Kornfilt (1996)'s formulation for SA (5) with two examples. According to Kornfilt (1996)'s analysis only the copular forms and further inflectional morphemes can be suspended in the verbal domain.

(5) [$V_{Participle}$ conjunction $V_{Participle}$] + V_{Copula} + Inflectional Morphemes

First, some forms that can be complements of copula are not participles and do not always give way to grammatical instances of SA. Although Kornfilt (1996) does not define *-DI* as a participle, it is still able to be a complement to a copular *i*. That's why SA in (6) should be grammatical because what is left is a complement to a copular.

(6) a. **O yaz Finike-ye git-ti ve deniz-e gir-di-y-di-k.*
that summer Finike-DAT go-PST AND sea-DAT enter-PST-COP-PST-1PL

b. **Ev-imiz-i sat-sa ve dükkan al-sa-y-dı-k.*
house-POSS.1PL-ACC sell-COND AND shop buy-COND-COP-PST-1PL

Adapted from Kabak (2007)

Second, at least one suffix deemed participle, namely the necessitative marker *-mAlI*, does not behave like a participle that can modify NPs unlike other participles like *-mIş* and *-(y)AcAK* (7a). It should be noted that not all participle forms can modify nouns (e.g. *-Iyor*), and despite a lack of modifying capability, *-mAlI* acts as predicted by Kornfilt (1996) in an SA configuration (7b).

(7) a. **çalış-malı adam*
work-NEC man

b. *ev-e git-meli ve uyu-malı-yım.*
home-DAT go-NEC AND sleep-NEC-1SG
'I need to go home and sleep.'

Another point Kabak provides with the example (8), is the suspension of POSS when used together with PL. This contradicts the observations of Orgun (1995).

(8) SA of POSS

Asker-ler ve komutan-lar-ımız.
soldier-PL AND commander-PL-1PL.POSS
'Our soldiers and commanders' Adapted from Kabak (2007)

Kabak points out the effects of some phonological changes in what is left after SA, specifically 1SG and 2SG pronouns that go under base modification (*ben* > *ban*, *sen* > *san*) when affixed with DAT as shown in (9).

(9) a. *Kargo-lar Ahmet ve Mehmet-e gel-di.*
shipment-PL A AND M-DAT come-PST[3SG]
'The shipments arrived for Ahmet and Mehmet'

b. **Kargo-lar ben ve san-a gel-di.*
shipment-PL 1SG AND 2SG-DAT come-PST[3SG]

c. **Kargo-lar ban ve san-a gel-di.*
shipment-PL 1SG AND 2SG-DAT come-PST[3SG]

d. *Kargolar ban-a ve san-a gel-di.*
shipment-PL 1SG-DAT AND 2SG-DAT come-PST[3SG]
'The shipments arrived for me and you'

For the SA in the verbal domain, Kabak provides an approach that is rather interesting. He makes an observation from Good and Yu (2005), in the spirit of Erdal (2000), about the agreement paradigms in Turkish. In his citing, Kabak says that z-paradigm of agreement markers contain cliticized forms of words, and k-paradigm of agreement markers has lexical suffixes. Kabak realizes the shortcomings of this approach and notes there are constructions in which k-paradigm SA is applicable and other conditions where z-paradigm SA is not applicable. The k-paradigm is not suspended on its own, but it is suspendable if the tense marker it is attached to is in a TAM II position as in (10).

(10) *Ev-e git-miş ve uyu-muş-tu-k.*
home-DAT go-EV AND sleep-EV-PST-1PL
'There was the time we went home and slept.'

As a last summary Kabak gives the following points for SA in the verbal domain:

i. the ability of a verbal morpheme to terminate a word is related to its ability to stand without an agreement marker

ii. SA is only applicable if what is left after suspension is a morphological word, and both the conjuncts end with terminal morphemes

iii. Conjuncts with cliticlike endings are interpreted as 3^{rd} person singular, causing agreement mismatches in SA

iv. Nonfinal conjunct's terminal suffix must be overt

Kabak recognizes that in SA what is relevant is actually the size of what is left after suspension. The 'cliticlike' condition on his third point is not clear-cut, and can be extended to other suffixes which have 3^{rd} person singular suffixes which allow SA, that can seemingly end a word without copula (*-mIş*, *-(y)AcAK*, and *-Iyor* to name a few). This condition relies heavily on what is 'cliticlike'. The paramount observation that Kabak (2007) provides is the relation between a successful SA and what is left as a morphological word. [1] Kabak evaluates the examples of SA with derivational suffixes as natural coordination of nouns in the lexicon Wälchli et al. (2005), and does not regard such examples as SA.

2.1.3 Broadwell (2008)

Broadwell provides a representation for SA using the tools of Lexical Functional Grammar (LFG henceforth). In this approach the two identical phrases form a new phrase in conjunction that has the same structural properties of its parts. After this point, the suspended affixes are added. The phonological exponent of the right edge conjunct and the suspended affixes are *coinstantiated* as one word. Figure 4 illustrates the structural representation for the SA of PL-POSS in (11).

(11) *tebrik ve teşekkür-ler-im*
congrats and thanks-PL-1SG
'My congratulations and thanks'

Broadwell claims that this way of representation for SA saves us from three things:

- interpreting affixes that can suspend as clitics
- positing conjunction in the lexicon

[1] A note of Kabak's informs the reader about the grammaticality judgments that come from 4 native speakers including himself. They all use, as he mentions, the 'İstanbul' variety of Turkish. Some refer to 'Istanbul' variety as 'standard' Turkish. I oppose both the terms since no extensive or comprehensive study is provided to define what constitutes a 'standard' or 'Istanbul' variety of Turkish. I take Kabak's statement as his care for not including some regional changes, for example, in agreement paradigms like those later provided in Sağ (2013) for Denizli Dialect, which hosts some observations for the sole unsespendability of k-paradigm agreement markers.

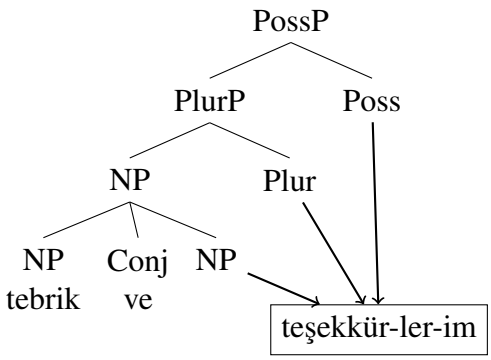

Figure 4. Lexical sharing analysis of PL and POSS in SA

- having special annotation for the rightmost conjunct

An important point which Broadwell makes is that Turkish is relatively productive in SA but it also makes distinctions that can not be addressed with a purely lexical approach. It might be posited that SA is only permitted with affixes that can attach to conjoined phrases. This analysis however does not explain why the suspension of POSS is ungrammatical in a string of PL-POSS and does not explain how to categorize suffixes that can have conjoined bases, missing the morphological word requirement of SA in the verbal domain.

2.1.4 Kornfilt (2012)

Kornfilt reiterates points in Kornfilt (1996). Mainly that SA is a syntactic operation much like gapping or ellipsis, that can only target syntactic categories, and she gives her account of RNR (Right Node Raising) to account for SA. She claims that a suffix can be suspended only if it has a syntactic projection. In this way she predicts to posit functional heads like Num (NumP), Case (KP), and Possession (PossP) since all three can have SA distinctly. Figure 5 illustrates the abstract RNR analysis for the examples of SA in (12).

(12) a. SA of PL

Kitap ve defter-ler
book AND notebook-PL
Reading1: 'Books and notebooks'

Reading2: 'A book and notebooks'

b. SA of ACC

Kitap ve defter-i al-dı-m.
book AND notebook-ACC buy-PST-1SG
'I bought the book and the notebook.'

c. SA of POSS

Kitap ve defter-im nerede?
book AND notebook-POSS.1SG where
Reading1: 'Where is the book and my notebook?'

Reading2: 'Where is my book and notebook?'

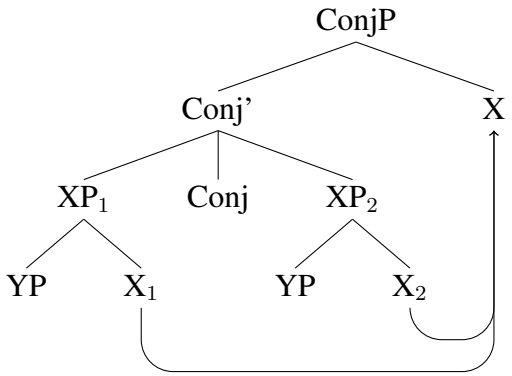

Figure 5. RNR proposal for SA

This analysis is also the same analysis that Kornfilt provides for backwards ellipsis for a sentence like (13) as in Figure 6. This way Kornfilt regards SA as another ellipsis process operating on projection heads instead of phrases.

(13) *Ahmet al-dı ve Mehmet sat-tı kitab-ı.*
A[NOM] buy-PST[3SG] AND M[NOM] sell-PST[3SG] book-ACC
'Ahmet bought and Mehmet sold the book.'

Kornfilt argues against SA of derivational suffixes because an example like (14) has a fixed order of conjuncts for a successful suspension. This makes a clear distinction for what is possible to suspend and what is not.

(14) a. *[tuz ve limon]-luk*
salt AND lemon-DER
'[salt and lemon] shaker'

b. **[limon ve tuz]-luk*
lemon AND salt-DER
'[lemon] and [salt shaker]'

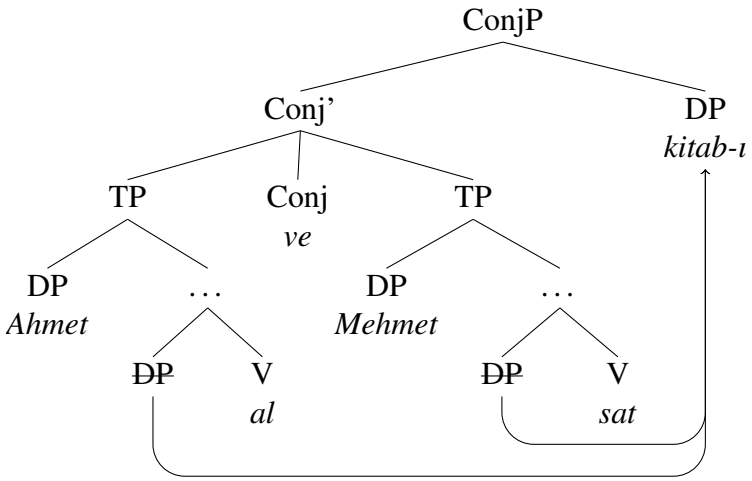

Figure 6. RNR analysis for Backward Ellipsis

The proposed analysis of Kornfilt does not explain why SA of POSS is ungrammatical in a string of PL-POSS. As a terminal node in syntax, there is nothing preventing SA of POSS in PL-POSS by the RNR analysis. It also does not predict why SA of PL-POSS is ambiguous but SA of CASE is not as shown in (15).

(15) a. Ambiguous SA of PL

kitap ve kalem-ler
book AND pencil-PL
SA: 'books and pencils'

No SA: 'a book and pencils'

b. Ambiguous SA of POSS

kitap ve kalem-im
book AND pencil-POSS.1SG
SA: 'my book and my pencil'

No SA: 'a book and my pencil'

c. Unambiguous SA of ACC

kitap ve kalem-i al-dı-m.
book AND pencil-ACC take-PST-1SG
SA: 'I took the book and the pencil'

No SA: '* I took a book and the pencil'

2.1.5 Kharytonava (2011, 2012a,b)

In all her papers, Kharytonava specifically inspects SA in Turkish noun compounds. For a start consider the noun compounds in (16).

(16) a. *Anne-m not defter-i-ni yıka-mış.*
mother-1SG note book-POSS.3SG-ACC wash-PRF[3SG]
'It seems like my mother washed the notebook'

b. *Anne-m not defter-im-i yıka-mış*
mother-1SG note book-POSS.1SG-ACC wash-PRF[3SG]
'It seems like my mother washed my notebook'

The default agreement marker is third person singular in Turkish when no possessor is present for the compound. The SA that Kharytonava presents comes into play in compounds with shared bases. (17) shows an example where the shared base is *doğum* 'birth' and the markers on the conjoined nouns can be fully expressed (No SA) or can have two shapes of SA (partial-full).

(17) a. No SA

doğum yer-iniz ve tarih-iniz
birth place-2PL AND date-2PL

b. Full SA

doğum yer ve tarih-iniz
birth place AND date-2PL

c. Partial SA

doğum yer-i ve tarih-iniz
birth place-3SG AND date-2PL
'Your birthplace and birthdate'

Adapted from Kharytonava (2012b)

The possessive marker is suspended in (17b) and there is no remnant of agreement whereas (17c) leaves behind a possessor that is 3SG. The interpretation of possessive for the second conjunct is still 2SG. On the surface the existence of POSS.3SG after SA for a POSS.2SG seems problematic. Kharytonava addresses this

not as a structural sharing analysis, she rather uses Impoverishment and Feature Geometry to explain such a configuration of SA. She indicates that features are monovalent for referring expressions in Turkish and exponent insertion is modulated by Subset Principle. Table 4 shows the feature geometry she provides for Turkish possessors with the corresponding exponents.

Table 4. Feature Geometry of POSS in Turkish

Features		Exponent
Participant	Individuation	
Speaker	∅	*-Im*
Addressee	∅	*-In*
Speaker	Group	*-ImIz*
Addressee	Group	*-InIz*
∅	∅	*-(s)I(n)*
∅	Group	*-lArI*

SA in noun compounds works by deletion of features. See the feature templatic view of no SA in (17). The feature set for ADDRESSEE-GROUP, by Subset Principle, is *-InIz*. On this templatic view the features in the first conjunct instead of the exponent itself are deleted. This feature deletion results in the following templatic view and the exponent *-(s)I(n)* is inserted after the first conjunct. Kharytonava (2011) shows that Turkish speakers prefer the Partial SA in (17) to the full SA. This type of analysis for SA falls under an ellipsis like analysis which has more appeal and makes better predictions about SA in noun compounds than structural sharing approaches.

- α-ADDRESSEE-GROUP AND β-ADDRESSEE-GROUP
- α-∅-∅ AND β-ADDRESSEE-GROUP

Using this deletion analysis, instances like (18) can also be a deletion of the referential feature alongside the tense. 3SG on verbal and nominal predicate domain is not expressed by an overt phonological exponent. The readings should have contrasted in their subject readings if this were to be the case.

(18) a. *Ben hasta ve yorgun-du-m.*
1SG[NOM] sick[3SG] AND tired-PST-1SG
'I was sick and tired'

b. *Ben ev-e gid-ecek ve gel-ecek-ti-m.*
1SG[NOM] house-DAT come-FUT[3SG] AND come-FUT-PST-1SG
'I was going to come home and go'

2.1.6 Akkuş (2016)

Akkuş provides some examples for SA in derivational suffixes. He argues that the existence of such examples are not numerous but not that rare. Her provides some examples like (19).

(19) a. . . . *yedi ve yirmi-nci bölüm-ler* . . .
. . . seven AND twenty-DER episode-PL . . .
'. . . seventh and twentieth episodes . . . '

b. . . . *beş lira ve on dolar-lık banknot-lar* . . .
. . . five lira AND ten dollar-DER banknote-PL . . .
'[five lira and ten dollar] worth banknotes'

c. . . . *Deprem ve Afet-zede An-ma Yürü-yüş-ü* . . .
. . . earthquake AND disaster-DER remember-NMLZ walk-NMLZ-ACC . . .
'[Earthquake and Disaster] Victims Remembrance March'

d. . . . *dost ve arkadaş-ça bir hava* . . .
. . . fellow AND friend-DER DET air . . .
Lit:'a [friend and fellow]-like armosphere'
Mean: 'a friendly and amiable atmosphere'

Adapted from Akkuş (2016)

Akkuş argues that a natural coordination explanation (Wälchli et al., 2005) provided in Kabak (2007) falls short of explaining instances of derivational SA. Akkuş reiterates examples from Ackema et al. (2004); Lieber and Scalise (2006) and points to two options for explaining derivational SA. First is what is provided in Lieber and Scalise (2006), which suggests that morphology has access to the output of syntax. Second is what is provided in Ackema et al. (2004), which suggests three modules in language, namely syntax, semantics, and phonology, that can have interactions with one another placing morphology within syntax. Both the approaches would allow for morphological elements to have complex bases for derivation or inflection.

2.2 Interim summary of literature

The literature of SA for Turkish provides some valuable observations, that make it easier to navigate the problems and workings of SA in Turkish. They feature useful data, approaches like LFG, syntactic movements like RNR, and comprehensive coverage of morphological constraints in SA. In the following paragraphs, I summarise the points made in the literature about SA, and in what ways it can be improved. Then I put a finger on unaddressed issues.

Orgun (1995) puts forward an anomalous behaviour in the suspension of POSS in a string of PL-POSS. Orgun's solution is to hierarchically align the two for handling the problem of inseparable suspension of POSS.

The observations of Kabak (2007) indicate that the morphological size of what is left after suspension is crucial for a successful SA. Bare verbs are not considered as morphological words even though they are phonological words and get stress under negation *-mA*. The observation of morphological word constraint in SA is quite important since some similar phenomenon of a backwards process in, for example, German only requires the remnant after suspension to be a phonological word (Smith, 2000; Pounder, 2006; Kenesei and Others, 2007). Kabak's paper shows that SA might be possible with some derivational suffixes, yet he strongly suggests that the base for the derivational suffix is a compound like noun that uses a conjoiner for its parts.

Broadwell (2008) entertains a different mode of operation for its analysis. Rather than the suspended suffix originating in both of the conjuncts, the conjoined phrase is only merged with a single projection of the 'suspended' suffix. Later, as a tool of LFG, the rightward elements coinstantiate as a single word of multiple exponents, appearing as though only the second conjunct has the suffix whereas structurally it is shared and the two conjuncts are at the same level of representation.

According to Kornfilt (1996, 2012), SA is a syntactic operation of RNR, and suspendable suffixes are projections in syntax. This defines a line for the capability of SA for derivational and inflectional suffixes. Her analysis does not explain why SA

of CASE is not ambiguous, but the SA of PL or POSS is. The importance of Kornfilt's proposal is the observation of the productivity of SA in the inflectional paradigm. This places an analysis of SA more in the structural side taht should have access to syntactic inputs.

Kharytonava (2011, 2012a,b) deviate from all the others in dealing with SA because they deal with a peculiar SA observed in noun compounds. The preference studies that Kharytonava have carried out suggest that partial SA conditions are preferred more than complete morpheme deletions. Unfortunately the reporting of the studies are not very clear. Only percentages in terms of participant preferences are provided. Furthermore, some arbitrary schemes for grouping subjects by choice frequency are used to draw inferences from the responses being interpreted as grammatical or not.

Akkuş (2016) points to instances of derivational SA and argues that they need an explanation contra Kabak's view of natural coordination (Wälchli et al., 2005). He argues for a revised understanding of what Lexical Integrity Hypothesis in the sense of either Ackema et al. (2004) or Lieber and Scalise (2006) in explaining instances of derivational SA. Akkuş's paper is the only paper that argues for a structural interpretation of SA in derivational suffixes.

As a conclusion the current literature for Turkish SA provides possible solutions and analyses for SA. The literature does not have a good standing when it comes to answering in what level of language derivation SA takes place. It is not pinpointed well enough to argue for or against any analysis, be it ellipsis or structural sharing. There is no exposure of different conjoiners and what they bring to SA. An analysis of should take the SA environment into consideration for a better understanding of the constraints that govern SA.

2.3 Suspended affixation in other languages

The focus and effort of this study is limited to SA in Turkish, but it is beneficial to take observations from other languages where similar SA-like phenomena exist. In

the following subsections I provide summaries of such papers in a chronological order. Pounder (2006) shows examples of SA and conjunction reduction from German, Guseva and Weisser (2017) shows examples of SA from Mari, Despić (2017) shows an example of a certain Serbian clitic that mimics SA-like behaviour, Yoon (2017) shows examples from Korean, and Erschler (2012, 2018) show examples from Ossetic.

2.3.1 German

In Pounder (2006), Pounder presents some example configurations in German for ellipsis like morphological phenomena. These phenomena, called morphological brachylogy in the paper, include SA, conjunction reduction, and shared bases in German. The paper puts a higher emphasis on a diachronic difference in SA of suffixes. Pounder claims that these ellipsis like processes can be employed in many levels of grammar, the inflectional paradigm, word-formations, and compounding to name a few. While the paper itself provides and lays out a nice presentation of data, this summary revolves around brachylogy of affixes that I refer to as SA for consistency.

I reiterate one of Pounder's examples before moving on with examples of SA in German. In the example (20), the two conjuncts are prefixed verbs, both of which share the same base. The shared base is a verb and the prefixes are conjoined in interpretation. A dash '-' is used to indicate that there is a missing piece in the word.

(20) a. *werde... nicht re-, sondern ent-sozialisier-t*
be... NEG PREF- but_rather PREF-socialize-PART
'be... not socialized but rather desocialized'

b. *nicht re-sozialisier-t sondern ent-sozialisier-t*
NEG PREF-socialize-PART but PREF-socialize-PART
'not resocialised but rather desocialized'

Adapted from Pounder (2006)

Pounder dubs what is left after the elision of the morphological part as 'fragment' whereas what is elided or reconstructed is called 'recuperand', and the

form that the language user infers the recuperand from is called 'target'. For example in (20a) the fragment is the prefix *re-*, the recuperand is *sozialisiert*, and the target is *sozialisiert*. (21) shows an example from Turkish. In this example the fragment is a noun *kitap* 'book', the recuperand is ACC, and the target is *kalem-i* (pencil-ACC) 'the pencil'.

(21) *kitap ve kalem-i al-dı-m.*
book AND pencil-ACC take-PST-1SG
'I took the book and the pencil'

I reiterate another example from Pounder in (22) for the example of SA and I provide a mirroring example from Turkish.

(22) a. *freund- oder feind-schaft-lich-e Beziehungen*
friend- OR enemy-DER-DER-PL relations
'with relations of friendship or enmity'

Adapted from Pounder (2006)

b. *dost veya düşman-lığ-ı bitir-en ilişki-ler*
friend OR enemy-DER end-FP relation-PL
'the relations that end friendship or enmity'

The expression in (22a) shows an instance of SA for the suffixes *-schaft* and *-lich*, both suffixes are derivational. I gave a similar configuration in (22b) where there is SA of a derivational suffix *-lIK* and ACC. Pounder reports that this process in German has a phonological constraint and cites Smith (2000). (23) shows a suffix that changes the make up of a phonological word and it cannot be suspended.

(23) **die Provenz-al- und Roman-isch-en Dichter*
the.PL Provence-DER AND romance-DER-PL poets
Intended 'the Provençal and Romantic poets'

Adapted from Pounder (2006)

In (23) the suffix *isch* begins with a vowel. Pounder cites Booij (1985) in reporting that the vowel initial suffix leads to a mismatch between the phonological and morphological word. The paper, however, shows a historical contrast in the contemporal ungrammaticality of (23) where SA exists in written form. Pounder

claims that German standardization is behind the ungrammaticality of (23) and provides some examples from 17^{th} and 18^{th} century German (24).

(24) a. *Absicht- und Regl-en*
intention- AND rule-PL
'Intensions and rules'

b. *Geberd- und Bewegung-en*
gesture- AND movement-PL
'Gestures and movements'

c. *bey dorf- und stet-en*
by village- AND town-PL.DAT
'In villages and towns'

Adapted from Pounder (2006)

There is an important point to make in (24b). Pounder notes that the fragment *Geberd-* is not the base modified counter part of *Gebärden*. In the suspended version no umlaut takes place. This shows that SA takes place before a phonological operation like umlaut. The example (25) shows an example of base modification in Turkish. 1SG pronoun goes under base modification from *ben* to *ban* when it is marked for DAT. SA is not felicitous with both bases.

(25) a. **Ban ve Ahmet-e bak-tı.*
1SG AND Ahmet-DAT look-PST[3SG]
b. **Ben ve Ahmet-e bak-tı.*
1SG AND Ahmet-DAT look-PST[3SG]
c. *Ban-a ve Ahmet-e bak-tı.*
1SG-DAT AND Ahmet-DAT look-PST
'(S/he) looked at me and Ahmet'

In the German example (24b) the reconstruction of the fragment and the recuperand is at a more abstract level than phonology since there is no umlaut in the first conjunct. In the Turkish example (25), the reconstruction of the fragment and the recuperand can not override an expected base modification in the fragment, or even further SA can not be carried out at all with base modified fragments. Pounder (2006) goes on to interrogate the formulation of conjunction where SA takes place unlike the literature in Turkish.

2.3.2 Mari

Mari is an Eastern Uralic language that has a rather interesting set of data when it comes to SA. Guseva and Weisser (2017) (GW henceforth) provide some examples and analysis for SA in Mari. In (26) I give examples of SA from Mari. Previous observations of SA have shown that it is a rightward bound process, but the examples in (26) show SA that is not rightward-bound.

(26) a. SA of INESS

Üder mej-en uše-m den tej-en süm-ešte-t.
girl 1SG-GEN mind-POSS.1SG AND 2SG-GEN heart-INESS-POSS.2SG
'The girl is in my mind and in your heart'

b. SA of ILL

Pjötr kart-em mej-en perdež-em den omsa-ške-že
Peter map-ACC 1SG-GEN door-POSS.1SG AND wall-ILL-POSS.3SG
pižekta
pin.3SG.PRS
'Peter pins maps to my door and his wall'

c. SA of PL-INESS

A-vlak tud-en sad-še den memn-an
child-PL 3SG-GEN garden-POSS.3SG AND 1PL-GEN
pasu-vlak-ešte-na mod-et
field-PL-INESS-POSS.1PL play-3PL.PRS
'The children are playing in his garden and in our fields'

Adapted from Guseva and Weisser (2017)

For a clear illustration of the SA examples in (26) I give the abstract representation of SA for each one of the examples in (27).

(27) a. N1-[INESS]-POSS conjoiner N2-INESS-POSS

b. N1-[ILL]-POSS conjoiner N2-ILL-POSS

c. N1-[PL-INESS]-POSS conjoiner N2-PL-INESS-POSS

This peculiar SA should not be taken as an evidence against its rightward-bound nature. In Mari the order of the morphemes in the nominal domain show a relatively free order. The morphemes in question are PL, POSS, Structural and

Local cases (SCASE and LCASE in glosses respectively). Table 5 shows some possible orders of these morphemes. There is an optional positioning for the POSS marker. The POSS either occupies the left or the right edge of the morphemes, where the right edge can only build up to the SCASE. It is a barrier that POSS can not alternate to the right of.

Table 5. Mari Nominal Domain Morpheme Order

PL >POSS	*pasu-vlak-na*
POSS >PL	*pasu-na-vlak*
PL >LCASE	*pasu-vlak-ešte*
PL >SCASE	*pasu-vlak-em*
LCASE >POSS	*pasu-šte-na*
POSS >SCASE	*pasu-na-m*
PL >LCASE >POSS	*pasu-vlak-ešte-na*
POSS >PL >LCASE	*?pasu-na-vlak-ešte*
PL >POSS >SCASE	*pasu-vlak-na-m*
POSS >PL >SCASE	*pasu-na-vlak-em*
pasu 'garden', *-vlak* PL, *-na* POSS.1PL, *-(e)šte* INESS, *-(e)m* ACC	

Adapted from Guseva and Weisser (2017)

In Mari, there are two linearizations of POSS, PL and LCASE. SA with the surface orderings of LCASE-POSS and PL-LCASE-POSS goes against the rightward-bound constraint, but this observation overlooks the other possible orders of POSS-LCASE and POSS-PL-LCASE. This ambiguous ordering of morphemes is the clue to understanding in what level of derivation SA takes place. This is the point that GW show with an example, adapted here as (28).

(28) a. *Pörjeng memnam da nunem už-eš*
man.NOM us.ACC AND them.ACC see-3SG.PRS

b. **Pörjeng me da nunem už-eš*
man.NOM us.ACC AND them.ACC see-3SG.PRS

c. *Pörjeng memna da nunem už-eš*
man.NOM us AND them.ACC see-3SG.PRS
'The man sees us and them'

Adapted from Guseva and Weisser (2017)

The 1PL pronoun is *me* in Mari, and the stem for ACC changes from *me* to *memna*. SA is not possible with *me*, but it is possible with the plural stem *memna*. A

similar base or stem change in Turkish also happens when 1SG and 2SG pronouns are used with DAT (*ben >bana, sen >sana*). Turkish does not allow SA in such instances (29), with or without base or stem change.

(29) a. SA with unchanged base

**Ben ve san-a kitab-ı bul-du.*
1SG AND 2SG-DAT book-ACC buy-PST[3SG]

b. SA with base change

**Ban ve san-a kitab-ı bul-du.*
1SG AND 2SG-DAT book-ACC buy-PST[3SG]

c. No SA

Ban-a ve san-a kitab-ı bul-du.
1SG-DAT AND 2SG-DAT book-ACC buy-PST[3SG]
'S/he bought the book for me and you'

GW go on to analyze SA in Mari with proposed projections for POSS, PL, and CASE as NumP, DP, and KP. Following Merchant (2015) they propose an underlying order like (30a). Onto this order a process of D-lowering takes place and the new ordering looks like (30b). It is at the order of (30b) that SA marks morphemes for zero exponance (shown with a subscript 0) as in (30c). Later a D-metathesis is performed and the ordering for vocabulary insertion looks like (30d). This is how the suffix orderings in (26) are achieved, an example is partly repeated here.

(30) a. $[[[\text{ NP }]\ \text{Num }]_{NumP}\text{D}]_{DP}\ \text{K }]_{KP}$ Underlying Order

b. $[[[\text{ NP }]\ \text{D Num }]_{NumP}\ \text{t}_D\ ]_{DP}\ \text{K }]_{KP}$ D-Lowering

c. $[[[\text{ NP }]\ \text{D Num}_0\ ]_{NumP}\ \text{t}_D\ ]_{DP}\ \text{K}_0]_{KP}$ SA marking

d. $[[[\text{ NP }]\ \text{D K}_0\ \text{Num}_0\ ]_{NumP}\ \text{t}_D\ ]_{DP}\ \text{t}_K\ ]_{KP}$ D-Metathesis

Adapted from Guseva and Weisser (2017)

(26') SA of PL-INESS

tud-en sad-še den memn-an pasu-vlak-ešte-na
3SG-GEN garden-POSS.3SG AND 1PL-GEN field-PL-INESS-POSS.1PL
'. . . in his garden and in our fields'

There are important observations to be made in Guseva and Weisser (2017). First, the examples in (26) show that SA is not performed at the surface form. This observation is vital to distinguish SA from Backward Ellipsis in Turkish because Backward Ellipsis takes the surface form into account. Second, (28) shows that SA does not operate morphemes on a derivational level before their phonological representations are in place, yet (29) show that even taking those representations into account does not result in a successful SA in Turkish.

2.3.3 Serbian

According to Despić (2017), Serbian does not have SA, but a certain second place clitic shows some similarities to affixes in Serbian. This clitic in turn can take place in SA-like ellipsis. SA in Turkish verbal domain has a relation to the clitic copula *-i/ y/ ∅* (31) and the discussion of Serbian provides some insights for it.

(31) a. *Ev-e gel-ecék ve uyu-yacák-tı-m*
house-DAT come-FUT AND sleep-FUT=COP.PST-1SG

b. *Ev-e gel-ecék ve uyu-yacák i-di-m.*
house-DAT come-FUT AND sleep-FUT =COP-PST-1SG
'I was going to come home and sleep'

(31a) shows an SA of PST and AGR morphemes, but a closer look reveals what is suspended is a copular form together with tense and agreement markers. This copular which is a clitic can have an overt phonological form *i* which allows for SA (31b). The overtness of the clitic is not enforced, and it is even ungrammatical in some instances (32). The existence of clitic is inferred from the stress. In Turkish the stress falls on the phonological word and a clitic changes the stress pattern.

(32) a. *hastá ve yorgún-um*
sick AND tired-1SG[PRS]
'I am sick and tired'

b. **hastá ve yorgún i-yim.*
sick AND tired COP[PRS]-1SG

The instance where SA-like process takes place involves the infinitival marker *-ti* and second place future clitic *će* in Serbian. The bare bones explanation for second

place clitics is in a clause they occupy the linearly second place. If they are cliticized to the phonological word they are attached to, then the word can occupy the first place in the clause

I want to draw a similarity between the infinitival marker *-ti* in Serbian and the infinitival marker *-mAK* in Turkish. Verbs are not free forms in Serbian, just like verbs are not morphological words in Turkish. There is no need for an infinitival marker when the verb is inflected, and the inflection is performed on to the left of *-ti* or *-mAK*.

In Serbian some phonological processes are not triggered by clitics. (33) shows an example for the assimilation of [s] to [ʃ]. This is triggered by the diminutive suffix *će* but not by the second place future clitic *će*. The suffixes both have the same phonological environment.

(33) a. *Paš-će*
dog-DIM
'small dog'

b. *Vas će videti*
you.PL.ACC =AUX.3SG.FUT see.INF
'S/he will see you.'

Adapted from Despić (2017)

The second place future clitic *će* in is used as a free standing word. It does not cause phonological changes like the diminutive suffix *će*. (34) shows an example of second place future clitic *će* causing phonological change. This time, however, it is adjoined to the word instead of being in its free form.

(34) a. **Jes=ćeš*
eat=AUX.2SG.FUT

b. *Ješ=ćeš*
eat=AUX.2SG.FUT
'You will eat.'

Adapted from Despić (2017)

The observation in (34) may place the clitic as a suitable candidate for SA. (35) shows an elision of the second place future clitic *će*, from the first conjunct. In

(35) what is left after the elision is not a phonological string of what comes before the clitic, but an infinitival form.

(35) Elision of *će* 'FUT'

a. *Otići će i pogleda=će novi film.*
go.INF AUX.3SG.FUT AND see=AUX.3SG.FUT new.ACC film.ACC

b. **Otići će i pogleda novi film.*
go.INF AUX.3SG.FUT AND see new.ACC film.ACC

c. *Otići će i pogledati novi film.*
go.INF AUX.3SG.FUT AND see.INF new.ACC film.ACC
'He will go and see the new movie'

Adapted from Despić (2017)

Despić goes into an in-depth analysis to refute an idea of structural sharing of the future clitic. He provides the following example (36). There can be two different subjects in (36), so there is no VP-level conjunction. Despić further examines TP level adverbs in conjunctions, refuting a *v*P level conjunction too.

(36) *Polufinalni program će otvoriti Juentus i Real Madrid, a*
semi_final program AUX.3SG.FUT open.INF J AND R M AND
zatvoriti ga Barselone i Bajern
close.INF 3SG B AND B
'Juventus and Real Madrid will open the semi-final program, and Barcelona and Bayern will close it.'

Adapted from Despić (2017)

I reiterate an example from Despić about the elision of the second place future clitic *će* in (37). This example shows that it is possible to delete the second place future clitic *će* in Serbian under mismatching φ-features.

(37) a. *Ti ćes doći a ja (ću) otići*
2SG AUX.2SG.FUT arrive.INF AND 1SG (AUX.1SG.FUT) leave.INF
'You will come and I will leave'

Adapted from Despić (2017)

This is a direct contradiction to all the suspendable affixes in Turkish verbal domain which have clitic properties. The suspendable agreement *-Iz* '1PL' belongs

to the m-paradigm and has clitic properties. The unsuspendable agreement *-k* '1PL' belongs to the k-paradigm and does not have clitic properties. (38) illustrates both of the points.

(38) a. *Ev-e gid-ecék ve dinlen-ecéğ-iz*
house-DAT go-FUT AND rest-FUT-1PL
'We will go home and rest'

b. **Ev-e git-tí ve dinlen-dí-k*
house-DAT go-PST AND rest-PST-1PL
Intended 'We went home and rested'

The m-paradigm agreement markers cannot be suspended under mismatching φ-features unlike the Serbian second place future clitic *ću*. I give an example in (39) where suspension of 2SG is not permitted if the target of the SA is 1SG.

(39) **Sen ev-e gid-ecek ve ben dinlen-eceğ-im*
2SG house-DAT go-FUT AND 1SG rest-FUT-1SG
Intended 'You will go home and we will rest.'

As a summary the Serbian second place future clitic shows affix like properties but it undergoes an ellipsis process where mismatches in φ-features can be overlooked. As a contrast, some agreement markers in Turkish show clitic like properties yet they cannot undergo SA when there is a mismatch in φ-features.

2.3.4 Korean

Another language that hosts similar phenomena like SA is Korean. Korean could be considered to be typologically closer to Turkish than the other languages German, Mari, and Serbian. Yoon and Lee (2005), and Yoon (2017) provide a good set of data and some contrasts for SA and its environment. In the following paragraphs I give the relevant summary of the two papers.

Yoon and Lee (2005) present two conjunction types in Korean, that differ in how their conjuncts are formed. In the first, the conjoiner suffix *-kwa* (AND in glosses) conjoins two conjuncts, out of two only the second can be marked for CASE. A mirroring morphological form to this conjoiner could be the cliticized *ile/=lA* in

Turkish. I give an example in (40). The second type of conjoiner is the free form *kuliko* 'and', for the sake of argument it can be mirrored by *ve* 'and' in Turkish (41).

(40) a. *John-kwa Mary-ka cip-ey ka-ss-ta.*
J-AND M-NOM home-LOC go-PST-DECL
'John and Mary went home'

Adapted from Yoon and Lee (2005)

b. *Can=la Meryem ev-e git-ti.*
C=AND M[NOM] home-DAT go-PST
'Can and Meryem went home'

(41) a. *John-i kuliko Mary-ka cip-ey ka-ss-ta*
J-NOM AND M-NOM home-LOC go-PST-DECL
John and Mary went home

Adapted from Yoon and Lee (2005)

b. *Can ve Meryem ev-e git-ti-(ler)*
C AND M[NOM] home-DAT go-PST-(3PL)
'Can and Meryem went home'

The two different conjoiners show differences in interpretations. The reading differences lie in distributive or non-distributive readings, compatibility with collective modifiers, and compatibility with collective predicates. An example for the order of readings for both conjuncts is given in (42).

(42) a. *John-kwa Mary-ka ochen-pwul-ul pelessta*
J-AND M-NOM 5000-dollars-ACC made

b. *John-i kuliko Mary-ka ochen-pwul-ul pelessta*
J-NOM AND M-NOM 5000-dollars-ACC made
Reading 1: John and Mary each made $5000

Reading 2: John and Mary together made $5000

(42a): Reading 2>Reading 1 (42b): Reading 1>Reading 2

Adapted from Yoon and Lee (2005)

This preference for readings are different in both conjoiners, but it does not mean that the conjoiner *-kwa* is incompatible with distributive readings. (43a) shows a distributive reading for *-kwa*. Another observation, that Yoon et al. makes is that the conjoiner *kuliko* is incompatible with collective readings (43b).

(43) a. *John-kwa Mary-ka kakkak cip-ey ka-ss-ta*
J-AND M-NOM each home-LOC go-PST-DECL
'John and Mary each went home'

b. **?Cheli-ka kuliko Yenghi-ka chayksang-ul hamkkey mantul-ess-eyo*
C-NOM AND Y-NOM desk-ACC together make-PST-DECL
Intended: 'Chelswu and Yenghi made a desk together'

Adapted from Yoon and Lee (2005)

The two conjoiners differ with respect to SA. The conjoiner *-kwa* triggers CASE SA, but the conjoiner *kuliko* does not. Yoon et al. shows a distinction between the two conjoiners deeming *-kwa* as a conjoiner for phrase levels and *kuliko* as a conjoiner for clauses. These observations made so far about Korean conjoiners *-kwa* and *kuliko* show the importance of analyzing conjunction structure.

Yoon and Lee (2005) provides some data and analysis for two conjoiners in Korean, but Yoon (2017) is focused on SA. Yoon presents derivational Korean suffixes that derive verbs or adjectives from nominal bases. These suffixes display a clear cut difference in allowing SA. In providing SA-independent contrasts between these suffixes, Yoon presents some examples with Lexical Integrity tests of conjoined base, modifying the base, and gapping/ellipsis of the suffix. In expressing the difference between two suffix groups, Yoon uses the terms: Transparent suffix and Opaque suffix. These two terms represent a suffix's ability to be either treated as transparent and visible in morphological or syntactic derivations, or treated as opaque and non-compositional. (44) shows overt examples for the contrast between the two groups.

(44) Conjoined base

a. **[Kunul-kwa kilum]-ci-n ku kos*
shade-AND oil-DER-REL that place
'That plot of land, which is shaded and fertile'

b. *Ku-nun [yongkamha-n kwunin-kwa cincengha-n*
3SG-TOP courageous-REL soldier-AND genuine-REL
aykwukca]-taw-ass-ta
patriot-DER-PST-DECL
'He really lived up to his reputation as a courageous soldier and true patriot'

Modified base

c. *Cenyek-ey-nun *[etwuw-un kunul]-ci-nun kos*
dusk-LOC-TOP dark-REL shade-DER-REL place
'A place that gets dark at dusk'

d. *Ku-nun [hwullyungha-n hakca]-tap-key yenkwu-lul swi-ci*
3SG-TOP outstanding-REL scholar-DER-COMP research-ACC stop-COMP
anh-nunta
NEG-PRS
'He never stops dping research, as befits his reputation as an outstanding scholar'

Gapping/Ellipsis

e. **Ku kos-un kilum-_ kuliko i kos-un kunul-ci-ta*
that place-TOP oil-_ AND this place-TOP shade-DER-DECL
Intended 'That place is fertile while this place is shady'

f. *Cheli-nun kwunin-_ kuliko Tongswu-nun haksayng-tap-ta.*
Cheli-TOP soldier AND Tongswu-TOP student-DER-DECL
'Cheli is every bit a soldier and Tongswu (every bit) a student.'

Adapted from Yoon (2017)

(44) shows a clear distinction in the tests, but a suffix does not always behave the same. For example in (45), the suffix *-tap* behaves like *-ci* in not allowing modification of base . Yoon dubs this category of suffixes as Double-duty suffix.

(45) **[Ceng-kwa alum]-taw-un sa.i*
affection-AND beautiful-DER-REL relation
'Close and beautiful'

The behaviours of suffixes in (44) show that derivational suffixes can have different responses to structural configurations. This is an observation that can prove useful for identifying why, if any, some derivational suffixes in Turkish can take part in SA and some can not. Yoon, after further tests and contrasts, provides a table

indicating the different category of derivations, a short version of it is given in Table 6.

Table 6. Response of Different Category Suffixes in Korean to Lexical Integrity Tests

Suffix	Coordination	External Modifiers	Gapping (Base)
Opaque	N	N	N
Transparent	Y	Y	N
Double-duty	N/Y	N/Y	N

Suffix	Gapping (Suffix)	Inbound Ana Island	Extraction
Opaque	N	N	N
Transparent	Y	Y	N
Double-duty	N/Y	N/Y	N/Y

The observations of Yoon show that not all derivations are representable as one sub-syntactic and opaque process. Even the ones that have a transparent relation with syntax do not behave the same. Yoon proposes an analysis using of Word-internal phases, citing Marantz (2007). The analysis boils down to these suffix categories belonging to different word derivation bases. Opaque suffixes combine with the $\sqrt{ROOT}$ assigning the category and take place in the first phase of word derivation. Transparent suffixes combine with category assigned words and take place in the second phase of word derivation. Figure 7 illustrates both phases.

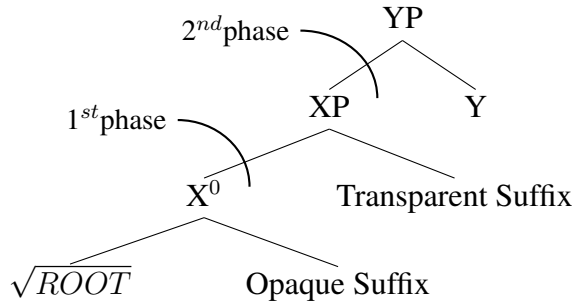

Figure 7. Root internal phase in word-derivation

In Figure 7, there is one suffix for each phase. This does not mean that an opaque suffix always culminates the first phase. According to Yoon, there could be several suffixes that could form a new Root from a base Root without category assignment as the Figure 8 illustrates.

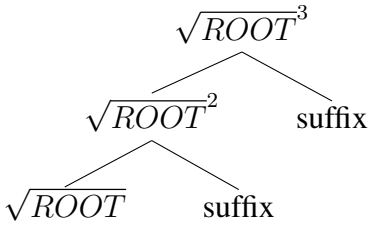

Figure 8. Derived Roots from Root bases in first word derivation phase

The explanation of word formation phases captures the differences in the suffix groups of Transparent and Opaque. Opaque suffixes merge with Roots and cannot be targeted by SA, but Transparent suffixes merge with category assigned words and can be targeted by SA. This explanation can be utilized in explaining why bare verbs are not morphological words and why SA can not take place with bare verb remnants in Turkish.

2.3.5 Ossetic

Erschler (2012) and Erschler (2018) deal with SA in Ossetic. Ossetic is a language spoken in Northern Georgia and bordering Russia. Ossetic displays a set of data that on the surface seems to be inconsistent when it comes to SA. For example, when a pronoun and a proper noun is conjoined, the choices of CASE for the both conjuncts change depending on the order of the conjuncts (46). In (46a) it seems there is no SA since the pronoun 2SG is marked for OBL. On the other hand in (46b) there is SA of ABL from the proper noun *Alan*.

(46) a. *dɐw ɐma Alan-ɐj tarstɐn*
2SG.OBL AND A-ABL be.afraid.PST.1SG
'I am afraid of you and Alan'

b. *Alan ɐma dɐw-ɐj tarstɐn*
A[NOM] AND 2SG-ABL be.afraid.PST.1SG
'I am afraid of Alan and you'

Adapted from Erschler (2012)

Erschler (2012) deals with SA of CASE in Ossetic. He provides some background into the case system of Ossetic before moving on with examples and analysis of SA. Definite animates, and personal pronouns are obligatorily marked

OBL, inanimate objects are marked NOM, and modifiers are not case marked. All plural nouns in Ossetic loose their final [ɐ] sound when marked by vowel initial case markers. This is taken to be a phonological constraint, since consonant initial case markers do not trigger the same alternation. (47) shows an example of dropping [ɐ].

(47) a. *bɐχ-tɐ*
horse-PL[NOM]

b. *bɐχ-t-ə*
horse-PL-OBL

Adapted from Erschler (2012)

Erschler proposes some constraints, first of which is that any case marker can be suspended. This is not so much of a constraint but an observation. The examples in (48) host SA for OBL, SUP, ABL, and LOC.

(48) a. SA of OBL

Soslan ɐma Zalijn-i χɐdzɾɐ
S AND Z-OBL house
'the house of Soslan and Zalina'

b. SA of SUP

Alan ɐma Soslan-bɐl is-ɐmbalttɐn
A AND S-SUP PRV-meet.PST.1SG
'I met Alan and Soslan'

c. SA of ABL

Alan ɐma Soslan-bɐj tarstɐn
A AND S-ABL be.afraid.PST.1SG
'I was afraid of Alan and Soslan'

d. SA of LOC

budur ɐma ʁɐd-i bɐrɐ č'ewu-tɐ iš-šerdtoncɐ
field AND forest-LOC many bird-PL PRV-find.PST.3PL
'They found many birds in the field and the forest'

Adapted from Erschler (2012)

The second constraint is that the first conjunct in SA should be the base of the case marker, without phonological processes like [ɐ] deletion (49).

(49) a. *bɐχ-t-imɐ ɐmɐ*[2] *gɐl-t-imɐ*
horse-PL-COM AND OX-PL-COM

b. **bɐχ-t ɐmɐ gɐl-t-imɐ*
horse-PL AND OX-PL-COM

c. *bɐχ-ta ɐmɐ gɐl-t-imɐ*
horse-PL AND OX-PL-COM
'with horses and oxen'

Adapted from Erschler (2012)

Complying with the same constraint, personal pronouns that have different bases for some of the cases need to have those bases as their remnants in the first conjunct (50).

(50) a. *dɐw/*du ɐma Alan-bɐl is-ɐmbalttɐn*
2SG[OBL]/*2SG[NOM] AND A-SUP PRV-meet.PST.1SG
'I met you and Alan'

b. *dɐw/*du ɐma Alan-ɐj tɐrsun*
2SG[OBL]/*2SG[NOM] AND A-ABL be.afraid.PRS.1SG
'I am afraid of you and Alan'

Adapted from Erschler (2012)

The third constraint for Ossetic SA is what is left after suspension should be an independent (morphological) word. The two branches of Ossetic differ in regarding a reciprocal form 'each other' as an independent word. In Iron Ossetic it is an independent word and can take part in SA whereas the Digor counterpart is not an independent word and does not take place in SA (51).

(51) a. **nɐ=duwɐ tikiš-i kɐrɐʒe ɐma nɐ=kuj-ɐj*
POSS1.PL=two cat-OBL each.other AND POSS1.PL=dog-ABL
tɐrs-uncɐ
be.afraid.PRS.3PL

b. *?nɐ=dəwɐ gɐdy-je kɐrɐzi ɐmɐ nɐ=kʷəz-ɐj*
POSS1.PL=two cat-OBL each.other AND POSS1.PL=dog-ABL
tɐrš-ənc
be.afraid.PRS.3PL
'Our two cats are afraid of each other and of our dog'

[2]Erschler (2012)'s examples consist of two branches of Ossetic, Iron and Digor. For the sake of summarizing, I do not specify which examples are which and reiterate respective examples freely to serve the points made. Due to that, the reader may observe some phonological differences in lexical items.

Adapted from Erschler (2012)

The fourth constraint of Ossetic SA is that what is left after SA should not have idiosyncratic meaning. This constraint relates to the 3SG pronoun form *wəm* which has the meaning 'there' that serves as the base for the Dative marked 3SG pronoun (52).

(52) a. *wəm æmæ mædinæ-jæn didinǯəte ratta*
there AND M-DAT flowers gave

b. *wəm-æn æmæ mædinæ-jæn didinǯəte ratta*
3SG-DAT AND MM-DAT flowers gave
'S/he gave flowers to her and Madina'

Adapted from Erschler (2012)

The final constraint for Ossetic SA is that when both conjuncts are pronouns no suspended affixation takes place, a point illustrated in (53).

(53) a. *mæn-bæl æmæ dæw-bæl æwwænduj*
1SG-SUP AND 2SG-SUP believe.PRS.3SG
'S/he believes me and you'

b. **mæn æmæ dæw-bæl æwwænduj*
1SG[OBL] AND 2SG-SUP believe.PRS.3SG
Intended 'S/he believes me and you'

Adapted from Erschler (2012)

Following these observations, Erschler argues that SA needs to be a phonological deletion process after vocabulary insertion instead of a structural sharing process. Erschler argues against an approach where case markers are treated as syntactic projections. This in turn makes the structural sharing argument less appealing. He provides the examples in (54) where the complements of adpositions can not control depictives, but case marked arguments can.

(54) a. *soslan χetæg-i χæccæ rasug-æj dzor-uj*
S[NOM] X-OBL with drunk-ABL talk-PRS.3SG
'Soslan$_i$ is talking to Xetag$_i$ when he$_{i/*j}$ is drunk.'

b. *soslan χetæg-bæl rasug-æj=dær æwwænd-uj*
S[NOM] X-SUP drunk-ABL=EMP believe-PRS.3SG
'Soslan$_i$ believes in Xetag$_i$ even when he$_{i/j}$ is drunk'

In Erschler (2018), he further develops the approach of ellipsis for SA. He provides the alternative question configurations in which SA can take place (55) to show that SA is an ellipsis process.

(55) a. *sɐrmɐt(-mɐ) ɐvi uruzmɐg-mɐ ʤurdtaj?*
S(-ALL) OR.Q U-ALL you.called
'Did you call Sarmat or Uruzmag ?'

b. *adɐjmag k^{w}əd fɐžənd? arv-ə c'ɐʁ(-ɐj) ɐvi šəʤət-ɐj rajg^{w}ərd*
human how appeared sky-OBL blue-ABL OR.Q clay-ABL was.born
'How did the humans appear? Were they born from the sky blue or from clay?'

Adapted from Erschler (2018)

I mirror the examples in (56) in two ways. First, the exclusive alternative question is formed by two question clitics *=mI*. Second is a disjunctive yes/no question which is formed with *or* 'veya'. The exclusive alternative question does not let SA but the disjunctive yes/no question does.

(56) a. *Ali*(-yi)=mi Mehmet-i=mi ara-dı-n?*
Ali-ACC=Q Mehmet-ACC=Q call-PST-2SG
'Did you call Ali or did you call Mehmet?'

b. *Ali veya Mehmet-i=mi ara-dı-n?*
Ali OR Mehmet-ACC=Q call-PST-2SG
'Did you call Ali or Mehmet?'

Turkish exclusive alternative questions do not allow for SA unlike Ossetic. One important point needs to be made here. The question clitic *=mI* in Turkish is a focusing element which draws focus to the preceding argument it is attached to. In exclusive alternative questions the question clitic *=mI* focuses the target word for SA.

Erschler moves onto pinpointing where the deletion process takes place after claiming that SA is an ellipsis process. He uses the DM framework, and argues that SA takes place after vocabulary insertion but before morpheme specific readjustments. The support for SA taking place after vocabulary insertion comes from the example in (57a) since the fragment after SA is the base for SUP and not the

base for NOM. The support for SA taking place before morpheme specific phonological adjustments comes from the example in (57b) since the phonological assimilations of [g-ʤ] and [k-ʧ] dont take place in the first conjuncts under SA of OBL.

(57) a. *dæw(-bæl)/*du æma mædinæ-bæl isæmbalttæn*
2SG.OBL-(SUP)/2SG.NOM AND M-SUP 1SG.met
'I met you and Madina'

b. i. *park æmæ wənʤ-ə*
park AND street-OBL
'in/of the street and the park'

ii. *wəng æmæ parʧ-ə*
street AND park-OBL
'in/of the park and the street'

Erschler argues that SA is a backward ellipsis process under identity where not all conjuncts should bear [+EMP] feature. He cites Herbeck (2016) in defense of positing information structure features in the lexicon for lexical items where Herbeck argues that Spanish overt pronouns have feature [+FOC]. Overt pronouns need to be discourse configured hence the feature [+EMP] because Ossetic is a pro-drop language like Turkish (cf. Öztürk (2001) overt Turkish pronouns).

2.4 Summary

As a summary of the literature presented in this chapter, I provide the following observations about SA:

- It is a rightward bound process in the underlying morpheme order: Examples provided in Kabak (2007), Pounder (2006), and Guseva and Weisser (2017) show this for Turkish, German, and Mari.
- It is found both in inflectional and derivational paradigms: Examples provided in Akkuş (2016), and Yoon (2017) show this for Turkish and Korean.

- It takes place after vocabulary insertion and before phonological readjustments: Examples provided in Pounder (2006), Guseva and Weisser (2017), and Erschler (2018) show this for German, Mari and Ossetic.

These are the observations that seem to be consistent in all the papers. However, not all the papers align in the structural analysis of SA. The dominant account for Turkish seems to be structural sharing in nature (Orgun, 1995; Kornfilt, 1996; Broadwell, 2008; Kornfilt, 2012). This account is in line with Ackema et al. (2004); Kunduracı and Göksel (2016); Bruening (2018) since in such form of language derivation an output of syntax can become an input for morphology and word formation. The accounts provided for other languages like Serbian, Mari, and Ossetic are all ellipsis analyses (Despić, 2017; Guseva and Weisser, 2017; Erschler, 2018). The summary of the literature for Turkish SA presents the following points to be addressed for any further study. It is the aim of this thesis to scrutinize these issues and contribute to the literature in an orderly and comprehensive manner.

- Is SA of derivational suffixes possible in Turkish? If so how, if not why?
- What empirical studies can be used to determine the processing cost of SA?
- How does SA interact with sentence processing?

The environment of SA is conjunction, and some analyses treat conjunction differently. I give what conjunction analysis I follow and what are the constraints I expect in forming conjunctions in the following section.

2.5 Conjunction

The functional cue or signal for such conjunction usually have a conjoiner like *veya* 'or' and *ve* 'and'. These structures are not necessarily additive, and depending on the parts they are putting together, the relations that the parts hold to one another can change. A conjoiner like *ve* 'and' can have additive properties when it conjoins nouns, but an ordering one when it conjoins sentences. (58) shows an example for each.

(58) a. *Ahmet kalem ve kitap al-dı.*
A[NOM] pencil AND book buy-PST[3SG]
'Ahmet bought some pencils and books.'

b. *Ahmet ev-e git-ti ve bulaşığ-ı yıka-dı.*
A[NOM] house-DAT go-PST[3SG] AND dishes-ACC wash-PST[3SG]
'Ahmet went home and washed the dishes.'

The structural representation of conjunctions can prove a bit difficult when other language processes are taken into account. One interesting behaviour of conjunctions is that the extraction of a conjunct from the conjunction is not felicitous. This is commonly known as Coordinate Structure Constraint (Ross, 1967). (59) illustrates this constraint in Turkish.

(59) **Ahmet ne ve kitap al-mış?*
A[NOM] what AND book buy-PST[3SG]
'*Ahmet bought what and book?'

In addition to this behaviour, conjunctions are not always carried out by overt conjoiners. Some instances of conjunctions can be signalled by small prosodic breaks. I give an example of this in (60) where commas indicate prosodic breaks.

(60) a. *Ahmet pazar-dan domates, biber, patlıcan al-dı.*
A[NOM] market-ABL tomato pepper aubergine buy-PST[3SG]
'Ahmet bought tomatoes, peppers, and aubergines from the market.'

b. *Ahmet pazar-a git-ti, domates al-dı.*
A[NOM] market-DAT go-PST[3SG] tomato buy-PST[3SG]
'Ahmet went to the market, and bought tomatoes'

Constraints like CSC and the possibility of conjoining more than two elements with or without conjoiners made conjunctions receive ternary branching analysis. This analysis regards all the conjuncts as elements of the same hierarchical level. Figure 9 shows a simple example for conjunction of three conjuncts.

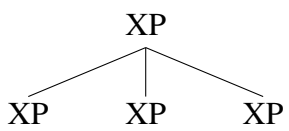

Figure 9. Early conjunction analysis

This analysis however is problematic when binding principles (Chomsky, 1993; Haegeman, 1994) are taken into account. More specifically Principle B which states that a pronoun must be free in its binding domain. For a simple consideration of what constitutes a binding domain I use c-command relation. (61) shows Principle B in Turkish. In this example, the proper noun *Ahmet* c-commands the pronoun 'o(n)' 3SG. This means that the pronoun can not be co-referential with the proper noun since it is in the binding domain of the pronoun.

(61) *Ahmet*$_i$ *on*$_{*i/j}$*-un arkadaş-ın-ı sev-iyor.*
A[NOM] 3SG-GEN friend-POSS.3SG-ACC like-PROG
Ahmet$_i$ likes his$_{*i/j}$ friend.

An analysis like Figure 9 predicts all conjuncts to c-command one another. This means that no conjunct should be able to bind a pronoun within the conjunction. (62) shows an example that goes against such a prediction. In this example the pronoun *o* 3SG can be co-referential with a proper noun *Ahmet* even if they are in a conjunction.

(62) *Ahmet*$_i$ *ve on*$_{i/j}$*-un arkadaş-lar-ı*
A AND 3SG-GEN friend-PL-3SG
'Ahmet$_i$ and his$_{i/j}$ friends'

Co-referentiality in (62) would have been infelicitous if the pronoun *Ahmet* were to c-command the other conjunct. This means that a ternary branching analysis that treats all conjuncts belonging to the same hierarchical level is problematic.

There are at least three different ways that a binary representation of conjunctions can be represented. These are Munn (1993)'s adjoined Boolean Phrase (BP) analysis, Johannessen (1998)'s Co(njunction/ordination) Phrase (&P) analysis, and lastly Te Velde (2005)'s pure merge analysis. I briefly explore these analyses in the next subsections.

2.5.1 BP analysis

Munn (1993) revisits and revises the observations made in Munn (1987) for an asymmetric structural interpretation for conjunctions. He proposes that conjoiners

form a boolean phrase, and work on the basis of semantics. The conjoiner takes an argument, makes a boolean phrase (BP), and takes another semantically equivalent argument to form a complete conjunction. The resulting structure bears the syntactic category of the last argument. Figure 10 illustrates a basic representation of the analysis.

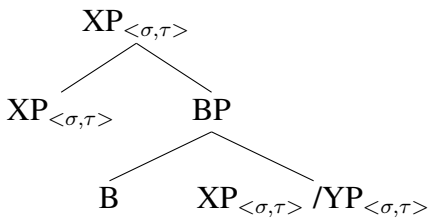

Figure 10. Boolean phrase analysis of conjunction

The analysis Munn provides is head initial, and works on the semantic denotation of the conjuncts. The only requirement for a conjunction is semantic equivalence. The example (63) shows conjunction of two different syntactic categories in Turkish. The first conjunct is an adverb phrase and the other is a post-positional phrase.

(63) a. *Ahmet dikkatlice ve azim-le çalış-ıyor.*
A[NOM] carefully AND tenacity-INS work-PROG[3SG]
'Ahmet is working carefully and with tenacity.'

Changing the headedness of the analysis can fit it into Turkish and predict the correct c-command relations for (62). Figure 11 illustrates an abstract representation of BP and conjunction.

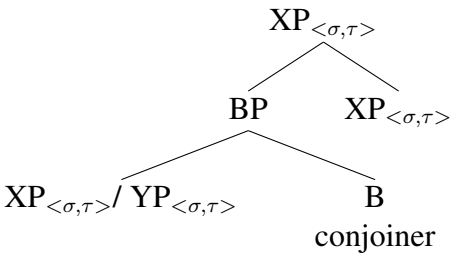

Figure 11. Structural representation of BP for Turkish

2.5.2 &P analysis

Johannessen (1998) proposes asymmetric conjunction analysis following the irregularities that conjunctions display in several languages.[3] She categorizes conjunctions into unbalanced and balanced conjunctions where balanced conjunction has, order wise, reversible conjuncts with no cost of grammaticality or form but unbalanced conjunctions don't have reversible conjuncts without a cost of change in the conjuncts or grammaticality. The unbalanced conjunctions can have different type too. One of those types that Johannessen dubs 'assigning type unbalanced conjunction' is the base argument for the peculiarities of conjunctions.

In the assigning type conjunctions, one of the conjuncts determine the syntactic relations that the conjunction and other processes hold, such as agreement on the verb. An example for person agreement from Czech (64a), another example of gender agreement from Latin (64b) is provided in Johannessen where one of the conjuncts determine the agreement. In (64a), the verb holds person agreement with the first conjunct. In (64b), the verb holds gender agreement with the second conjunct.

(64) a. Czech

Půjdu tam [já a ty].
will.go.1SG there 1SG AND 2SG
'You and I will go there.'

b. Latin

[Populi provinciaeque] liberatae sunt.
people.M.PL province.F.PL.AND liberated.F.PL are
'The people and the provinces are liberated.'

as cited in Johannessen (1998)

Johannessen goes onto presenting more conjunctions of this type to show the conjunction should receive its own syntactic category so that the kind of constructions like assigning unbalanced conjunctions can be accounted for. Figure 12 illustrates the structural representation she proposes.

[3] the title of her work is 'Coordination', and the explanations are provided with that naming. For the sake of cohesiveness I replace the 'Coordination' with 'Conjunction'

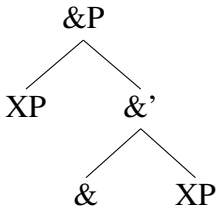

Figure 12. Conjunction phrase analysis of Johannessen (1998)

In this analysis the conjoiner is a functional head that takes two arguments and projects a conjunction phrase. The headedness of the structure follows from the language and in the case of Turkish, the first conjunct is the first argument of the conjoiner and the second conjunct is the second argument. The final conjunction phrase carries the syntactic label of the second conjunct, if syntactic processes that require lexical categories are concerned.

One shortcoming of Johannessen is that she uses examples of SA from languages like Eastern Mari, Old Uighur, and Turkish to argue for unbalanced conjunctions. In (65), I repeat some examples of Johannessens' that fall into SA. This is not a big concern for her analysis in particular, but I mention it here for its relevance to my study.

(65) a. Eastern Mari, SA of PL

[Rveze den ydərvlak] modət
boy AND girl.PL play.3PL
'The boy(s) and the girls are playing.'

b. Old Uighur, SA of ACC

[Jalaŋuq-lar tynlyɣ-lar-yɣ]
man-PL animal.PL.ACC
'the men and the creatures'

c. Turkish, SA of PL and ACC

Elma veya armut-lar-ı ye-di-niz mi?
apple OR pear-PL-ACC eat-PST-2PL =Q
'Did you eat the apples or the pears?'

Adapted from Johannessen (1998)

2.5.3 Pure merge

Te Velde (2005) provides some theory internal objections to both the analysis of Munn (1993) and Johannessen (1998). These include the assumptions that both the analyses hold with respect to the conjunct positions. The analysis of Munn suggests that the boolean phrase, which has the conjoiner and one conjunct, is adjoined to the other conjunct. The analysis of Johannessen suggests that the conjoiner projects to a conjunction phrase where one of the conjuncts is the complement and the other conjunct is placed on the specifier position of the conjunction phrase. Te Velde argues that the specifier adjunct positions should be subject to movement in theory. Movement out of a conjunct on the other hand is not permitted (Ross, 1967).

Te Velde argues for an analysis that regard a conjoiner as a defective syntactic category with no phrase projection akin to BP or &P. He claims that conjunction is carried out at the base positions with 'Pure Merge' as he cites Chomsky (1999). The conjoiner signals a process of conjunction that triggers certain constraints that are set for a conjunction. These include the copying and checking over the syntactic and semantic features, where the features differ in their influence over the well-formedness of the conjunction. This solves a theory internal problem in terms of the place status of conjuncts. A base generation removes the analyses of adjunction or specifier positions.

Te Velde provides an example from German where two prepositions are conjoined and used with a single noun. In (66a), the preposition *in* 'in' assigns DAT and *um* 'around' assigns ACC. The noun *Stadt* is used with an accusative article *die* instead of a dative *der*. Te Velde argues that there is no independent evidence to argue for an ellipsis analysis to account for (66a) as in (66b).

(66) a. *Wir kaufen heute in*$_{\text{DAT}}$ *und um*$_{\text{ACC}}$ *die Stadt ein*
we buy today in AND around the.ACC city in
'We're going shopping in and around the city.'

b. *Wir kaufen heute in ~~der Stadt~~ und um die Stadt ein*

Te Velde (2005)

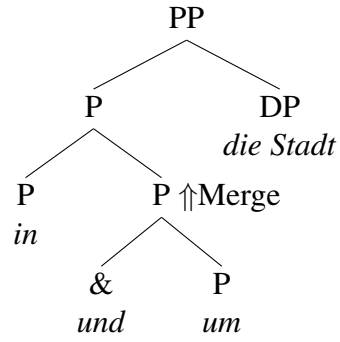

Figure 13. Base generated conjunction

I have provided three analyses of conjunctions in this section. All of them have a hierarchical representation. Munn (1993) provides an adjunction analysis of BP where BP consists of one conjunct and a conjoiner. BP is later adjoined to the other conjunct. Johannessen (1998) provides a full conjunction phrase analysis where one of the conjuncts is the complement and the other is the specifier of &P which is headed by a conjoiner. Te Velde (2005) provides a pure merge analysis where one of the conjuncts is merged with the other at base position. In this study I follow the analysis of Munn (1993). The analysis of Johannessen places one of the conjuncts on a specifier position which should be open to movements as Te Velde argues. Te Velde further argues against an adjunction analysis of Munn but he recognizes that adjunction and merge do not have clear distinctions to argue against. Te Velde's arguments mostly revolve around arguing against a conjoiner that could check or assign case, or a specifier position for conjunctions. I recognize that Te Velde's analysis can prove useful as a general interpretation of conjunction but none of the examples he provides are adjusted for a head final and an agglutinative language like Turkish. One of the examples Te Velde provides right after (66a) is (67). He provides the structural representation in Figure 14 for the analysis of (67).

(67) *Fritz dankt und begrüßt den Herrn*
F thanks AND greets the.ACC gentleman
'Fritz thanks and greets the gentleman'

Te Velde (2005)

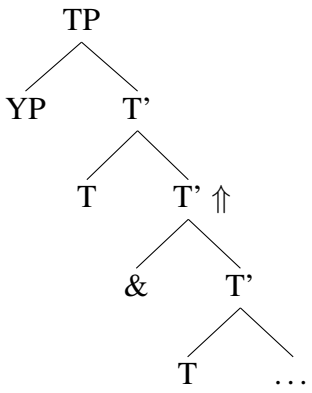

Figure 14. Te Velde tense conjunction

I give a sentence with argument structure of (67) in (68). The same structural analysis Te Velde provides can not be carried out for Turkish. The functional head for tense is suffixed to the verb. A base merge of a partial construction to the head projection of tense as in Figure 14 is not possible.

(68) *Ahmet adam-ı gör-dü ve çağır-dı.*
A[NOM] man-ACC see-PST[3SG] AND call-PST[3SG]
'Ahmet saw and called the man.'

Accounting for the sentences like (68) requires a whole other exploration of the mechanisms of conjunction that Te Velde provides. Not all are related to this study. That's why I only use the semantic equivalence condition for a successful conjunction of phrases and adopt Munn (1993)'s analysis in treating conjunctions.

CHAPTER 3

EXPLORATORY STUDIES IN SUSPENDED AFFIXATION

In this chapter my aim is to better understand the constraints of SA. One of these constraints is about the type of suffix that can be suspended, another constraint is related to the processing cost of SA, and the last one is related to the conjoiner choice in SA environments and its effects. I present 2 exploratory studies that investigate these aspects of SA. The first is an acceptability study with 214 participants, and the second is a self paced reading study with 160 participants.

3.1 Acceptability study

In the literature of SA in Turkish, it is claimed that SA is only operational for inflectional suffixes (Orgun, 1995; Kornfilt, 1996; Broadwell, 2008; Kornfilt, 2012) with the exception of Akkuş (2016). Isolated examples for SA of derivational suffixes can be found in corpora, but the literature treats them as exceptions. One similarity of this exceptionalism can be argued for the instances of SA in German. The examples provided in German (Pounder, 2006) have a ”-” character at word endings where the suspended affix should be recovered, and the examples are from written literature sources. This might indicate that SA in German is a script-wise use. A similar reasoning can be made for SA of derivational suffixes in Turkish: They are not a language phenomena, they are script-wise exceptions. I have designed a simple acceptability judgment study to see whether or not SA of derivational suffixes are acceptable, an how the conjoiner choice affects the acceptability. I have taken a subset of the derivational suffixes that take nominal bases and produce nominals from a list in Göksel and Kerslake (2005). I give the derivation examples for the suffixes in (1).

(1) a. *düş-er-cesine*
fall-AOR-DER
‘as if falling’

b. *yalan-cı*
lie-DER
‘liar’

c. *kahve-msi renk*
coffee-DER colour
'like coffee colour'

d. *üç-üncü*
three-DER
'third'

e. *sorun-lu adam*
problem-DER man
'troubled man'

f. *düşman-lık*
enemy-DER
'enmity'

g. *sınır-sız internet*
limit-DER internet
'limitless internet'

h. *iki-şer*
two-DER
'two by two'

The suffixes I have chosen do not have a particular property that could make them suitable candidates for SA. I have tried to use some of the observations of Yoon (2017) where he suggests that some suffixes belong to a different morphological phase and retain their atomic properties even after vocabulary insertion. The morphemes that retain syntatic visibility choose category assigned bases and can take part in SA. Among the suffixes I have selected, some show differences in what they take as a base. In (2), I provide a small description for the unique differences that some suffixes display.

(2)
- *-CasInA* can take bases that are modified with a participle like PRF, PROG, or AOR.
- *-CI* takes noun bases and it is an agent nominalizer
- *-(I)msI* takes adjective bases and returns a degree adjective
- *-(I)ncI* takes numerals and returns an ordinal numeral
- *-(ş)Ar* takes numerals and returns adverbs

I have designed an acceptability study where a simple yes or no answer is provided for an expression hosting an SA construction. My purpose in this experiment is to investigate how much the suspension of the suffixes in (1) are acceptable and how they compare to ACC. Additionally I investigate the effect of a

conjoiner choice between *ve* 'and' and *veya* 'or'. In the following subsections I lay out the participants, materials, procedure, results, and analysis of the experiment.

3.1.1 Participants

The participants are 214 students from Boğaziçi University who are native speakers of Turkish. In exchange for their participation they have received 1 point to their overall course score.

3.1.2 Materials

The experiment is comprised of two variables: Suffix with 9 different suffixes (8 derivational and 1 inflectional ACC) and conjoiner with 2 conjoiners. For each suffix there are 3 distinct items. This way there are 54 experimental items. Additionally there are 27 grammatical and 27 ungrammatical fillers. A latin square design by conjoiner type is applied, forming two lists of 27. This resulted in each participant seeing only 27 experimental items and 54 fillers. The order of trials is randomized for each participant. An example set of experimental items for ACC and *-CAsInA* is given in (3). The experiment is formed using http://spellout.net/ibexfarm/ (Drummond, 2013), and carried out online. For the full list of items and fillers (1-27 and 100-154), see Appendix A.

(3) a. DER_AND

Ev-e koş-ar ve zıpla-r-casına gel-di-m.
house-DAT run-AOR AND jump-AOR-DER come-PST.1SG

b. DER_OR

Ev-e koş-ar veya zıpla-r-casına gel-di-m.
house-DAT run-AOR OR jump-AOR-DER come-PST.1SG
'I came home as if running and/or jumping.'

c. INFL_AND

Ev-e defter ve kitab-ı getir-di-m.
house-DAT notebook AND book-ACC bring-PST.1SG

d. INFL_OR

Ev-e defter veya kitab-ı getir-di-m.
house-DAT notebook OR book-ACC bring-PST.1SG
'I brought home the book and/or the notebook.'

3.1.3 Procedure

Participants are provided a link to the experiment prompting them with a consent page. Upon giving consent participants go through 5 practice items and they are prompted again for the beginning of the experiment. Each trial proceeds with a full sentence and participants decide on whether or not the sentence they read is a natural/ok sentence in Turkish. They profess their decision by pushing 'Q' key for 'yes' and 'P' key for 'no' on the keyboard. The experiment only recorded choice and response time. Participants are redirected to a separate page where they provided their student information to be relayed to the course's professor for the extra credit after the experiment is done. This information is kept separate from the experiment results, keeping participant information and experimental data anonymous.

3.1.4 Results

The results are recorded onto a csv file and imported to R (R Core Team, 2013) for data cleaning, aggregation, and analysis. The data consisted of 17415 data points before cleaning. 1 experimental item with a typo and 1 experimental item with a possible ambiguity are excluded from the data. A further 3 filler items are excluded because they had particular configurations that lead to increased misparsing like garden path sentences. After this exclusion, accuracies of the participants are calculated relying on their answers for filler items. 10 participants with accuracies lower than 70% are excluded from the data. Trials that are not between 2 and 7 seconds of response time are considered outliers and also excluded from the data. This cleaning process resulted in the loss of 30% of the data. In Figure 15, I give the average acceptability of each suffix by conjoiner type[1].

[1] from here on out all vertical errorbars indicate confidence intervals adjusted for within subject variation (Cousineau, 2017).

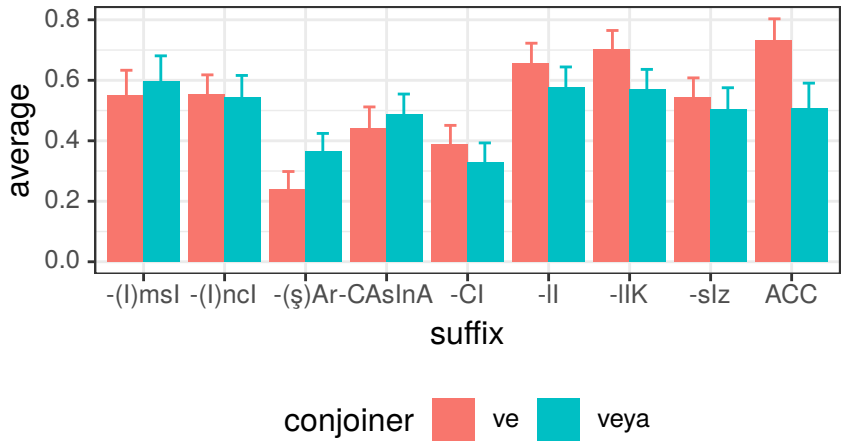

Figure 15. Average acceptability of suffixes by conjoiner

For more inference in the acceptabilities, I have fitted a linear mixed model using brms package (Bürkner and Others, 2017). I have used conjoiner and suffix type as predictors with sum contrasts for both. I have controlled for random effects of item and subject. I give the results of the model in Figure 16.

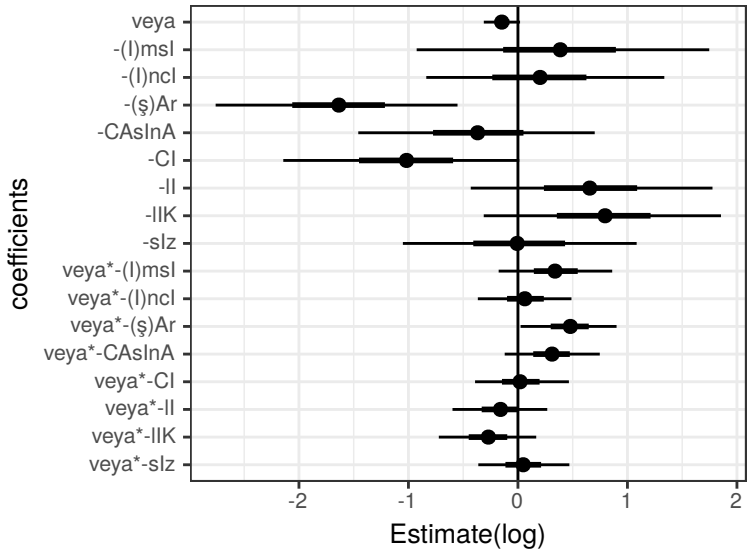

Figure 16. Results of the linear mixed model for derivational suffixes

3.1.5 Analysis

Figure 16 shows that the probability spaces are very wide. One of the reasons for this is the low item count for each suffix. The conjoiner choice of *veya* "or" decreases the acceptability for SA in general. The estimates that are above 0 with credible intervals

not going through 0 mean that they are relatively likely to be acceptable in SA. The estimates that are below 0 with credible intervals not going through 0 mean that they are relatively unlikely to be acceptable in SA. There are also interaction terms indicated with an asterisk "*". These levels indicate whether there is a relational effect for the levels of "Suffix" and "conjoiner". The coefficients are posterior probability distributions and the estimates do not indicate significance. They indicate the probability space for the estimates. It gives the probability space for the hypothesis given the data. In this case, a positive value means acceptability rates closer to that of ACC and negative values mean acceptability rates further away from that of ACC.

Figure 16 shows that it is not very likely for the derivational suffixes to be suspended except for the suffixes *-lI* and *-lIK*. There is an interaction between the conjoiner being *veya* 'or' and the suffixes *-(ş)Ar* and *-CAsInA*, suggesting a suspendability. This shoul not be taken as suspendability because the conjoiner *veya* 'or' decreases the acceptability overall for SA. This indicates that the interaction terms look like suspendability but compared to SA of ACC they are not suspendable.

The overall interpretation of the average acceptabilities and the model results indicate that SA of derivational suffixes in Turkish does not actually rely on an explanation of morphological phases. The suffixes *-(ş)Ar, -CAsInA*, and *-(I)msI* take specific bases which are participle forms or belong to specific lexical categories but do not result in acceptable SA. A possible explanation for what makes a derivational suffix suspendable may be related to its frequency. I have extracted the frequencies of the four derivational suffixes *-lI,-lIK,-sIz*, and *-CI* from TS Corpus (Sezer et al., 2013). I give the relative proportion of the suffixes in Figure 17.

The suffixes that are relatively likely to be suspended are *-lI* and *-lIK*. These two are also the first two frequent suffixes among the four presenten in Figure 17. Unfortunately not all derivational suffixes are readily extractable from the corpus data. I have only taken the ones that are included in my expreriment and in the corpus. The experiment result and the frequencies indicate that SA of derivational

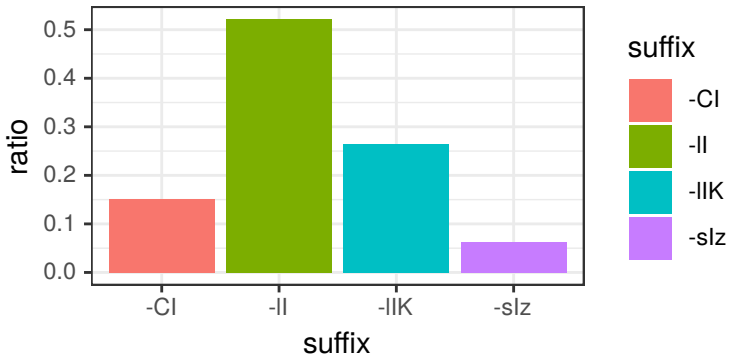

Figure 17. Relative proportion of derivational suffixes in TS Corpus

suffixes do not rely on morphological phases. Another explanation for the acceptabilities could be a literacy choice like those made in German. A support for the script-wise nature in SA of derivational suffixes come from the corpus searches. There are plenty of hits for SA of *-(I)ncI* in corpus data. In (4) I provide two small CQP searches (Hardie, 2012)[2] for SA of *-(I)ncI*, for the numbers ranging from one to five, and for *-(I)msI* with adjective bases.

(4) a. *-(I)ncI* TS corpus search key

[word="(bir|iki|üç|dört|beş)"][word="ve"][word="(.+nc(ı|i|u|ü))"]

b. *-(I)msI* TS corpus search key

[PosTag="Adj"][word="ve"][PosTag="Adj" & word="(.+ms(ı|i|u|ü))"]

There are hundreds of hits for the SA of *-(I)ncI* within the first ∼1000 hits yet the acceptance rate for the SA of it is around ∼50% as the Figure 15 shows. The same can not be said for the SA of *-(I)msI* which also has the same acceptance rate as *-(I)ncI* but the corpus search does not result in an SA of *-(I)msI* within the first ∼1000 hits. I take this contrast in corpus search and similar acceptance rates in the experiment as an indication for the script-wise nature of the SA of derivational suffixes. Examples regarding them can be found in corpus yet the isolated acceptance rates are lower than of ACC. This indicates that the SA of derivational suffixes are

[2]CQP notation let's the user combine multiple features for a word in a corpus. These features include things like lexical category and morphological composition, together with regular expressions to specify certain character strings. In the example I proivde '.+' means any character string, and overt characters indicate exact matches. A hit means a positive result matching the provided search que.

tabloid or literacy choices made for script-wise reasons. This suggests that in context provided examples or in normal language use where people are not subjected to grammaticality choice, the SA of derivational suffixes might become marginally acceptable. As a result, this experiment showed that the acceptability for SA of the derivational suffixes does not particularly follow from a structural interpretation of the derivational suffixes. It might be based on frequency of the suffixes or the specific environments where SA is knowingly or intentionally made.

3.2 Self paced reading

In this study my aim is to establish a null hypothesis for the processing of SA. I investigate if a local SA has a processing cost. A local environment means that the target conjunct and the source conjunct for the suspended affix are in the adjacent periphery of the conjunct. Target conjunct is where the affix is interpreted but not phonologically existent and the source conjunct is where it is overt. In the case of Turkish source conjunct is the rightmost conjunct as illustrated in (5).

(5) CONJ1$_{target}$ (conjoiner) CONJ2$_{source}$

SA in the nominal domain is ambiguous except than the SA of CASE. This ambiguity makes it very combersome to stack SA capable suffixes. SA in the verbal domain, on the other hand, does not result in ambiguity, and the SA capable suffixes can be stacked. This enables me to test the effects, if any, of different amounts of SA. In addition to changing the SA amount, I investigate if the negative effect of conjoiner *veya* 'or' in the first experiment is reproduced in the verbal domain.

There is one concern with using verbal domain for SA. The target conjunct can only be reduced to a verb plus a participle morpheme. These participle morphemes can have 3SG agreement interpretations on their own. Should an effect arise in SA amount changes, it might be related to the person mismatches between the first and second conjuncts instead of SA. I have two additional conditions to meet this concern. These two conditions are formed by changing an aspect or agreement of the first conjunct in conditions with no SA. This provides me with a baseline to

compare the effects of feature mismatches. I have designed a self-paced reading study to investigate the aforementioned aspects of SA. In the following subsections I lay out the participants, materials, procedure, results, and the analysis of the experiment.

3.2.1 Participants

The participants are 160 students from Boğaziçi University who are native speakers of Turkish. In exchange for their participation they have received 1 point to their overall course score.

3.2.2 Materials

The experiment is comprised of three variables. The first variable is the Amount of SA with the levels: No SA, One SA, and Full SA. In No SA, no suffix is suspended. In One SA only one suffix is suspended. In Full SA, two suffixes are suspended which is the limit of stackable suspendable suffixes. The second variable is the Conjoiner with the levels: *ve* 'and' and *veya* 'or'. The third variable is Contrast with the levels: Contrast and Parallel(No_SA). In this last variable one of the suffixes in the first conjunct is altered to have a grammatical feature mismatch between the conjuncts. This contrast is only performed on the No SA conditions. This resulted in an experiment design with 3x2+2 conditions combining the amount of SA and conjoiner type, plus two conditions where there is a contrasting first conjunct for No SA condition with the two conjoiners. I have 24 distinct items together with 48 filler items. All experimental and filler items are grammatical. A latin square design by condition is applied, forming 8 lists of 24. This resulted in each participant seeing only 24 experimental items and 48 fillers. All the experimental items have a four word pre and four word post conjunction regions. (6) shows a template for an experimental item. In (7, only relevant parts of the sentences are presented), I give an example set of experimental items with all the conditions. All of the experimental items and fillers have a comprehension question with half of them having "yes" and

the other half having ”no” as the correct answer. The correct answer type is not used as a variable. The experiment is formed using ibexfarm (http://spellout.net/ibexfarm/) (Drummond, 2013), and carried out online. For the full list of items and fillers (1-24 and 100-148) see Appendix B.

(6) 4WORDS CONJ1-α-β *ve/veya* CONJ2-α-β 4WORDS

(7) a. No SA:AND/OR

. . . yap-sa-ymış-ım ve/veya gönder-se-ymiş-im . . .
. . . do-COND-PRF-1SG AND/OR send-COND-PRF-1SG . . .

b. One SA:AND/OR

. . . yap-sa-ymış ve/veya gönder-se-ymiş-im . . .
. . . do-COND-PRF AND/OR send-COND-PRF-1SG . . .

c. Full SA:AND/OR

. . . yap-sa ve/veya gönder-se-ymiş-im . . .
. . . do-COND AND/OR send-COND-PRF-1SG . . .

d. Contrast:AND/OR

. . . yap-sa-ymış-ız ve/veya gönder-se-ymiş-im . . .
. . . do-COND-PRF-1PL AND/OR send-COND-PRF-1SG . . .

3.2.3 Procedure

Participants are provided a link to the experiment prompting them with a consent page. Upon giving consent participants go through 5 practice items and then they are prompted again for the beginning of the experiment. Each trial proceeds by the participants pushing the ”space” key, for each key stroke a word at the center of the screen appears and by each key stroke it is replaced with the following word in the sentence. After the sentence is read, participants are presented with a statement that is either true or false according to the sentence they read. The statement is made about a dependency that is formed within the sentence. This could be a modification of a noun or the verb, or the argument relations within the sentence. They profess their

decision by pushing ”Q” key for ”yes” and ”P” key for ”no” on the keyboard. The experiment only recorded word reading times, responses, and response times. After the experiment is done, participants are redirected to a separate page where they provided their student information to be relayed to the course's professor for the extra credit. This is kept separate of the experiment results, keeping participant information and experimental data anonymous.

3.2.4 Results

The results are recorded onto a csv file and imported to R (R Core Team, 2013) for data cleaning, aggregation, and analysis. The data consisted of 42240 points before cleaning. Two items with a typo, 4 participants whose accuracies are below 70% are excluded from the data. After these exclusions, 15.48% of the trials with incorrect answers are excluded. The trials in which a word had a reading time that is outside 150-3000 milliseconds are considered outliers and those trials are also excluded. The whole cleaning resulted in the loss of 33.33% of the data. In Figure 18, I give the average reading times per word with a representative sentence for the conditions of SA.

The critical region in all the sentences is the 7^{th} word. In the case of Figure 18 it is *silmeliymişim* ‘(I) should have cleaned (something)’. The spillover region is the two words after the critical word. In this case the words *diye* ‘saying that’ and *mırıldandım* ‘ (I) mumbled’. In Figure 19, I give the average reading times of the critical region and spillover region words.

There is a slight increase in critical and spillover regions with the conjoiner *veya* ‘or’, but change of SA amount does not lead to differences within the margin of error. The main focus of this experiment is whether the SA amount has an effect on processing, indicated by reading times in this case. I also have 2 additional conditions where there is a grammatical mismatch between the first and the second conjuncts. In Figure 20, I give the reading times in No_SA and Contrast conditions. The slight

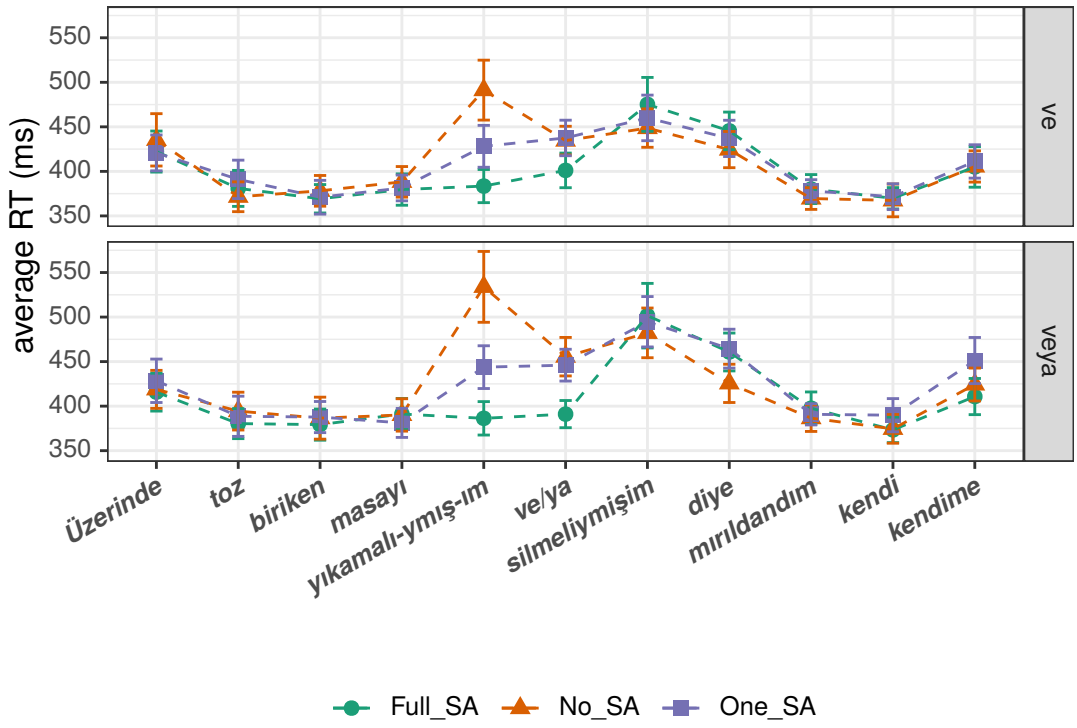

Figure 18. Average reading times of words for SA amount conditions

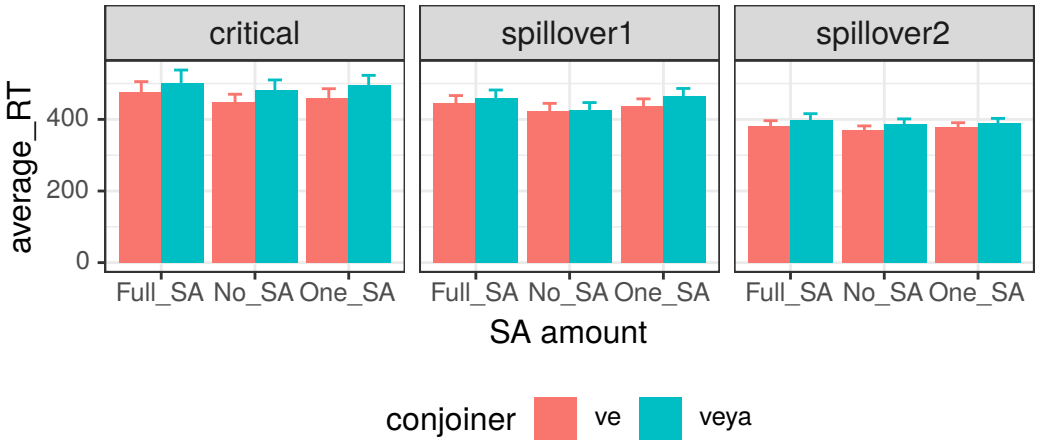

Figure 19. Average reading times of critical and spillover regions for SA amount

increase of conjoiner *veya* 'or' for average reading time in No_SA condition is not the case for the conrasting conjuncts.

For more inference, I have fitted 3 linear mixed models for the reading times of the critical and spillover region words. I used SA amount and conjoiner choice as predictors. I have used sliding differences for the contrasts of SA amount, and sum contrast for the conjoiner contrasts. Sliding differences mean that the estimates are

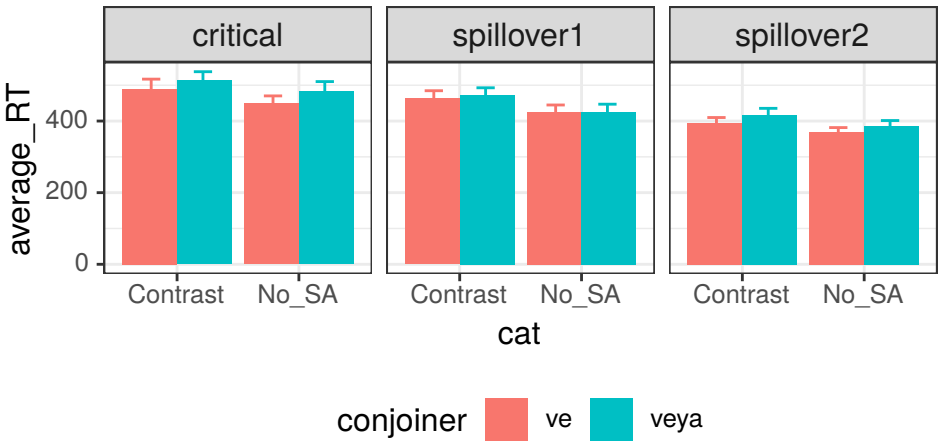

Figure 20. Average reading times in contrasting conjuncts of critical and spillover regions

made between the levels of the differences. This follows from the expectation of varying effects depending on the SA amount, which is an incremental but not a categorical change. I give the models' results for SA amount in Figure 21. I also give the models' results for the Contrast conditions in Figure 22.

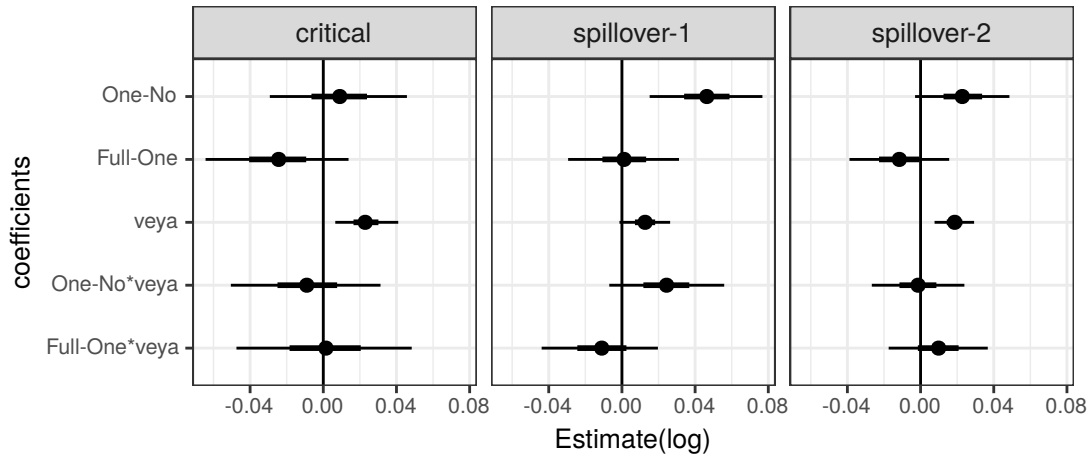

Figure 21. Model results for the critical and spillover regions in SA amount conditions

3.2.5 Analysis

All the model results are within a hundredth of 1 with very tight probability distributions. This means that even with a seeming accumulation of probabilities towards one sign, the effects are so low that they are not considerable enough for an

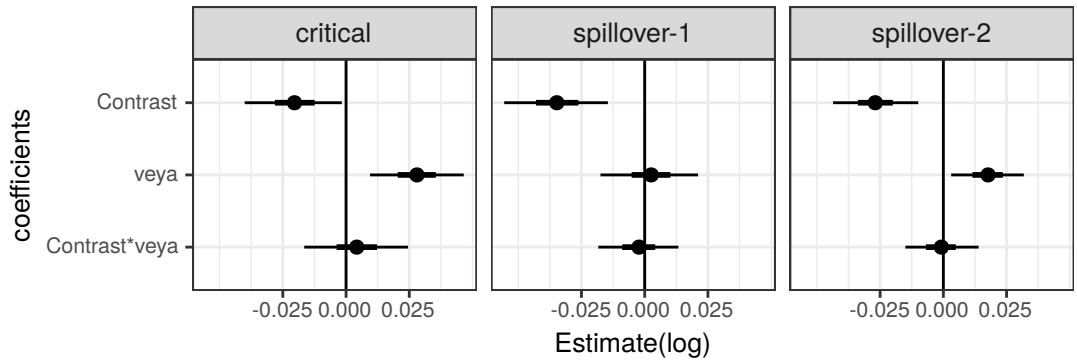

Figure 22. Model results for the critical and spillover regions in Contrast conditions

effect of processing difficulty depending on SA amount or grammatical contrast. This is inferred from the value of the intercepts for the models, which are all ∼6. I have not included them in these plots because of space limitations, and coefficients other than Intercept being so low would have increased the scales of the x axis, making it very hard to read the probability distributions of the coefficients. These results indicate that the null hypothesis for local SA and local contrasting conjuncts is no processing difficulty.

One observation that can be made here is the lack of effect of the conjoiner *veya* 'or'. In the acceptability study, the conjoiner *veya* 'or' reduced acceptability. In this study the aim was on reading times, and the questions were not given for a grammaticality judgment. That's why interpreting a lack of effect by conjoiner choice is at best marginal, but the reading times do not indicate particular changes either in SA amount or contrast conditions. This means that the effects of *veya* 'or' in the acceptability study are not replicated in this experiment. This is a difference in behaviour of the SA to conjoiner *veya* 'or'.

The domains of SA are different for the first and the second experiments. The first one investigates SA in the nominal domain, and the second one investigates SA in the verbal domain. The different effect of the conjoiner might be attributed to the difference in domain. This reasoning needs an analysis that would predict an inherit difference in how the conjunction of nouns and verbs are evaluated. In the nominal domain, use of *veya* 'or' results in exclusive readings of the conjuncts due to

pragmatic operations. If SA is performed in the nominal domain, exclusive readings result in non-equivalent semantic denotations. In the verbal domain, exclusive readings do not change semantic equivalence of the conjuncts since both are at least marked with a participle. I argue that this difference in domain is the reason for negative effects of *veya* 'or' in the first experiment and no effect in the second one.

I further investigate whether SA amount or the conjoiner have an effect on participants' answers to the comprehension questions. For this purpose I have calculated a new accuracy for the participants only based on fillers and excluded subjects whose accuracies are below 70%. This resulted in the exclusion of 3 participants. In Figure 23, I give the average accuracy of participants for all experimental conditions . I also fitted two linear mixed models for the correct answer. I have used sum contrasts for all the predictors of Category (SA + contrast) and conjoiner. I give the results of the models in Figure 24.

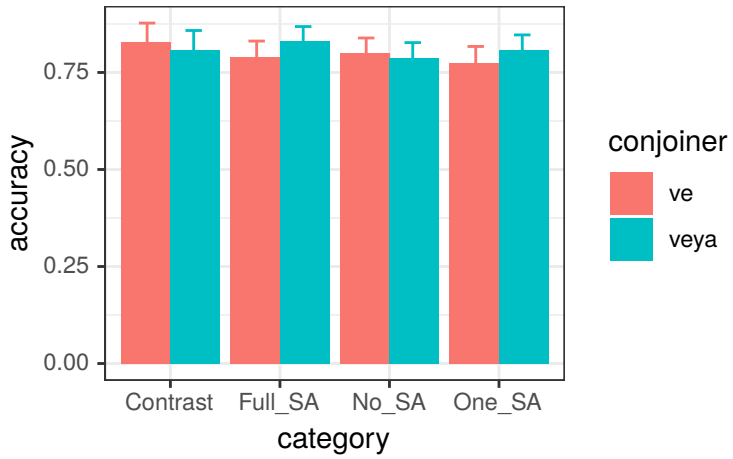

Figure 23. Average accuracy in experimental items grouped by conditions

The results of the models for correct responses show that the SA amount, contrast, and conjoiner do not have an effect on processing. The estimate probability might accumulate towards one sign but the estimates are very low, indicating no considerable effects where the intercept values are $\sim$2. As a result this experiment showed that in a local environment, reconstructing different amounts of SA and contrasting grammatical features in conjuncts do not lead to a processing difficulty in reading times or in accuracies.

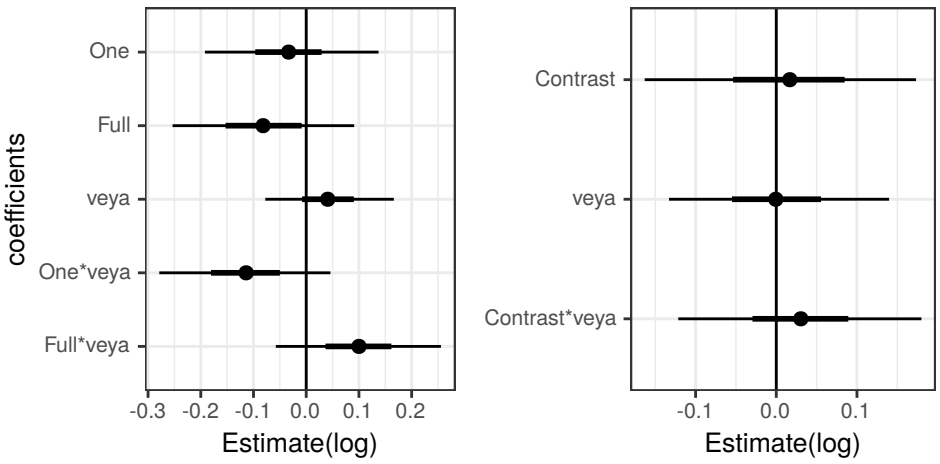

Figure 24. Model results for the correct answer in all experimental items

CHAPTER 4

SUSPENDED AFFIXATION AND SENTENCE PROCESSING

The previous chapter focuses on SA and its environment. In the first experiment I have shown that SA is reserved for inflectional suffixes and changes in SA environment affects its acceptability. The second experiment has shown that there is no cost of processing with SA amount, conjoiner, and contrasting grammatical features. In this chapter my aim is to investigate how SA would interact with sentence processing. I first give the structural explanations for SA. I then present a structural ambiguity environment dependent on SA. I come up with an experiment design using the ambiguity environment and come up with hypotheses for the results. I end the chapter reporting on the experiment results and analysis.

4.1 Processing suspended affixation

In general, SA is interpreted under two approaches. The first approach (Orgun, 1995; Broadwell, 2008; Kornfilt, 2012) argues for structural sharing in different ways, the second approach (Erschler, 2018; Guseva and Weisser, 2017) argues for an ellipsis analysis where exponents of morphemes are deleted. In the following subsections I give what both approaches predict for the processing of SA.

4.1.1 Lexical sharing

In the lexical sharing approach, the suspended affix is affixed to the whole conjunction as illustrated in Figure 25.

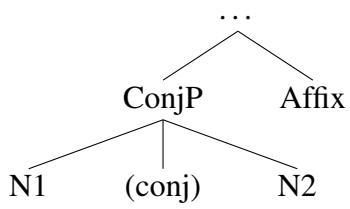

Figure 25. Abstract representation of lexical sharing

In this approach, the feature values for the suffix is encoded to the whole conjunction as opposed to being only encoded to the second conjunct. Figure 26

shows a representation of SA in the expression *kitap ve kalem-ler-i* ‘the books and the pencils’.

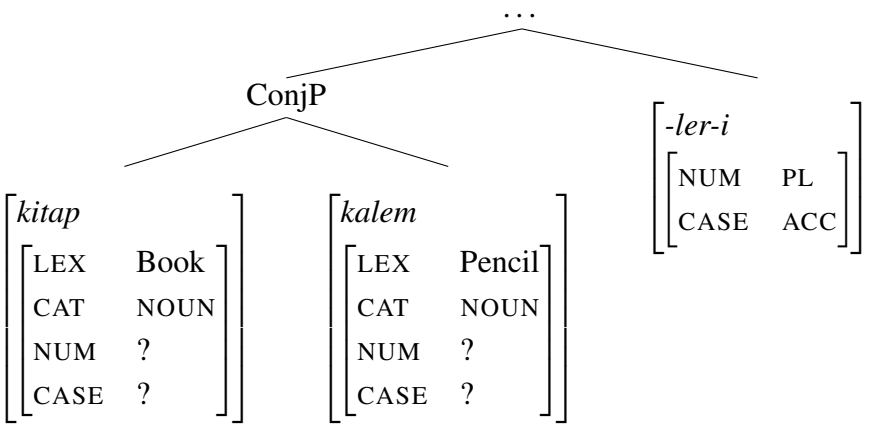

Figure 26. SA of PL and ACC in lexical sharing

The number feature has two values in Turkish: SG and PL. PL has an overt exponent *-lAr* but the exponent for SG is ∅/zero. The exponent for NOM in case feature is also ∅/zero. A basic lexical sharing approach would never have SA if zero exponents are used for feature encodings. The nouns would already have feature encodings with zero exponents. A remedy for this can be an update of the features, where the feature encodings in the affix override the default values signalled by zero exponent (∅). In ambiguous cases of SA, such as the suspension of the PL and POSS, this update depends on a choice to perform SA or not. In unambiguous cases of SA, such as the suspension of CASE, this update is not a choice but obligatory for a successful interpretation.

4.1.2 Ellipsis

In the ellipsis approach, the suspended affix is encoded for the second conjunct and the value of that affix is recovered for the first conjunct as illustrated in Figure 27.

In this approach, the feature values of the suffix is first encoded to the conjunct it is attached to. Later, the values for that suffix are encoded for the first conjunct. Figure 28 illustrates the ellipsis analysis for SA of PL-ACC in *kitap ve kalem-ler-i* ‘the books and the pencils’.

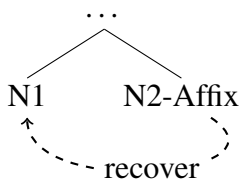

Figure 27. Abstract representation of ellipsis analysis

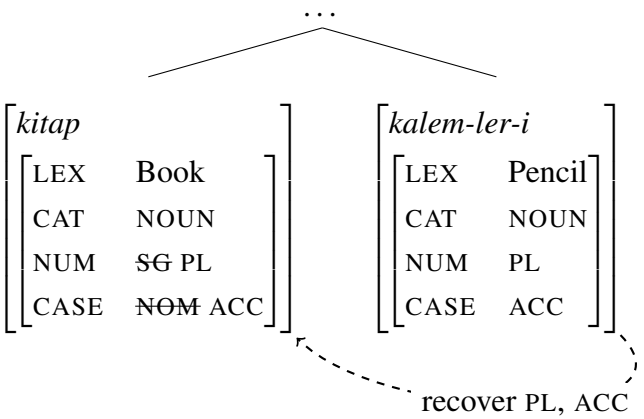

Figure 28. SA of PL and ACC in ellipsis

The two approaches do not predict differences in the processing of SA. For both approaches to work, a process of updating feature values takes place. In the cases where SA is ambiguous this update depends on the parser's choice. On the simplex sentences, the SA of CASE is unambiguous. The unambiguous CASE SA is an incentive for both approaches to predict that SA of CASE is always carried out in a local environment where the first conjunct is encoded by zero (∅) exponent. In this study, I investigate if the unambiguous CASE SA in simplex sentences have effects on ambiguous CASE SA in complex sentences. In the next section I introduce the ambiguous environment that depends on whether or not CASE SA takes place.

4.1.3 Environment

In Turkish there is an ambiguity environment where ambiguity depends on whether SA of CASE takes place. For an example see (1). The ambiguity depends on the SA of ACC. If SA takes place, the nouns *çocuk* 'child' and *kadın* 'woman' form a conjunction and become the object of the embedded verb *kurtar-* 'to save'. If SA

doesn't take place, the noun *çocuk* 'child' and the noun *adam* 'man' form a conjunction and become the subject of the main clause.

(1) *çocuk ve kadın-ı kurtar-an adam ev-e gel-di.*
child AND woman-ACC save-FP man home-DAT come-PST
SA: '[the man who saved the child and the woman] came home.'
No SA: '[the child] and [the man who saved the woman] came home.'

This means that the unambiguous CASE SA in a simplex sentence can be made ambiguous in a complex one. This ambiguity can be regulated by a pronoun as a disambiguator like in (2).

(2) *kadın ve yolcu-yu kurtar-an adam [onları/ birbirlerini] uyar-dı.*
woman AND passenger-ACC save-FP man them/ each_other warn-PST
'the man who saved the passenger and the woman warned them.'
'the woman and the man who saved the passenger warned each other.'

In this environment, a pronoun *birbirlerin*-CASE 'each_other' requires two antecedents that are both subjects. A main clause subject in Turkish requires NOM as CASE. This means that the CASE value for the first conjunct should remain NOM as encoded by the zero (∅) exponent. This requires not to perform SA. The other pronoun *onlar*-CASE 'them' requires a resolution of two antecedents that are the objects of the relativized verb. In this case, SA needs to take place for the pronoun to be processed correctly.

4.2 Experiment

The main aim in this experiment is to answer the following questions:

- Is the unambiguous SA of CASE in simplex sentences are replicated in ambiguous SA of CASE in complex sentences?
- If so, does parallelism between the conjuncts have an effect on it?

4.2.1 Participants

The participants are 126 students from Boğaziçi University who are native speakers of Turkish. In exchange for their participation they have received 1 point to their overall course score.

4.2.2 Materials

I use the environment I introduced in the previous section and alter the disambiguation and parallelism between the conjuncts. I provide the template for an experimental item in (3).

(3) [1W] CONJ1 and CONJ2-CASE [2W] PRONOUN [1W] MainVerb

The pronoun is the factor of Disambiguation with levels: Subject and Object. In Subject, *birbirlerin*-CASE 'each_other' disambiguates towards a no SA reading. In Object, *onlar*-CASE '3PL' disambiguates towards an SA reading. The factor Parallelism has two levels: Parallel and Non-parallel. In Parallel, the conjoiner is immediately followed by a noun. In Non-parallel, the conjoiner is followed by an adjective first and then a noun. In (4), I give partial sentences for all the experimental conditions.

(4) a. Subject, Parallel

. . . [baron] ve [şövalye-yi . . . kral] birbirlerini . . . dinle-yecek.
. . . baron AND knight-ACC . . . king each_other . . . listen-FUT
'. . . [the baron] and [the king who . . . the knight] will listen to each other . . . '

b. Subject, Nonparallel

. . . [baron] ve [cesur şövalye-yi . . . kral] birbirlerini . . . dinle-yecek.
. . . baron AND bold knight-ACC . . . king each_other . . . listen-FUT
'. . . [the baron] and [the king who . . . the bold knight] will listen to each other . . . '

c. Object, Parallel

. . . [baron ve şövalye-yi] . . . kral onları . . . dinle-yecek.
. . . baron AND knight-ACC . . . king 3PL . . . listen-FUT
'. . . the king who . . . [the baron and the knight] will listen to them . . . '

d. Object, Nonparallel

. . . [baron ve cesur şövalye-yi] . . . kral onları . . . dinle-yecek.
. . . baron AND bold knight-ACC . . . king 3PL . . . listen-FUT
'. . . the king who . . . [the baron and the bold knight] will listen to them . . . '

After every sentence, a statement is presented and the participants judge if the statement is true or false depending on the sentence they have just read. There are two types of statements. The statement targets the theta role assignments. It has two types. One that is only true with SA (Object conditions), meaning that the first conjunct holds theta role relation with the embedded verb. The other is only true with no SA (Subject conditions), meaning that the first conjunct holds theta role relation with the matrix verb.

(5) a. Subject true (no SA)

Baron kral-ı . . . dinle-yecek.
Baron[NOM] king-ACC . . . listen-FUT[3SG]
'The baron will listen to the king . . . '

b. Object true (SA)

Kral baron-u ödüllendir-miş
King[NOM] baron-ACC reward-PRF[3SG]
'The king . . . the baron.'

4.2.3 Procedure

Participants are provided a link to the experiment prompting them with a consent page. Upon giving consent, the participants go through 5 practice items and then they are prompted again for the beginning of the experiment. Each trial proceeds by the participants pushing the 'space' key, for each key stroke a word at the center of the screen appears and by each key stroke it is replaced with the following word in the sentence. After the sentence is read, participants are presented with a statement that is

either true or false according to the sentence they read. They profess their decision by pushing 'Q' key for 'yes' and 'P' key for 'no' on the keyboard. The experiment only recorded word reading times, responses, and response times. After the experiment is done, participants are redirected to a separate page where they provided their student information to be relayed to the course's professor for the extra credit. This is kept separate of the experiment results, keeping participant information and experimental data anonymous.

4.2.4 Hypotheses

I come up with three hypotheses for the results of this experiment. I use the processing approaches I have provided in the first chapter and their predictions for such hypotheses. There are three possible hypotheses in this case. The first one is a main effect of SA interacting with conjunct parallelism. I call this the *modulated effect* hypothesis. The second one is a main effect of SA without conjunct parallelism interaction. I call this the *unmodulated effect* hypothesis. The third one is no difference in word RTs but in response accuracies and times. I call this the *delayed effect* hypothesis. In the following subsections I explore these hypotheses.

4.2.4.1 Modulated effect

The main effect of SA would mean increased processing difficulty in Subject conditions which require no SA to be performed. This would result in increased processing difficulty in Subject conditions compared to Object conditions. This effect should vary depending on the conjunct parallelism. The factor parallelism should have adverse effects for the levels of disambiguation. That's why it should not have a main effect of itself but only an effect of interaction. The level parallel should help perform SA and the level non-parallel should help not perform SA.

A deterministic serial parser should stay true to minimal attachment rather than form encodings for a main effect of SA. A value NOM encoded by zero exponent is incompatible for integration with the embedded verb. This means that for minimal

attachment, SA needs to take place. A probabilistic serial parser on the other hand might use the unambiguous SA in simplex sentences as a structural cue to perform SA. It means that both processing approaches can predict a main effect of SA.

In both approaches, SA is a process of feature value updating. This update, however small, requires resources. I altered parallelism between the conjuncts to see if this updating process can be regulated. Levy (2008) argues that the existence of previous but similar input might ease processing down the line. For the case of this experiment, parallel conjuncts should ease processing and thereby ease the updating process. This means that parallel conjuncts might ease processing difficulty and leave more room to perform SA. The opposite is true for non-parallel conjuncts. A non parallel conjunct increases processing difficulty and thereby making it harder to update feature values. This should result in parallel conjuncts helping Object conditions, and non-parallel conjuncts helping Subject conditions. A deterministic serial parser does not predict any effect of Parallelism since it operates in a fixed manner. A probabilistic serial parser on the other hand can take the values of earlier inputs to adjust its structure frequencies and operate accordingly.

4.2.4.2 Unmodulated effect

The main effect of SA in this hypothesis is the same with the *modulated effect*. This time, however, the factor parallelism has no effects. This means that when the conjuncts are processed, the structural difference of being parallel or not does not change the processing of the conjuncts and operations that include them. A deterministic serial parser that only selects the route of performing SA would predict this hypothesis to be held true.

4.2.4.3 Delayed effect

No main effect of SA in reading times would mean that all the conditions would have comparable results in reading time comparisons. This can not be predicted by the deterministic or the probabilistic serial parsers outright. The two approaches to

processing operate on the basis that the parser incorporates and processes the input to its full extend for a grammatical and interpretable expression. This brings about the expectations of reading time differences with different disambiguations or configurations. A parser can still operate in a serial manner for processes that are relatively easy to perform. The parser might establish partial or tentative dependency relations when it is asked to perform more than what is needed of it. This partial or tentative relations may depend on several factors, like how memory retrieval works, how the parser keeps track of its environment and many more. If the parser were to exhibit similar reading times on critical and spillover regions regardless of experimental conditions, the effect should reflect itself in response accuracies or times. The comprehension question directly targets the dependency of the first conjunct. This question gives the parser a specific task. After the task is revealed, the parser could operate in two ways. In the first one, the parser provides the tentative relation it established, which would be reflected by the response accuracy. In the second one, the parser realizes the relation it established is tentative and tries formalize it better, which would be reflected by the response time. This hypothesis is more compatible with a good-enough approach to sentence processing that does not assume dependencies are fulfilled to their full extend.

4.2.5 Results

The results are recorded onto a csv file and imported into R (R Core Team, 2013) for data cleaning, aggregation, and analysis. The data consisted of 140714 data points. 7 subjects with accuracies lower than 80% in filler items are excluded from the data. The trials which had a word with reading times outside 150-3000 milliseconds are considered as outliers and also excluded. These exclusions resulted in the loss of 14.4% of the data. In Figure 29, I give the average reading times per word with a representative sentence.

The critical region in all the sentences is the disambiguation word *onlar*-CASE or *birbirlerin*-CASE. The spillover region in all the sentences is the word after the

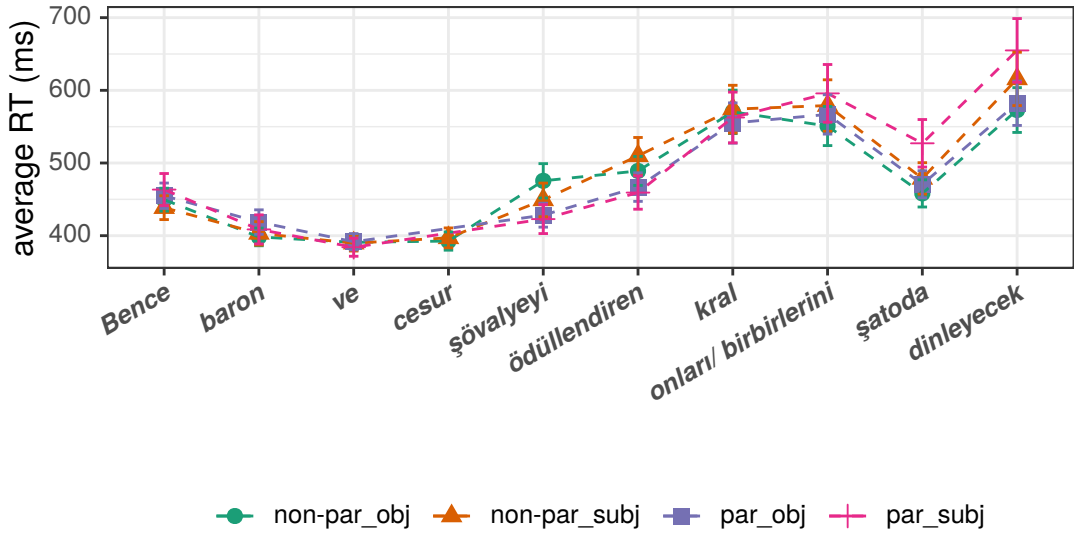

Figure 29. Average reading times of words for experiment conditions

disambiguation word. In the case of Figure 29 it is the word *şatoda* 'at the chateau'. I give the average RTs of critical and spillover regions in Figure 30. On average Subject and Parallel conditions result in higher RTs.

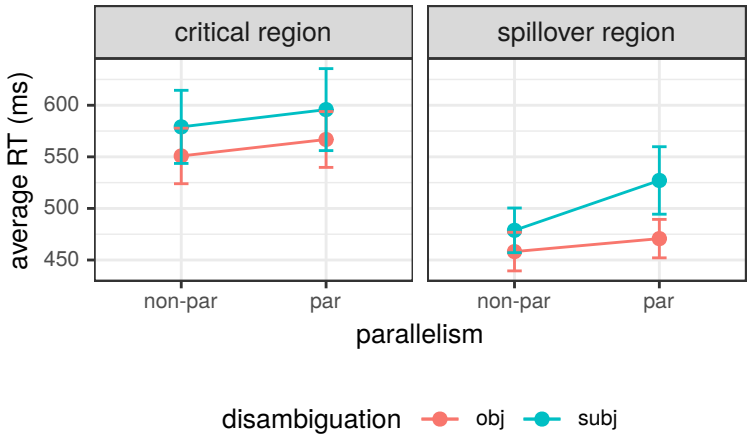

Figure 30. Average reading times of critical and spillover regions

For more inference in RTs in critical and spillover regions, I have fit a regression model using brms package in R (Bürkner and Others, 2017). I have used sum contrasts for the predictors and controlled for the random effects for participant and experimental item. I give the results of the models in Figure 31. The model results indicate that Subject and Parallel conditions have a main effect of increasing RTs. They are more pronounced in the spillover region.

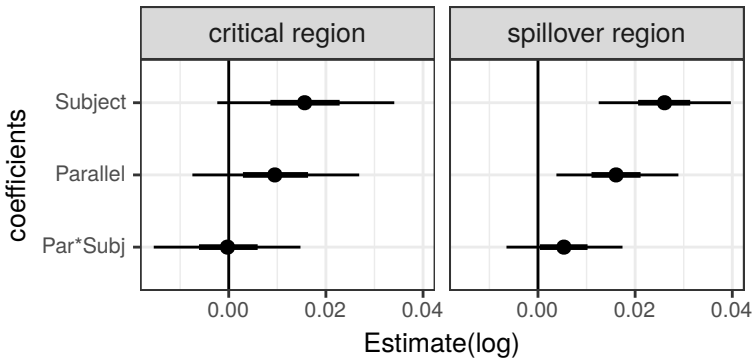

Figure 31. Regression model results of RTs for critical and spillover regions

In Figure 32, I give participant accuracies grouped by experiment conditions and correct answer type. On average, participant accuracies are high in Object conditions and when the correct answer is 'yes'. There is an interaction between correct answer 'no' and Subject conditions where the accuracies are considerably lower.

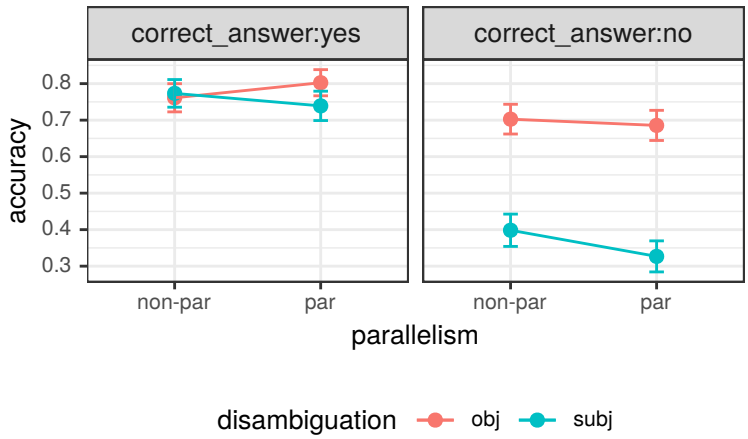

Figure 32. Average participant accuracy by experiment conditions

For more inference in response accuracy, I have fitted a regression model using brms in R. This time, the correct answer type is added to the predictors. All predictors have sum contrasts and I controlled for random effects of subject and item. I give the model results in Figure 33.

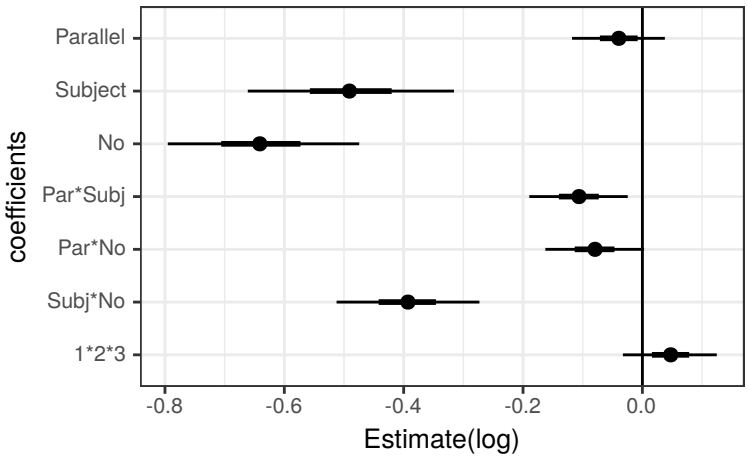

Figure 33. Regression model results for subject responses

4.2.6 Analysis

I evaluate the results of the experiment in two parts. In the first part I analyze the changes in RTs. In condition comparisons, positive values are interpreted as higher RT and thereby higher processing difficulty. In the second part I analyze the changes in response accuracies. In condition comparisons higher values are interpreted as increased accuracy.

4.2.6.1 Analysis of reading times

Subject conditions display higher RTs than Object conditions. This means that the parser have gone through a process that costs extra processing effort in Subject conditions. These conditions use a disambiguator that requires no SA to be performed. This indicates SA taking place in local environments, no matter the structural ambiguity in the sentence as a whole. An additional cost is attributed to changing the commitment of SA that was made before the point of disambiguation. In this case, changing the commitment has cost processing effort. This is an effect directly related to SA and how the parser operates when it is possible to perform it. It is an effect of Reanalysis resulting from structural manipulation.

Parallel conditions display higher RTs than non-parallel conditions. There is no structural ambiguity that the effect can be attributed to. In both disambiguations, accessing a conjunction is required for establishing antecedents for the pronoun. The

expected effect for parallelism was an interaction with the levels of Disambiguation instead of a main effect. This means that the prediction that was driven by (Levy, 2008)'s arguments are not directly met. I argue for a combination of processing ease and cost of dechunking (Martin and McElree, 2011) for the explanation of the main effect. The assumption is the following: parallel conjuncts do decrease processing difficulty but in turn they make it harder for further operations that require accessing or breaking the conjunction. In Subject conditions, performing Reanalysis requires breaking up the conjunction and then establishing an antecedent relation. This has additional processing cost. In Object conditions, accessing the conjuncts for establishing an antecedent relation increases the processing cost. If the cost of building conjunction and accessing/breaking it are negatively related, a main effect of Parallelism can be explained. This effect does not result from a cost of Reanalysis, and it does not stem from structural manipulations. The increased cost of Parallel conjuncts is more likely to be memory related.

Another way of looking at the main effect of Parallelism could be to assume that equivalent conjuncts become harder for further processes because of their similarities. Similarity based interference is shown for establishing dependencies (see Jäger et al. (2017) for a review) and markedness is shown to ease retrieval processes (Hofmeister and Vasishth, 2014). The effect of Parallel conjunct could be attributed to increased difficulty in breaking the conjunction and retrieving the right conjunct for Subject conditions. In Object conditions the difficulty results from accessing the conjunction for establishing antecedent relations.

In my hypotheses *modulated effect* and *unmodulated effect*, I have accounted for an effect in Subject conditions by treating SA to be locally unambiguous. This prediction is borne out from the results. On the other hand, I have not accounted for a main effect of Parallelism. In *modulated effect*, I have formulated an effect of interaction between Disambiguation and Parallelism but not a sole main effect. In forming my hypotheses, I haven't laid out the exact mechanisms of how the disambiguation worked, and what it would mean for processing. I have utilized the

processing ease aspect of the *modulated effect* and combined it with an effect of dechunking. Unfortunately Martin and McElree (2011) hypothesize such an effect but they don't find one in their experiments. The assumption of negative relation is an after the fact explanation that needs more basis. The alternative way of explaining the main effect of Parallelism is likewise an after the fact consideration.

4.2.6.2 Analysis of response accuracies

Participant responses are less accurate in Subject conditions. This means that Subject conditions have processes that lead to false sentence interpretations or increased processing difficulty. In the models of RTs, only the trials with correct answers are included. The results have shown that a Reanalysis took place for Subject conditions. Participants having worse accuracies in Subject conditions mean that in some cases, Reanalysis either did not take place or exceeded the capacity of the parser. This resulted in increased misparsings in Subject conditions in general. This is an effect predicted by the *delayed effect* hypothesis where I suggested that participants might provide the tentative relations they established that would lower their accuracies.

Participant responses are less accurate in questions where they are supposed to answer with 'No'. For the comprehension question, participants are proivded a statement that is true either with Subject or Object conditions. In both condition types the statement probes the memory for a reading. A 'yes' response is given if there is a reading match in memory. Recalling a reading that matches the statement is easier and this results in high accuracies when participants are supposed to answer with 'yes'. In times where they are supposed to say no, memory should be searched until all readings are exhausted or the capacity is exceeded. This exhaustive process might result in slightly lower accuracies when the participant is supposed to answer with 'no' in general.

Participant responses display high interaction between Subject and 'no' as correct answer. In Subject conditions, when the participants are supposed to answer with 'no', their accuracies are considerably lower than of Object conditions when

they are supposed to answer with 'no'. In the explanation of the main effect of answering the question, I have suggested that the statement is utilized as a memory probe. In Subject conditions the reanalyzed reading is compatible with 'yes' response when the participants are supposed to answer with 'no'. This indicates that the Reanalyzed reading is not fully overwritten and can be addressed in memory. This is in line with the studies that show readings being addressable in memory (Christianson et al., 2001; van Gompel et al., 2006; Slattery et al., 2013) even after reanalysis.

The effects of response accuracies are predicted by the *delayed effect* hypothesis but not fully. *Delayed effect* hypothesis predicted no effect in RTs and only effects in responses. The results have shown that there is an effect of Reanalysis reflected by increased RTs. This indicates that the input was implemented to its full and the parser have allocated extra resources to do so. High differences in accuracies suggest that performing processes like Reanalysis do not guarantee only correct interpretation residing in the memory.

4.2.7 Discussion

The results are compatible with a modified version of *modulated effect* where the prediction for the effect of Parallelism is changed. There is Reanalysis depending on Disambiguation and there is an effect of Parallelism. Reanalysis takes place in Subject conditions meaning that CASE SA is always performed in the local environment. There is a main effect of Parallelism that has to do with how the conjunction is accessed or changed. Parallel conjuncts are bound tighter than non-parallel ones. That's why accessing a conjunction with parallel conjuncts is more difficult. In Object conditions, establishing a dependency requires dechunking the conjunction for antecedents. In Subject conditions Reanalysis requires the local conjunction to be broken, or dechunked. This explanation requires the assumption that dechunking and forming a conjunct are in a negative relation, when the cost for one goes up, the cost for the other goes down. Martin and McElree (2011)

hypothesize an effect of dechunking but they dont find one in their experiments, and they certainly dont report on parallelism and dechunking.

One important observation of this experiment is that Reanalyzed readings are not gone or destroyed, they still reside in the memory. Another important observation is the parser's adherence to integration rather than form. If the parser were to be form true, the reanalysis effect should have shown itself in Object conditions instead of Subject ones. The zero(∅) exponent for NOM is not protected when integration is possible with updating it. This brings about the question of how the information inferred from zero(∅) exponents are treated. If updating features are possible, can other exponents that are overt be overwritten? This requires positing different kinds or intensities for feature value encodings where zero exponents can be used for encoding but are not prominent as overt encodings.

4.2.8 Conclusion

The results and the analysis are compatible with an account of Reanalysis, and reanalyzed readings being accessible in memory. The assumption that needs more ground is the analysis provided for the effect of Parallelism. In this experiment I have shown that SA should be a great interest for investigating sentence processing in Turkish even though it is a morphological phenomenon. Using the results of this experiment, additional experiments can be designed that focus more on changing the noun types used in the experiment. I have used all generic nouns. Gordon et al. (2006) shows that using generic or proper nouns in English relative clauses greatly impact processing, and my first experiment has shown conjoiner *veya* 'or' decreasing acceptability for CASE SA. These might be used to further see how SA is regulated given that the ambiguous environment provides a testing ground for it.

CHAPTER 5
ANALYSIS

In this chapter, I present my analyses for SA. I use the inferences I have drawn from the empirical results and the theoretical considerations, as well as my own native judgments. These analyses include a consideration for the exact machinery of performing SA. I later present theoretical analyses for the suffixes *ile/=(y)lA* and *-(y)Ip* and how they relate to SA.

5.1 Analysis of suspended affixation

In this section, I provide an analysis for SA and the considerations that should go into it. The empirical results and the theoretical considerations so far give the points in (1) about SA. In the following subsections I provide the explanation for each of these observations and come up with a singular analysis of SA.

(1) i. SA is only productive with inflectional suffixes

ii. *veya* hinders SA of CASE

iii. SA amount does not change processing difficulty

5.1.1 Why inflectional suffixes

SA operates mostly in the inflectional paradigm. There isn't a highly productive SA of derivational suffixes other than isolated examples. Those examples are used in settings of literacy prints and government reports, that include repetitive use of the derivational suffix. Performing SA in such examples is a script-wise operation, yet the fact that it is possible shows SA is not bound by explanations of derivational or inflectional suffixes. Other than an outright lexical sharing analysis (Broadwell, 2008), other analyses of RNR (Kornfilt, 2012) and ellipsis (Guseva and Weisser, 2017; Erschler, 2018) suggest that the suffixes are placed next to the lexical items they are interpreted with and then either moved out or deleted. Considering each inflectional suffix as a terminal node as in Kornfilt (2012) makes false predictions. For example if both PL and POSS suffixes have their own terminal nodes, performing

SA for only one of them should have been possible when they are concatenated. If CASE had a terminal node of its own, SA of ACC should have been ambiguous just like the SA of PL or POSS. The sentences in (2) illustrate this point.

(2) a. Non separable SA of PL and POSS

kitap-lar ve kalem-ler-im
book-PL AND pencil-PL-POSS.1SG
'The books and my pencils'

'*My books and my pencils'

b. Unambiguous SA of ACC

Ahmet kitap ve kalem-i al-dı.
A[NOM] book AND pencil-ACC take-PST[3SG]
'Ahmet took the book and the pencil'

'*Ahmet took a book and the pencil'

The high productivity of SA in inflectional suffixes, the inseparable SA of PL-POSS, and the obligatory nature of CASE SA can be explained using terminal nodes. Instead of positing distinct terminal nodes for each suffix, I place the suspendable suffixes on existing nodes. For example, the inseparable SA of PL-POSS can be captured by the small 'n' analysis of Öztürk and Taylan (2016). In this analysis both PL-POSS enter the derivation in the same structural head 'n'. The unambiguous CASE SA can be captured by the constraints on forming conjunctions. A pseudo-incorporated is of type D_{et}, a set of individuals. The argument with overt case marking is of type D_e, an individual. Conjoining a set of individuals and an individual is not semantically equivalent, thereby CASE SA is carried out by default to satisfy semantic equivalence (Munn, 1993).

The target of SA can still be the terminal nodes, but the issue of how it is done needs to be handled. At this point, the analysis of a pure lexical sharing (Broadwell, 2008) is out since it requires distinct terminal nodes for each suffix. What is left is the analysis of an RNR, which I regard as a lexical sharing analysis, and pure ellipsis analysis of exponent deletion (Guseva and Weisser, 2017; Erschler, 2018). The RNR analysis argues for performing an Across the Board (ATB) movement of the terminal

nodes. One possible issue for this analysis is the order of movement for a suspension of PL-POSS-CASE like in (3). Figure 34 illustrates the structural representation for the suspension.

(3) *Kitap ve kalem-ler-im-i bul-du-m.*
book AND pencil-PL-POSS.1SG-ACC find-PST-1SG
SA: 'I have found my books and my pencils'

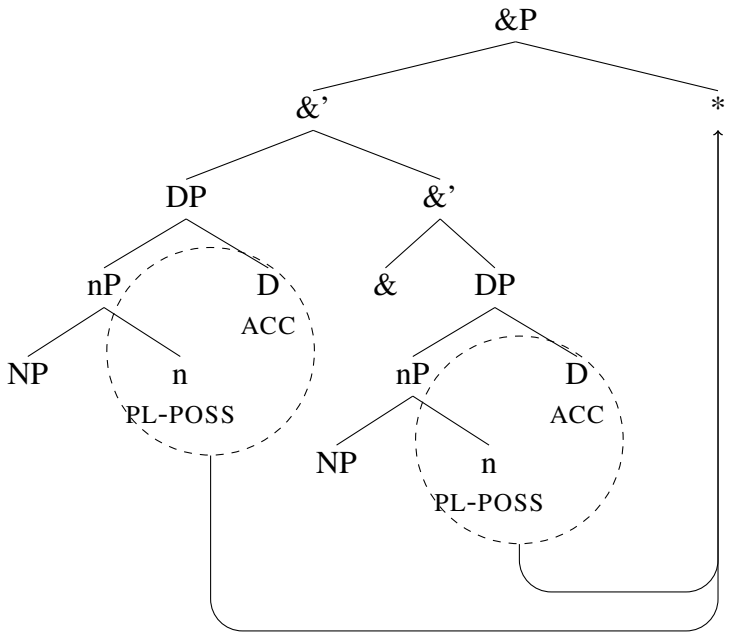

Figure 34. RNR analysis for multiple terminal nodes

SA of only one suffix with an RNR analysis is straightforward in moving the head to a pseudo-specifier position in the conjunction. SA of multiple suffixes that reside in different terminal nodes however is not clear. If the target pseudo-specifier position attracts heads for suspension, the first candidate for movement would be the DP head. The second would be the nP head. This would derive an order of D-n at the pseudo-specifier position after movement, which is not the order that is observed in the example. In order for such a movement to take place in a correct order an assumption of forming a complex head needs to take place. This complex head then serves as the target for movement.

There is another problem with a movement analysis. Most examples of SA is given in a conjunction with only two conjuncts. A movement analysis in theory should allow for SA of a suffix in only one conjunct when there are 3 conjuncts in the

conjunction. The sentence in (4) illustrates this point. Performing SA only in one of the three conjuncts is ungrammatical (4a) and performing SA for all the conjuncts but the last one is grammatical (4b).

(4) a. **kitap, kalem-i, ve defter-i getir.*
book pencil-ACC AND notebook-ACC bring.IMP

b. *kitap, kalem, ve defter-i getir.*
book pencil AND notebook-ACC bring.IMP
'Bring the book, the pencil, and the notebook'

SA in (4a) should be possible in theory. The movement is only carried out for the conjunction of *kitap, kalem-i* 'book, pencil' and the further case marked argument is conjoined just as normal as the Figure 35 shows. An analysis of RNR requires a special way of movement for SA of multiple suffixes, and it requires special specifications for where the movements take place. These issues make an RNR analysis for SA problematic.

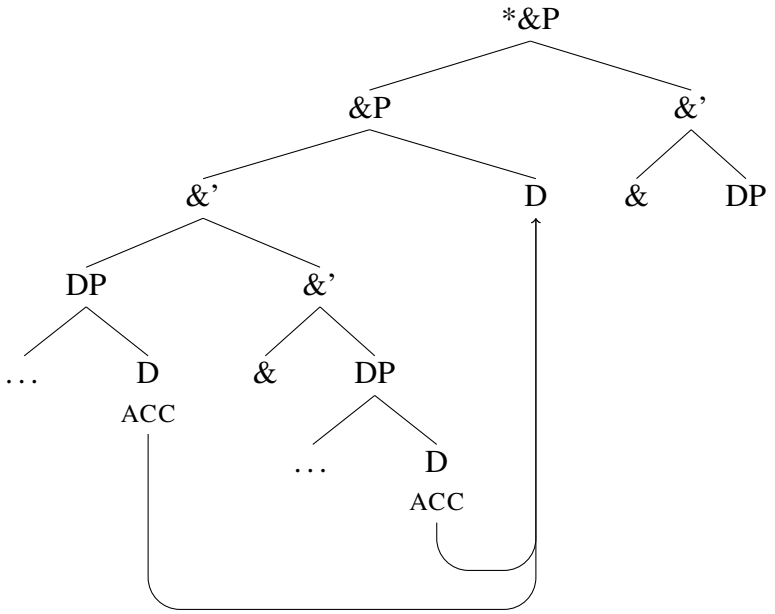

Figure 35. Movement analysis of one SA in multiple conjunctions

An additional problems with an RNR analysis is the proposed position for merge. It is a pseudo-specifier position with no possible use other than the analysis of SA. It is an ad-hoc position for combining a bar level projection with a head.

I propose in line with Guseva and Weisser (2017); Erschler (2018) that SA is a deletion of phonological exponents of morphemes. It takes place in conjunctions. In

Turkish, the rightmost terminal nodes are sources for SA. On the underlying order within the conjunction, a leftward process of deleting matching morphemes takes place. The deletion is performed for the terminal nodes not the individual suffixes. In Figure 36 I give my analysis for SA which progresses on terminal nodes for deleting morphemes with matching values. The deletion takes place before vocabulary insertion.

$$\underset{\text{deletion}}{\overleftarrow{\text{CONJ}_1 - \gamma - \not{\beta} \quad \text{CONJ}_2 - \delta - \not{\beta} \quad \cdots \quad \text{CONJ}_n - \alpha \quad -\beta}}$$

Figure 36. Final analysis of SA

This analysis is a variation of the pure ellipsis approach (Guseva and Weisser, 2017; Erschler, 2018). Turkish does not display mixed order of suffixes, which means that it does not require the specific machineries that Guseva and Weisser (2017) provides. The only change is the addition of using terminal nodes as target of deletion and not the actual morphemes themselves. In this deletion process, source matching terminal nodes can be deleted in the preceding rightmost nodes as long as they have the same feature values for the encoded suffixes.

5.1.2 Why *veya* 'or' lowers acceptability

The first experiment that mainly investigated the acceptability for the SA of derivational suffixes in the nominal domain showed an effect of the conjoiner *veya* 'or'. The conjoiner lowered the acceptability of CASE SA. On the other hand, the second experiment did not replicate similar effects in terms of reading times. I address this issue by making a difference between conjunction in the verbal domain and conjunction in the verbal domain first. I later provide the differences that *veya* 'or' brings about and the ramifications of them for SA.

The main difference between conjunction of nouns and conjunction of verbs is the semantic denotations depending on affixation. SA in the verbal domain can only be performed up to V+participle. These participles form a semantic denotation

that is equivalent to a sentence. This means that suspendable affixes on top of the participle don't change semantic denotation. In SA of CASE however, the remnant word after suspension can have a semantic denotation that is different from the other conjunct. This is the main difference of conjunction related to SA.

SA in conjunctions formed with *ve* 'and' recover the semantic equivalence by making the CASE available for the unmarked conjuncts. The problem with *veya* 'or' is that it can have an exclusive reading which requires evaluation of the conjuncts separately. This evaluation process takes both conjuncts to be semantically equivalent before performing SA. This is why there is a negative effect of *veya* 'or' for the acceptability of CASE SA but no processing difference in SA of verbs. The difference of exclusive reading in *veya* 'or' stems from pragmatics. In logic, the operators $\wedge$ and $\vee$ correspond to the lexical items 'and' and 'or' respectively. In Table 7 I give the truth conditions for both operators $\wedge$ 'and' and $\vee$ 'or'.

And			Or		
p	q	p$\wedge$q	p	q	p$\vee$q
T	T	T	T	T	T
T	F	F	T	F	T
F	T	F	F	T	T
F	F	F	F	F	F

Table 7. Truth Value Calculations for Logic Operators $\wedge$ 'and', $\vee$ 'or'

The operator $\vee$ 'or' is capable of having the truth condition for the operator $\wedge$ 'and'. This is the reading where both arguments are True. This is an operation of logic. Languages use the logic calculations for conjunction but they are not only governed by them. According to Grice's maxims (Grice, 1989), the pragmatics in a language effect the interpretation of expressions. The two maxims are of importance here: Maxim of quality and maxim of quantity. Maxim of quality suggests that the language user produces expressions that are the most informative and not false for a given situation. Maxim of quantity suggests that the language user produces just enough not more than what is necessary. Using $\vee$ 'or' in language might entail the following considerations:

- Logical $\vee$ truth conditions: both expressions are true, or only one is true

- If both expressions were to be true, $\wedge$ is enough and $\vee$ is unnecessary
- If $\vee$ is used instead of $\wedge$ then the qualified condition is: one of them is true

This pragmatic operation is what renders CASE SA with the conjoiner *veya* 'or' in the nominal domain that reduces acceptability. There is however a way of canceling such a pragmatic operation. Such an operation is cancelled in negation, under some quantificational determiners, and in questions. The exact ways of how have some semantic discussion behind them that fall out of this study's scope. In the experiment, the sentences were plain declarative sentences without a negation or a quantificational determiner. This enabled the pragmatic operations to take place, and render CASE SA less acceptable. In fact, while sifting through some data, I have found an example from (Johannessen, 1998, p.24) that hosts a CASE SA with the conjoiner *veya* 'or', the catch is it is used in a question. I give the example in (5). In this example there is SA of PL-CASE.

(5) *Elma veya armut-lar-ı ye-di-niz =mi?*
apple OR pear-PL-ACC eat-PST-2PL =Q
'Did you eat the apples or the pears?'

Adapted from Johannessen (1998)

While this interaction between the pragmatic operations and CASE SA is observed in the first experiment, the environments where the pragmatic operations are cancelled are not tested. The importance of this observation is that the interactions that the environment has effect the feasibility of SA.

5.1.3 Why SA is not costly

As an ellipsis process SA only effects the morphemes that correspond to terminal nodes. It does not involve a complex derivation or some movements. Considering that a terminal node can carry one or two features, and mostly inflectional, the pieces of information that is needed to be reconstructed is minimal or simple. Although the cognitive processes of language is highly related with memory Lewis and Vasishth (2005), pieces of inflection do not bear high costs in unambiguous environments

because of their simplicity. SA itself might not be costly to perform but the third experiment has shown that it can lead to processing difficulties.

5.2 Suspended affixation and *ile/=(y)lA*

In this section, I present the clitic *ile/=(y)lA* in Turkish that serves several functions. My aim is to show how the conjoiner function of this clitic relates to SA. I argue that *ile/=(y)lA* is morphologically the conjoiner head but its phonological size includes the place where CASE is encoded. According to Göksel and Kerslake (2005) *ile/=(y)lA* can be used as a case marker and a conjoiner as in (6).

(6) a. Instrumental

Şişe-yi çakmak ile aç-tı.
bottle-ACC lighter INS open-PST[3SG]
'S/he opened the bottle with a lighter.'

b. Comitative

Ahmet ev-e Mehmet ile (birlikte) gel-di.
A[NOM] house-DAT M COM (together) come-PST[3SG]
'Ahmet came home (together) with Mehmet'

c. Conjoiner

kitap AND *kalem çok pahalı.*
book ile pencil very expensive
'The book and the pencil is very expensive.'

I follow Woolford (2006) in case classifications. A case can be of three types: Structural, Semantic, and Inherent. For Turkish I am only interested in structural and semantic cases. In Turkish NOM, ACC, and DAT can be structural cases. These cases are assigned by structural heads. Semantic cases are DAT, LOC, ABL, and INS/COM. These cases do not, on the surface, need a structural case assigner and they come with semantic interpretations of the arguments they are attached to.

The first function of *ile/=(y)lA* in (6a) is similar to a semantic case that seemingly does not have a case assigner. The second function of *ile/=(y)lA* in (6b) is similar to a semantic case that can have an overt or covert case assigner, a postposition, *birlikte* 'together'. The third function of *ile/=(y)lA* in (6c) is a conjoiner.

I am interested in the conjoiner function of the clitic *ile/=(y)lA* (AND, and =AND in glosses). I give an example of SA with *ile/=(y)lA* in (7).

(7) a. *Ahmet kitap=la kalem-ler-i al-dı.*
A[NOM] book=AND pencil-PL-ACC take-PST[3SG]
'Ahmet took the books and the pencils.'

'Ahmet took the book and the pencils.'

SA in the environment of the clitic *ile/=(y)lA* results in ambiguous SA like it does with free form conjoiner *ve* 'and'. The clitic *ile/=(y)lA* allows for insertion of PL and POSS suffixes between itself and the noun it is attached to. It does not allow the insertion of CASE but it allows SA of them, as shown in (8).

(8) a. **kitap-lar-ım-ı=ylA defter-ler-i al-dı-m.*
book-PL-POSS.1SG-ACC=AND notebook-PL-ACC take-PST-1SG

b. *kitap-lar-ım=lA defter-ler-i al-dı-m.*
book-PL-POSS.1SG=AND notebook-PL-ACC take-PST-1SG
'I took my books and the notebooks.'

In the following subsections I show why the *ile/=(y)lA* in (7) and (8) is not a semantic case that is either functionally a postposition or a case assigned by a functional head.

5.2.1 Why *ile/=(y)lA* is not a case

A solution for the inability of CASE insertion before the clitic *ile/=(y)lA* is to posit that *ile/=(y)lA* itself is a case marker and that's why the insertion of CASE is not allowed. After all, *ile/=(y)lA* has that function in its other uses. This line of approach is problematic for other reasons. For example, a verb that assigns lexical case, *kork* 'to fear', and *başla* can have arguments that are conjoined with *ile/=(y)lA* (9).

(9) a. *Kedi=yle köpek-ten kork-uyor-um.*
cat=AND dog-ABL fear-PROG-1SG
'I fear cats and dogs'

b. *Sigara=yla alkol-e başla-dı-m.*
cigarette=AND alcohol-DAT start-PST-1SG
'I started to use cigarette and alcohol.'

Taking the clitic *ile/=lA* as CASE in (9) means that the verbs *kork* 'to fear' and *başla* 'to start' select an argument that is not marked with ABL or DAT. This is not a major problem if *ile/=lA* is taken to be a case marker assigned by a covert conjoiner head as illustrated in Figure 37. This way the only case that is assigned by the lexical case assigning verbs fall to the second conjunct.

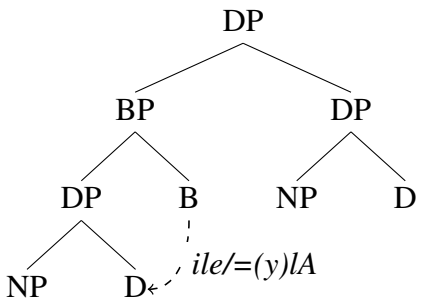

Figure 37. Considering *ile/=(y)lA* as a case assigned by a zero conjoiner head

The representation in Figure 37 solves the selection problem for the lexical case assigning verbs and still places *ile/=(y)lA* as a case marker. As a general constraint, SA takes place for the rightmost terminal nodes. If the rightmost terminal node does not match the feature values of the suspended terminal nodes, SA does not take place. In (10) all the second conjuncts have the rightmost PL-ACC.

(10) a. *Kalem=le kitap-lar-ı al.*
pencil=CASE book-PL-ACC take.IMP
'Take the pencils and the books'

b. *Kalem ve kitap-lar-ı al.*
pencil AND book-PL-ACC take.IMP
'Take the pencils and the books'

If the clitic *ile/=lA* in (10a) were to be a case marker, it would mismatch in feature with ACC. This should have stopped SA of PL. This is not the case and both sentences in (10) are example of SA. There is no SA environment in Turkish that violate the rightward-bound process of deletion and positing *ile/=(y)lA* as an exception is not needed if an explanation that captures both the SA capability and inability of CASE insertion can be given.

5.2.2 How *ile/=(y)lA* is a conjoiner

The examples in (10) would violate the rightward bound nature of SA since POSS and PL suffixes before *ile/=(y)lA* would be subject to suspension but not *ile/=(y)lA* itself. I argue that *ile/=(y)lA* itself is a conjoiner head and not a case suffix. Additionally, the phrase that *ile/=(y)lA* conjoins is not case markable, yet it can be marked for number and possession. The first approach to conjoiner *ile/=(y)lA*, can use the insertable and non-insertable suffixes to determine the size of a conjunct for *ile/=(y)lA*. According to the analysis of Öztürk and Taylan (2016), both number and possession suffixes reside on the nP head. If CASE can not be inserted before *ile/=(y)lA* but number and possession can be, then it might be conjoining nPs. In Figure 38, I give a representation for *ile/=(y)lA* conjoining nPs.

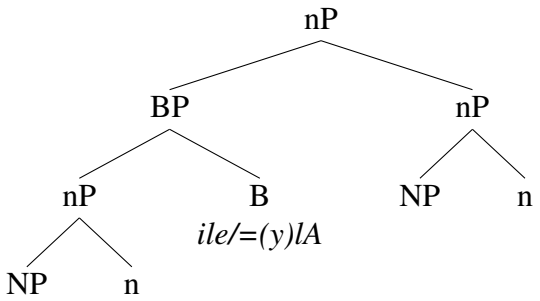

Figure 38. Representation of *ile/=(y)lA* as a conjoiner of nPs

This analysis argues for a small conjunction of two inflectional levels before a DP layer and after the lexical item. One issue with this analysis comes about when the conjuncts are modified with a modifier that requires a DP layer. In Turkish, there is a suffix *-ki* that is attached to LOC marked nouns and it either forms an adjectival modifier or a pronominal. I give the examples in (11) to show its difference than a normal adjectival modifier.

(11) a. *Ahmet küçük kitap bul-du.*
A[NOM] small book find-PST[3SG]
'Ahmet bought some small book'

b. **Ahmet araba-da-ki kitap bul-du.*
A[NOM] car-LOC-ki book find-PST[3SG]

c. *Ahmet araba-da-ki kitab-ı bul-du.*
A[NOM] car-LOC-ki book-ACC find-PST[3SG]
'Ahmet took the book in the car.'

The nouns that are modified with an adjective can be non-referential as in (11a), but nouns that are modified with *ki* derived modifiers can not be non-referential (11b). This shows that *ki* modifiers require a position where the noun is already referential, and according to Öztürk (2001) DP layer is the place where referentiality is encoded. If the clitic *ile/=(y)lA* were to be analyzed as in Figure 38, *ki* derived modifiers should have rendered (12) ungrammatical.

(12) *Ahmet masa-da-ki kitap=la vazo-da-ki çiçeğ-i getir-di.*
A[NOM] table-LOC-ki book=AND vase-LOC-ki flower-ACC bring-PST[3SG]
'Ahmet brought the book on the table and the flower in the vase.'

The problem here is twofold. First, the use of *ile/=(y)lA* in the examples (8), (9), (10), and (12) are definitely uses of the clitic as a conjoiner. Second, the *ki* derived modifiers require a DP level structure. A support for DP level conjunction in *ile/=(y)lA* comes from nominalized sentences in Turkish. *ile/=(y)lA* can conjoin two nominalized sentences as in (13).

(13) *Ben-im ev-e gel-me-m=le sen-in uyan-ma-n*
1SG-GEN house-DAT come-NMLZ-1SG=AND 2SG-GEN wake_up-NMLZ-2SG
aynı an-da ol-ma-dı.
same moment-LOC happen-NEG-PST[3SG]
'Me coming home and you waking up did not happen at the same time.'

Following from all the observations made in this section, I propose that the inability to insert overt case markers does not stem from the lack of a DP layer or *ile/=(y)lA* functioning as a CASE. It is rather based on vocabulary insertion of the items. It is no news that clitics have a special place when it comes to phonology in Turkish. All the clitics shift the stress or focus domain to their left. I propose to consider *ile/=(y)lA* as a conjoiner like *ve* 'and' that can conjoin DP level nouns, and when it comes to insertion of phonological elements its size includes the DP head and the BP head. For a final representation of my proposal I provide Figure 39. In this

representation I show the phonological insertion for the heads. The DP head is still morphologically encoded with CASE, for a representation as ACC here, however its vocabulary insertion is overwritten by the clitic *ile/=(y)lA* that serves as the BP head morphologically and syntactically.

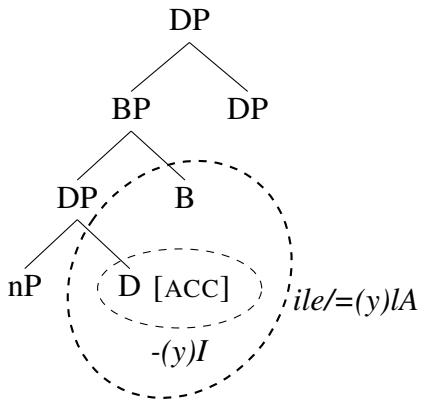

Figure 39. Structural proposal for *ile/=(y)lA* as a conjoiner

5.3 Analysis of the suffix *-(y)Ip*

In this section I discuss the status of the suffix *-(y)Ip* (PC in glosses). I give the structural interpretations that it should be evaluated under and the properties of the environment it forms. I argue for it to be evaluated as an environment of conjunction where SA beyond a morphological word is carried out.

5.3.1 What is *-(y)Ip*

The suffix *-(y)Ip* is used with verbs and only allows bare verbs, Voice, Mod_{Abil}, Negation, and the suffix *-(y)Iver* (I dubb this as Asp_{Con} and as CON in glosses) before it. In (14), I give a set of examples for *-(y)Ip*.

(14) a. Bare verb

Ahmet koş-up düş-tü.
A[NOM] run-PC fall-PST[3SG]
'Ahmet ran and fell'

b. verb-CAUS

Ahmet şişe-yi dol-dur-up temizle-di.
A[NOM] bottle-ACC fill-CAUS-PC clean-PST[3SG]
'Ahmet filled the bottle and cleaned it.'

c. verb-ABIL

Ahmet mantıklı düşün-ebil-ip sorun-u çöz-dü.
A[NOM] sensible think-ABIL-PC problem-ACC solve-PST[3SG]
'Ahmet was able to think sensibly and solve the problem.'

d. verb-NEG

Ahmet ev-e gel-me-yip bekle-di.
A[NOM] house-DAT come-NEG-PC wait-PST[3SG]
'Ahmet did not come home and waited.'

e. verb-CON

Ahmet bulaşıklar-ı yıka-yıver-ip otur-du.
A[NOM] dishes-ACC wash-CON-PC sit-PST[3SG]
'Ahmet managed to wash the dishes and sat down.'

f. verb-ABIL-NEG-CON

Ahmet tutun-a-ma-yıver-ip düş-tü.
A[NOM] hold-ABIL-NEG-CON-PC fall-PST[3SG]
'Ahmet could not manage to hold on and fell.'

There are several arguments for its structural interpretation but they mainly boil down to converb adverbial (Demir, 2014; Underhill, 1976; Göksel and Kerslake, 2005), and converb conjoiner (Fokkens et al., 2009; Johanson, 1995; Kornfilt, 1997) analyses. In this subsection I show whether *-(y)Ip* is a conjoiner or an adverbial. The sentences in (14) show that *-(y)Ip* is able to conjoin two predicates that do not match in their Voice, Modality, and Polarity features. One contrasting behaviour of *-(y)Ip* compared to other adverbial converbs *-(y)IncA* and *-mAdAn* is given in (15). Under the same argument settings, *-(y)Ip* is ungrammatical[1] unlike *-(y)IncA* and *-mAdAn* (PC, WHEN, and WO in glosses respectively).

[1]Contrasting subjects are grammatical with *-(y)Ip*. Exact grammatical considerations for *-(y)Ip* constructions will be addressed in a following section

(15) a. *Ahmet koş-unca Mehmet düş-tü.*
A[NOM] run-WHEN M[NOM] fall-PST[3SG]
'When Ahmet ran, Mehmet fell'

b. *Ahmet koş-madan Mehmet düş-tü.*
A[NOM] run-WO M[NOM] fall-PST[3SG]
'Mehmet fell before Ahmet ran'

c. **Ahmet koş-up Mehmet düş-tü.*
A[NOM] run-PC M[NOM] fall-PST[3SG]
Intended 'Ahmet ran and Mehmet fell'

An objection to this observation can come from the fact that the adverbial suffix *-(y)ArAK* '∼ by Ving' (BY in glosses). It also results in the same ungrammaticality as in (16).

(16) a. *Ahmet koş-arak düş-tü.*
A[NOM] run-BY fall-PST[3SG]
'Ahmet fell running'

b. **Ahmet koş-arak Mehmet düş-tü.*
A[NOM] run-BY M[NOM] fall-PST[3SG]

-(y)Ip deviates from *-(y)ArAK* in verb-manner relation. The verb marked with *-(y)ArAK* requires semantic compatibility with the main verb. If the derived reading with *-(y)ArAK* is not semantically compatible as a manner for the main verb, the expression becomes meaningless. Verbs that are marked with *-(y)Ip* do not require such a compatibility of manner. Manner relations are usually carried out by adverbs and adverbial clauses. In (17), the suffix *-(y)ArAK* is bound by verb-manner interpretations just like any other adverb whereas *-(y)Ip* is not.

(17) a. *Ahmet uyu-yup kalk-tı.*
A[NOM] sleep-PC get_up-PST[3SG]
'Ahmet slept and woke up.'

b. *%Ahmet uyu-yarak kalk-tı.*
A[NOM] sleep-BY get_up-PST[3SG]

An additional contrast of *-(y)Ip* comes about in word order configurations. *-(y)Ip* does not allow a word ordering under same argument settings as an adverbial

suffix like *-(y)ArAK* would allow. (18) shows some word orderings for *-(y)Ip* and *-(y)ArAK*[2]. In these word orderings, the verb marked with *-(y)Ip* and the main verb need to stay as a unit for a grammatical sentence.

(18) a. i. *Ahmet koş-up gel-di.*
A[NOM] run-PC come-PST[3SG]

ii. **koş-up Ahmet gel-di.*
run-PC A[NOM] come-PST[3SG]

iii. *koş-up gel-di Ahmet.*
run-PC come-PST[3SG] A[NOM]
'Ahmet ran and came'

b. i. *Ahmet koş-arak gel-di.*
A[NOM] run-BY come-PST[3SG]

ii. *koş-arak Ahmet gel-di.*
run-BY A[NOM] come-PST[3SG]

iii. *koş-arak gel-di Ahmet.*
run-BY come-PST[3SG] A[NOM]
'Ahmet came running'

This difference in grammaticality does not mean that *-(y)Ip* has to be adjacent to the main verb, but it means that any word ordering needs to take the verb marked with *-(y)Ip* and the main verb as equivalent units. If the verb marked with *-(y)Ip* were to be a unit of modification for the main verb all word order changes should have resulted in reading differences rather than ungrammaticalities. I argue that the observations made in this section distinguishes *-(y)Ip* from an adjectival forming suffix. In the following section I lay out how *-(y)Ip* is taken to be a conjoiner.

5.3.2 Properties of *-(y)Ip* constructions

In the literature where *-(y)Ip* is evaluated as a conjoiner (Fokkens et al., 2009; Johanson, 1995; Kornfilt, 1997), it is given the status of conjoining VPs. On first sight the lack of any tense and agreement marker leads to evaluating *-(y)Ip* as a conjoiner of VPs. Figure 40 illustrates this analysis.

[2]Remember that word order changes are not free of interpretation in Turkish, they result in different information settings. See Öztürk (2001) for word order and change effects in Turkish

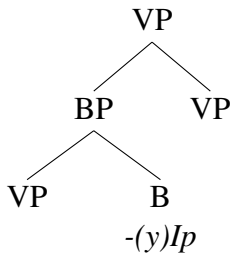

Figure 40. Early conjoiner analysis of *-(y)Ip*

Conjoining only VPs might be warranted given the lack of overt inflections for the *-(y)Ip* marked verb, but this analysis has couple of problems. First of which is the ability of *-(y)Ip* marked verb to have inflectional suffixes of Negation, and Modality. These should immediately elevate the representation of VP to a higher structure. Not all inflectional markers are represented by overt heads, but the existence of them can be addressed cross-linguistically. The observations of Cinque (1999, 2001) show that multiple inflectional levels for Tense, Aspect and Modality exist. These inflectional levels can have functional projections that take specific types of adverbs. These adverbs reside in the specifier position of the functional projections.For example the two time adverbials *bugün* 'today' and *yarın* 'tomorrow' can occupy the specifier position of $\text{Tense}_{\text{FUT}}$. If they are both used in one sentence, they form a compound that means 'sooner or later' instead of *bugün* 'today' or *yarın*'tomorrow' as illustrated in (19).

(19) *Ahmet bugün yarın kitab-ı al-ıp gel-ecek.*
A[NOM] today tomorrow book-ACC take-PC come-FUT[3SG]
'Sooner or later Ahmet will buy the book and come here.'

This is easily predicted by an analysis of VP conjunction for *-(y)Ip* and functional projection for $\text{Tense}_{\text{FUT}}$ since a VP can later be marked with a single projection of tense and both adverbs occupy the same position and form a compound. The problem is that the *-(y)Ip* marked argument can have an adverb to itself that is different from the main verb. In (20), I provide an example where *-(y)Ip* marked verb and the main verb differ in their time adverbial.

(20) *Ahmet bugün kitab-ı al-ıp yarın defter-i kapla-yacak.*
A[NOM] today book-ACC buy-PC tomorrow notebook-ACC wrap-FUT[3SG]
'Ahmet will buy the book today and will wrap the notebook tomorrow.'

The two time adverbials form a compound when they occupy the same position in a projection. In (20), performing a conjunction of VPs require only one inflectional projection of $\text{Tense}_{\text{FUT}}$. This time however no compound reading is achieved. If separate evaluations of the adverbs are possible than it requires two functional projections of $\text{Tense}_{\text{FUT}}$ instead of one. This refutes performing a conjunction of VPs.

Another functional projection that can be used to illustrate higher level of conjunction for *-(y)Ip* comes from speech act adverbials. The two speech act adverbials *dürüstçe* 'frankly' and *sinsice* 'deviously' result in semantically odd reading if they are used in one sentence. (21) shows the resulting odd reading.

(21) *%Ahmet dürüstçe ve sinsice konuş-up davran-dı.*
A[NOM] frankly AND deviously talk-PC behave-PST[3SG]
Intended 'Ahmet talked and behaved frankly and deviously'

Placing one of the adverbs under *-(y)Ip* marked verb and the other under the main verb does away with the odd reading in (21). If the two speech adverbials were to occupy the same inflectional level, the example in (22) should have also been semantically odd.

(22) *Ahmet dürüstçe konuş-up sinsice davran-ıyor.*
A[NOM] frankly talk-PC deviously act-PROG[3SG]
'Ahmet is talking honestly but acting deviously.'

It is not only Tense and other overt inflectional heads that *-(y)Ip* replaces, it can also occupy nominalizer place as in (23).

(23) *dürüstçe konuşup sinsice davran-mak doğru değil.*
frankly talk-PC deviously act-NMLZ right NEG
'talking frankly and acting deviously is not right.'

All the observations in this section shows that *-(y)Ip* does not conjoin VPs but higher projections. According to Cinque (1999), speech act adverbials are used with

the functional projection Mood$_{speech\ act}$ that is higher than Tense and Aspect projections. I argue that *-(y)Ip* is a conjoiner for full sentences. In the following section I give my analysis for *-(y)Ip* conjunctions.

5.3.3 Analysis of *-(y)Ip*

Analyzing *-(y)Ip* as a conjunction that conjoins full sentences requires the explanation for missing and non-insertable suffixes. These suffixes range from aspect markers to person agreements. I propose that *-(y)Ip* is a result of vocabulary insertion after SA. The specific reason for why *-(y)Ip* is chosen instead of a free form conjoiner like *ve* 've' is a morphological one. In a conjunction of two sentences, suspension of suffixes on the verb is performed beyond a morphological word. This results in a violation of the morphological word constraint. The verb after deletion of exponents can not stand on its own. That's why a bound form conjoiner like *-(y)Ip* is inserted for the conjoiner head, instead of a free form conjoiner *ve* 've'. This way I combine both conjoiner function of *-(y)Ip* and the explanation for missing suffixes. In Figure 41 I provide my analysis.

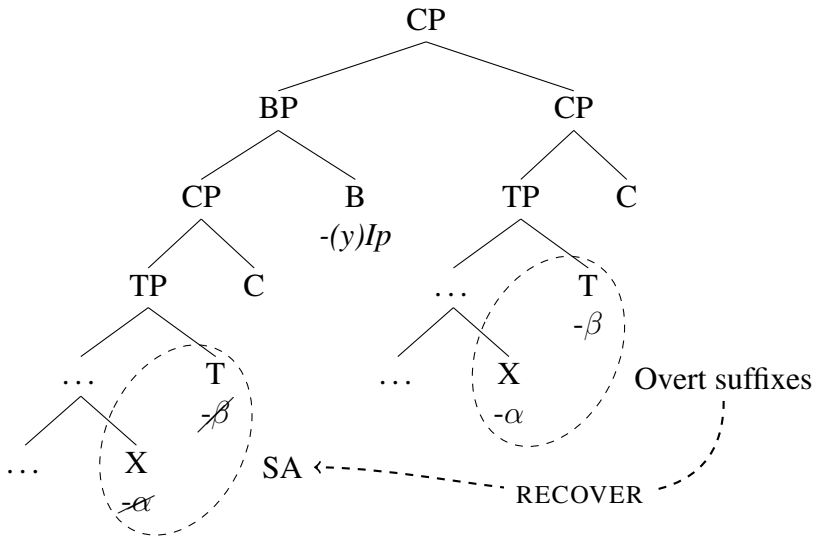

Figure 41. Structural analysis proposal for *-(y)Ip*

In (24), I provide multiple instances of *-(y)Ip* that is a result of performing SA beyond a morphological word in verbs.

(24) *Ahmet ev-e gel-ip soyun-up uyu-muş-tur.*
A[NOM] house-DAT come-PC undress-PC sleep-PRF-PROB[3SG]
'Ahmet has probably come home, undressed, and slept.'

In (25) I give the order of derivation that leads to SA beyond the morphological word and the multiple instances of *-(y)Ip*.

(25) i. Conjunction of Sentences$_n$, with matching rightmost suffixes $\alpha - \beta$

One possible problem for a conjoiner *-(y)Ip* is its ability to co-exist with another marker *hem ... hem de ...* 'both ... and ...' that seemingly carries out the function of the conjoiner *ve* 'and'. I don't take *hem ... hem de ...* 'both ... and ...' as a conjoiner but as focus particles that operate on the conjuncts. The counterpart *ya ... ya da ...* 'either ... or ...' that serves as the focus particle for the exclusive *veya* 'or' is ungrammatical. I give the example in (26) to serve the point.

(26) a. *hem tez yaz-ıp hem de çalış-mak ist-iyor-sun.*
FOC thesis write-PC FOC PTCP work-NMLZ want-PROG-2SG
'(You) want to both write your thesis and work.'

b. **ya tez yaz-ıp ya da çalış-mak ist-iyor-sun.*
FOC thesis write-PC FOC PTCP work-NMLZ want-PROG-2SG

c. *ya tez yaz-mak ya da çalış-mak ist-iyor-sun.*
FOC thesis write-NMLZ FOC PTCP work-NMLZ want-PROG-2SG
'You either want to write your thesis or you want to work.'

All the examples in the last two subsections distinguished *-(y)Ip* from adverbial converbs and presented it as a conjoiner of inflectional levels. With these observations at hand, I claim that *-(y)Ip* is a conjoiner that elevates the verb to morphological word status because a free form conjoiner like *ve* 'and' can not achieve that. It doesn't occupy the morphological slots for the inflectional heads, it surfaces after the suspension of affixes to rescue the ill-formed construction. In the following subsection I discuss why SA seems to be obligatory in *-(y)Ip* constructions and why the environment of *-(y)Ip* is important for the discussion of SA.

5.3.4 SA and *-(y)Ip*

One argument that can be made against *-(y)Ip* is the nature of the SA. In the constructions where there is *-(y)Ip* as a conjoiner, it seems like the SA needs to be performed beyond the morphological word, even up to the bare verb itself. The analysis I provided bears out the remedy for this possible problem. The formation of the structure does not follow the conjunction of *-(y)Ip* first and then SA, the conjoiner choice between the *-(y)Ip* and *ve* 'and' is made after SA is performed. The conjoiner *'ve'* is selected if what is left after SA is a morphological word. The conjoiner *-(y)Ip* is selected if what is left after SA is not a morphological word. In this sense what is actually happening is a regulation of how the vocabulary insertion for the conjoiner works in the conjunction of verbal predicates after SA. For a set of examples see (27).

(27) a. i. **kitab-ı oku ve anla-malı-ydı-m.*
book-ACC read AND understand-NEC-PST-1SG

ii. *kitab-ı oku-yup anla-malı-ydı-m.*
book-ACC read-PC understand-NEC-PST-1SG
'I should have read and understood the book.'

b. i. **kitab-ı oku-malı-yıp anla-malı-ydı-m.*
book-ACC read-NEC-PC understand-NEC-PST-1SG

ii. *kitab-ı oku-malı ve anla-malı-ydı-m.*
book-ACC read-NEC AND understand-NEC-PST-1SG
'I should have read and understood the book.'

The sentences in (27) show that the vocabulary item for the conjoiner head is selected after SA is performed. This also explains why the suffixes *-mA* and *-Abil* can reside under the conjoiner *-(y)Ip* because they do not form morphological words. I give a set of examples in (28).

(28) a. i. **kitab-ı oku-yabil ve anla-yabil-miş-im.*
book-ACC read-ABIL AND understand-ABIL-PRF-1SG

ii. *kitab-ı oku-yabil-ip anla-yabil-miş-im.*
book-ACC read-ABIL-PC understand-ABIL-PRF-1SG
'It seems like I was able to read and understand the book.'

b. i. **kitab-ı oku-yabil-miş-ip anla-yabil-miş-im.*
book-ACC read-ABIL-PRF-PC understand-ABIL-PRF-1SG

ii. *kitab-ı oku-yabil-miş ve anla-yabil-miş-im.*
book-ACC read-ABIL-PRF AND understand-ABIL-PRF-1SG
'It seems like I was able to read and understand the book.'

c. i. **kitab-ı oku-ma ve anla-ma-mış-ım.*
book-ACC read-NEG AND understand-NEG-PRF-1SG
ii. *kitab-ı oku-ma-yıp anla-ma-mış-ım.*
book-ACC read-NEG-PC understand-NEG-PRF-1SG
'It seems like I haven't read the book and understood it.'

d. i. **kitab-ı oku-ma-mış-ıp anla-ma-mış-ım.*
book-ACC read-NEG-PRF-PC understand-NEG-PRF-1SG
ii. *kitab-ı oku-ma-mış ve anla-ma-mış-ım.*
book-ACC read-NEG-PRF AND understand-NEG-PRF-1SG
'It seems like I haven't read the book and understood it.'

SA is also not maximally obligatory in *-(y)Ip* constructions as the ambiguity in (29) shows.

(29) *Ahmet ev-e gel-ip kitab-ı oku-ma-dı*
A[NOM] house-DAT come-PC book-ACC read-NEG-PST[3SG]
'Ahmet did not come home and did not read the book.'

'Ahmet came home but did not read the book.'

In the first reading of (29) SA is performed for the suffixes NEG-PST[3SG] which is all the way to the bare verb itself. In the second reading of (29) however, SA is performed for PST[3SG]. In both readings what is left after SA is not a morphological word and this results in the selection of *-(y)Ip* as a conjoiner. Figure 42 represents the two readings in (29).

5.3.5 More on *-(y)Ip*

In the previous subsections I have shown what the structural interpretation for *-(y)Ip* and its relation to SA. There is one additional property of *-(y)Ip* constructions that falls a bit out of the scope of this study, yet holds a crucial distinction for how SA is considered. The example (15) I have provided for arguing that *-(y)Ip* is different from other adverbial converbs hosts an ungrammatical sentence. To show that it is grammatical under a free form conjoiner like *ve* 'and' I give the example (30).

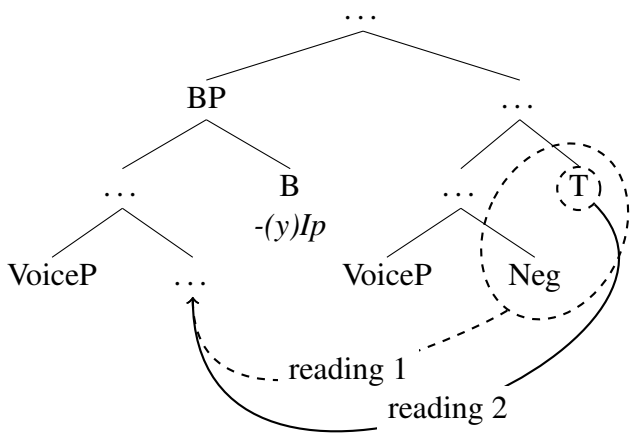

Figure 42. Representation of ambiguous *-(y)Ip*

(30) a. **Ahmet ev-e gel-ip Mehmet uyu-du.*
A[NOM] house-DAT come-PC M[NOM] sleep-PST[3SG]
b. *Ahmet ev-e gel-di ve Mehmet uyu-du.*
A[NOM] house-DAT come-PST[3SG] AND M[NOM] sleep-PST[3SG]
'Ahmet came home and Mehmet slept.'

In my analysis so far, I argued for *-(y)Ip* to be considered as a conjoiner head after an SA beyond a morphological word is carried out. If this was purely the case, both the sentences in (30) should have been grammatical. This on the surface refutes a full conjunction analysis. The remedy for this problem requires a bit of investigation into the particular structures that *-(y)Ip* is grammatical with. *-(y)Ip* constructions almost always include a necessary topicalization of at least one phrase that is shared in both conjuncts. For example the ungrammatical (30a) can be made grammatical by just adding an adverb that is shared by both the conjuncts as in (31).

(31) *Tam o sırada Ahmet ev-e gel-ip Mehmet uyu-du.*
right that time A[NOM] house-DAT come-PC M[NOM] sleep-PST[3SG]
'Right at that time Ahmet came home and Mehmet slept.'

Some native speakers might find it difficult to interpret (31) that's why I give the example (32) that topicalizes an argument of the verb.

(32) a. *kitab-ı Ahmet bul-up Mehmet oku-du.*
book-ACC A[NOM] find-PC M[NOM] read-PST[3SG]
'Ahmet found the book and Mehmet read it.'

In fact one or two out of the three arguments of ditransitive conjuncts can be topicalized as in (33).

(33) a. Topicalized Subject and Indirect Object

[Ali Deniz-e] Mehmet-i vurdur-up Naci-yi dövdür-dü.
A[NOM] D-DAT M-ACC hit.CAUS-PC N-ACC beat.CAUS-PST[3SG]
'Ali made Deniz hit Mehmet and beat Naci.'

b. Topicalized Subject and Object

[Ali Mehmet-i] Deniz-e vurdur-up Kadir-e dövdür-dü.
A[NOM] M-ACC D-DAT hit.CAUS-PC K-DAT beat.CAUS-PST[3SG]
'Ali made Deniz hit Mehmet and made Naci beat Mehmet.'

c. Topicalized Object and Indirect Object

[Mehmet-i Deniz-e] Ali vurdur-up Osman dövdür-dü.
M-ACC D-DAT A[NOM] hit.CAUS-PC O[NOM] beat.CAUS-PST[3SG]
'Ali made Deniz hit Mehmet and Osman made Deniz beat Mehmet.'

d. Topicalized Subject

[Ali] Deniz-e Mehmet-i vurdur-up Kadir-e Naci-yi
A[NOM] D-DAT M-ACC hit.CAUS-PC K-DAT N-ACC
dövdür-dü.
beat.CAUS-PST[3SG]
'Ali made Deniz hit Mehmet and made Kadir beat Naci.'

e. Topicalized Object

[Mehmet-i] Ali Deniz-e vurdur-up Kadir Naci-ye
M-ACC A[NOM] D-DAT hit.CAUS-PC K[NOM] N-DAT
dövdür-dü.
beat.CAUS-PST[3SG]
'Ali made Deniz hit Mehmet and Kadir made Naci beat Mehmet.'

f. Topicalized Indirect Object

[Deniz-e] Ali Mehmet-i vurdur-up Osman Naci-yi
D-DAT A[NOM] M-ACC hit.CAUS-PC O[NOM] N-ACC
dövdür-dü.
beat.CAUS-PST[3SG]
'Ali made Deniz hit Mehmet and Osman made Deniz beat Naci'

The sentences in (33) show that in *-(y)Ip* constructions at least one parasidic gap is required for the sentence to be grammatical even though the gaps do not correspond to ordered layers of arguments. Topicalizing an argument is not the only requirement for a grammatical *-(y)Ip* construction. The order of the focalized arguments within the conjuncts should have the same word order just like the requirement for Backward Ellipsis. For an ungrammatical version of (33d) see (34).

(34) **[Ali] Deniz-e Mehmet-i vurdur-up Naci-yi Kadir-e dövdür-dü.*
A[NOM] D-DAT M-ACC hit.CAUS-PC N-ACC K-DAT beat.CAUS-PST[3SG]

This property of *-(y)Ip* constructions presents a key point for how SA is considered. In no other environment does SA occur so closely related to changes in information structure. In the instances where SA is performed there is not necessarily a focusing or topicalization that takes place unlike other ellipsis processes in Turkish. If one wants to be candid about the motivation for SA, it is hard to come up with a reason for why it is carried out. In this sense *-(y)Ip* constructions provide the contrast so that one can say that an SA beyond a morphological word needs to result in the changes of information structure since the analysis I provide for the selection between a free form conjoiner *ve* 'and' or a bound conjoiner *-(y)Ip* rests upon the morphological word status of the remnant after SA.

CHAPTER 6

CONCLUSION

In this thesis my primary aim was to investigate the interactions and core workings of SA. I have used empirical and theoretical devices to better represent SA and its relations. I do not have a small and fixed set of problems for which I engage in finding solutions. The topic itself on the other hand is very specific and the number of languages it is observed is few. As it is not a common issue, my primary objective became pinpointing the space that SA occupied in Turkish. I have gone after the type of morphemes it can be seen, the environment it is used in and what it can bring for a study of sentence processing in Turkish. In my thesis partial answers to the following questions can be found, in the order they are presented:

- What are the analyses for SA in Turkish, and similar processes in other languages?
- What type of morphemes can be targeted by SA?
- Does the type of conjoiner have an effect in performing SA?
- Is SA hard to process?
- Does SA create environments for testing notions like Reanalysis?
- What could an informed analysis of SA be?
- Is SA beyond a morphological word possible?

My observations indicate that SA in Turkish is highly reserved for inflectional suffixes. It is not necessarily hard to process. Other than its main function, it can be used to create structural ambiguities that lead to increased processing difficulty with disambiguations that contradict it. It can also cause lasting effects even after reading the sentence is completed. SA is a process of ellipsis that target terminal nodes instead of individual morphemes. SA being optional or successful is dependent on its environment, which is conjunction. Although SA beyond a morphological word is

not warranted in the typical examples of it. One particular suffix *-(y)Ip* can be considered as an example for SA beyond a morphological word. In the following sections I first propose some empirical considerations that could be used to further investigate the claims I make, or the points that arise from the experiment I have conducted.

6.1 Pragmatics and SA

In the experiments and the descriptions provided for SA, it is not clear what function it serves. There is no prominent reading differences resulting from performing or not performing SA. One particular point is the question of why *veya* reduces acceptability of ACC. The analysis I have provided focuses on the interaction between the use of a conjoiner and pragmatics. It suggests that the reading of *ve* 'and' to be present. This can not be achieved by *veya* 'or' because in the environment I have used, it interacted with pragmatics and lost the reading of *ve* 'and'. A further research into this point can be made by using *veya* 'or' in different environments like conditionals, quantificational determiners, and questions. This means that the environment of SA is placed under another environment and the argument I make can be further investigated.

6.2 Why use only two conjuncts?

In the beginning of my thesis I have asserted that SA is possible with more than two conjuncts, but the literature almost always revolves around 2 examples. According to my observations SA of derivational suffixes is not viable, and SA does not have too much processing cost. Yet I made these observations using only two conjuncts for the environment of SA. The same points need to be tested with increased number of conjunctions. Examples for SA of derivational suffixes can be found in a corpus, yet they usually involve more than two conjuncts. Although it is a bit of a stretch, maybe SA is used as a strategy to avoid repetition and that's why those examples are found in the corpus. The processing cost is low, maybe because the process of retrieving the

suffix and implementing it for only one conjunct is not laboring enough to cause processing difficulty. Of course these are speculations I am making yet there is ground to go after them.

6.3 Why diverge on both empirical and theoretical grounds?

In my thesis I make use of both the empirical and theoretical tools to provide an argument or support a point. In things that are novel and oriented towards answering a question, I have used empirical tools. They provide me with how a variable interacts with a process that I am after and how it can be explained. A simple yes and no session with myself as a native Turkish speaker was not enough to capture the fine points of what a conjoiner change would have meant, what incremental changes in SA have parallel effects in processing would do, and how SA would fair as a general process. I have used theoretical grounds to argue for or against a formal analysis provided for SA, and how to characterize a clitic *ile/=lA* or a suffix *-(y)Ip*.

6.4 My experience in writing a thesis

Throughout the process of writing my thesis, I have tried to compartmentalize my tasks. The nature of my thesis and my goal of majorly exploring SA made it more suitable for such a way of studying. I was able to make myself engage with my thesis in different ways and shed different lights on the problems. I like to think I was fairly consistent with what I produced in the time period I had. I decided what topic to go after early on, and to my surprise it bore fruit and offered an array of different aspects that I can go after piece by piece. My thesis is not a single line going from one dot to the other. I like to think of it as the collection of the concentric circles around SA and what they interact with. My feel from my work is that it is an inquisitive endeavour that is sourced in SA and ventures outwards till the borders of SA. It follows different paths and tries to identify different borders rather than plaiting the path it took.

APPENDIX A
EXPERIMENT 1 ACCEPTABILITY ITEMS

1_Ahmet herşeyi biliyormuşçasına ve/veya anlıyormuşçasına konuşuyor sağda solda.

2_Her şeye rağmen herkesi kabullenircesine ve/veya seve/veyarcesine davranmak insanı insan yapar.

3_Çok duygulanıp gözlerim yaşarırcasına ve/veya kızarırcasına gülmek istiyorum.

4_Sevilmeyen kişiler inatçı ve/veya yalancı insanlardır.

5_Bu devirde insancı ve/veya toplumcu davranış sergilemek nadir görülüyor.

6_Tartışmalarında duyuduğumuz Trumpçı ve/veya Hillaryci yorumlar tam olarak gerçeği yansıtmıyor.

7_Gezegenler listesinden çıkan Pluton gezegenimsi ve/veya göktaşımsı özellikler taşıyor.

8_En çok satılan şeker ağızda vanilyamsı ve/veya nanemsi bir tat bırakan.

9_Bu tarz olaylar insanın içinde öfkemsi ve/veya nefretimsi duygular doğuruyor.

10_Doktora gittiğimizde belimdeki beşinci ve/veya altıncı kemiklerin zedelendiğini öğrendik.

11_Sıraya geçen insanlardan birinci ve/veya ikinci sıradakiler aç kalacak.

12_Buraya yerleşen göçmenlerin ikinci ve/veya üçüncü nesilleri Türkçeyi öğrenmiş olacak.

13_Buraya ne zaman gelsek vanilyalı ve/veya çikolatalı dondurmayı mutlaka yeriz.

14_Bu saatte pizza söyleyeceksen biberli ve/veya sucuklu pizza söyleme lütfen.

15_Aldığım elbisenin üzerinde noktalı ve/veya çizgili motifler varsa ayakkabı bulmak zor olur.

16_Bu yasa tasarısı tartışmasız ve/veya itirazsız kabul edilmiş mecliste.

17_İnsanların dayanabileceği susuz ve/veya yemeksiz gün sayısı belli.

18_Seksenlerde başlayan yağsız ve/veya şekersiz yiyecekler tüketme trendi çok uzun sürmedi.

19_Sabah okul zili çalınca öğrenciler üçer ve/veya dörder sıraya dizilirler.

20_Bu mağaza pantolonları beşer ve/veya altışar raflara diziyor.

21_Masa bacaklarını yedişer ve/veya sekizer paketler halinde saklıyoruz.

22_Aslına bakılırsa kalemi ve/veya defteri çok pahalıya almışsın.

23_Yarın köyden gelecek turşuyu ve/veya ezmeyi hemen yeyip bitirmezsem iyi olur.

24_Geç saatlerde yürüdğüm yolu ve/veya sahili hiç unutmadım.

25_Bu yarışta Alman ekibi ikincilik ve/veya üçüncülük kupasını kıl payı kaçırdı.

26_Başkalarına karşı beslediğimiz dostluk ve/veya düşmanlık hisleri bizi mutlaka etkiliyordur.

27_Pazara gidip beş kiloluk ve/veya altı kiloluk paketler halinde patates alıp geldim.

101_Öğretmenler odasından yükselen sesler bazı öğrencileri endişelendirdi.

102_Sayfalarını kurcaladığı kitabı bir kenara koyulup yazmaya devam etti.

103_Eğer uzlaşma sağlanırsa Suriyede yeni anyasa oluşturma sürecine geçilecek.

104_Her gün çekiçle ve kazmayla çalıştığına elleri bir hayli nasırlıydı.

105_Devlet tiyatrolarının salonları sezon boyunca doluyor ve bilet bulmak çok zor.

106_Bu çiçek kırılgan ve narin bir yapıya sahip o yüzden yetiştirilmek çok zor.

107_Amasra'ya giderken bir süre ağaçlarla çevrili bir yoldan geçersiniz.

108_Elektrikli araç üretimi son yıllardaki en yüksek seviyesinde ve hala artılmakta.

109_Gıda zehirlenmesi yaşayan askerler acilen hastaneye kaldırılıp tedavi altına alınacak.

110_Hareketlerinde bir sorun göremeyen dansçı hocasına sitem olduruyor.

111_Müziğe kendini kaptıran seyirciler hep bir ağızdan sözleri tekrar ediyorlar.

112_Katıldığı bir programda kendisine yöneltilen soruyu saçma denip geçiştirdi.

113_Hong Kong bu aralar göstericiler ve polis arasındaki çatışmalara şahit oluyor.

114_Ağır kayıplar veren ittifak devletleri savaşta yeni bir cephe açtırılmak istiyorlar.

115_Kaş göz hareketi yaparak garsona sürpriz pastayı getirmesini işaret etti.

116_Masasının gizli bölmesinde her ihtimalde karşı bir silah bulunduruyordu.

117_İki Şehrin Hikayesi hak ettiği gibi MEB ilk yüz eser listesinde yer almaktadır.

118_Berberler birçok kültürde kilit olmasa da önemli bir rol oynanmaktadır.

119_Hristiyan demokratların Almanya ve Avrupa birliğindeki başarısını biliyoruz.

120_Birçok kez anayasa değişikliği gidilen Türkiye referandumlara yabancı değil.

121_Hiç değilse yaşadığını biliyorsun, bu bile yeter bazen insana.

122_Kimyasal sızıntı nedeniyle fabrika acilen tahliye oldurulmak zorundaydı.

123_Dolapta bulduğu birkaç malzemeyle kendisine kahvaltı hazırlayıp yedi.

124_Eski Türk filmlerinden fırlama çizgili bir pijaması vardı ve ona giyinip uyurdu.

125_Günlük doldurması gereken belgeleri birike birike bir yığın haline gelmişti.

126_Yapımı devam eden projeyi mali yetersizliklere dolayı sonlandırdı.

127_Yeni aldığı traktörü bir hevesle çalıştırıp tarlasına doğru yol aldı.

128_Planları istediği gibi giderse ona güvenilen herkes memnun olacak.

129_Bekarlar partisi düzenlemek isteyen damada gelin izin vermedi.

130_Kaynağı belli olmayan bilgilere göre birçok kişinin evi izlendirilmiş.

131_Yöre insanının her sene düzenlediği festivale bu sene büyük isimler de katılıyor.

132_Haber ajanslarından alınan bilgiye göre yangına zamanında müdahale olunulmamış.

133_Diğer milletler tarafından kabul görmeyen gruplar marjinalleşmeye eğilimlidir.

134_Yapılan değişikliklere karşı gelinmek anlaşılabilir ancak kabul edilemez.

135_Çocuklar top oynarken hiç kimseyi ve hiçbir şeyi duymuyorlar ki.

136_Su ve hava kirliliği ile mücadele konusunda belediye sınıfta kalınmış durumda.

137_Öğrenciler için sağlanan aylık kart imkanı herkes tarafından olumlu karşılandı.

138_Sınır ihlallerine karşılık verinmek her ülkenin özgün hakkı ve ayrıcalığıdır.

139_İç savaştan kaçan göçmenlerin yığıldığı şehirler hizmet vermekte zorlanıyor.

140_Son on yıldaki ağaçlandırma faaliyetleri meyvelerine vermeye başladı bile.

141_Dünya genelinde kabul gören Birleşmiş Milletler birçok sorumluluk üstlenmektedir.

142_Madde kullanımına mücadele kolluk kuvvetlerinden sosyal hizmetlere kaydırılmalı.

143_Eskinin taş plak şarkıları günümüzde dijital ortamda daha iyi muhafaza ediliyor.

144_Müzik ve sanata olan merakı onda her zaman hobi olarak kalınmış ve ilerlememiştir.

145_Ders başlamadan önce sınıf defterini dolduran öğretmen bir yandan yoklama aldı.

146_Takviminde boş kalan günleri kendine hediye saydırılan çok yoğun bir insandı.

147_Vakit buldukça arkadaşlarıyla dolaşıp vakit öldürüyordu aklı sıra.

148_İzleyenlerin hayal dünyasını genişleten filmler listesi oluşturunmak lazım.

149_Özenle her gün yazdığı günlüğünü seneler sonra bulup sevinmişti kadın.

150_Kardeşlerinin ayakkabılarına götürüp çamura atan yaramaz çocuk buydu.

151_Yaptıklarımı dikkatlice izlerseniz püf noktasının ne olduğunu anlarsınız.

152_Geride bıraktığı ailesi ve anılarını birkaç ay sonra unutulup yeni bir hayata başladı.

153_Mesleğe ilk atıldığında çırak olan Mehmet artık bir marangoz ustası olmuştu.

154_Yaklaşan oğlunun sesini duyunca uzağı göremeyen gözleri yaşarınmıştı birden.

APPENDIX B
EXPERIMENT 2 SELF PACED ITEMS

1_Eski mektupların satırlarında çok koşarmışsın veya gülermişsin diye çok bahsin geçiyor.

2_Eğlencelerin odağı olan partiler düzenlermişsin veya tertiplermişsin diye duydum ben başkalarından.

3_Önceden Sezen Aksu'nun şarkılarını dinlermişim veya ezberlermişim ama şimdi hiçbirini hatırlamıyorum.

4_Ünlü dizi Süper Babayı izlermişiz veya severmişiz çünkü bu ailemizin eğlencesiymiş.

5_Ağacı kırar diye ona kızarmışız veya bağırırmışız ki ağaca hiç tırmanmasın.

6_Bu dersin ödevlerini zamanında yapsaymışım veya gönderseymişim hoca tam puan verecekmiş.

7_Yazıcıdan çıkan belgeyi ceketime koysaymışım veya korusaymışım hiç de ıslanmayacakmış aslında.

8_Böreğin piştiği küçük fırını izleseymişiz veya gözetleseymişiz şimdi yanık börek yemezdik.

9_Genç yaşlarda düzenli şekilde beslenseymişim veya yaşasaymışım daha uzun ömür sürermişim.

10_Arsadan elde edilen madeni işleseymişiz veya satsaymışız çok fazla para kazanırmışız.

11_Hocanın her söylediğini dikkatlice dinleyecekmişiz veya özetleyecekmişiz çünkü bunlar sınavda gerekliymiş.

12_Arabayı yağmurdan korumak için boyatacakmışsın veya kaplatacakmışsın ki araba su geçirmesin.

13_Siparişi verilen bu aletleri monteleyecekmişsin veya taşıyacakmışsın sahipleri gelip görmeden önce.

14_Güvece atılacak bu sarımsakları dilimleyecekmişim veya ezecekmişim ki sadece tadı kalsın.

15_Doktorun tavsiyesine göre gözlerimi dinlendirecekmişim veya ovalayacakmışım ki kan dolaşımı hızlansın.

16_Hurdacıya gelen teknolojik aletleri kurcalamalıymışız veya incelemeliymişiz ancak bunları yapmakta geciktik

17_Bu Hindistan cevizlerini henüz kırmamalıymışım veya yememeliymişim bu yüzden biraz bekledim.

18_Üzerinde toz biriken masayı yıkamalıymışım veya silmeliymişim diye mırıldandım kendi kendime.

19_Bu makinenin içindeki dişlileri sökmeliymişiz veya çıkarmalıymışız ki nasıl çalıştığını öğrenelim.

20_Tasarruf yapmak için fırını kullanmamalıymışız veya açmamalıymışız çünkü fırın çok yakıyormuş.

21_Dışarı çıkmak gerekirse diye hazırlanıyormuşuz veya bekliyormuşuz ama dışarda yağmur yağıyor.

22_Kuşların senelik göç güzergahını izliyormuşuz veya belirliyormuşuz ki çevre düzenlemelerine uyalım.

23_Resmi törende yürüyen askerlere bakıyormuşuz veya şaşırıyormuşuz çünkü çok düzenli yürüyorlardı.

24_Sayfaları pörsümüş anı defterine yaşıyormuşum veya eğleniyormuşum diye usulca not düşüyorum.

101_Kitap almaya giderken karşıma çıkan adama garip bir şekilde bakarak geçtim.

102_Buralara gelerek kendini tehlikeye atmak için çok gençsin desem bana inanırdın.

103_Her günü iple çekerek yaşamak sanırım mutlu olmanın en büyük sırrı.

104_Akşama rus salatası yapmak için pazardan havuç ve uzun turşu aldım.

105_Dolapta birkaç gündür bekleyen zeytinleri bir an evvel sofraya koyalım bence.

106_Kırmızı ışıkta geçen aracın plakası kameralardan çok net bir şekilde gözüküyordu.

107_Ekonomiyi takip ederken dikkat edilmesi gereken en önemli husus değişkenlerin çokluğudur.

108_Everest dağını tırmanmak gerçekten de yetenek ve cesaret gerektiren bir iştir.

109_Solunum yollarında açığa çıkan iltihaptan dolayı yoğun bakım ünitesinde günlerdir bekletiliyor.

110_Karışık ızgara menüde yer alan en pahalı yemeklerden sadece göze çarpanıydı.

111_Matbaadan çıkan yeni basım kitaplar yayınevinin istediği kalitede olmadığından geri gönderildi.

112_Bilgisayar çağında yaşadığımız için bunu hayatımızdaki vazgeçilmezler listesine artık eklememiz gerek.

113_Çok yürümekten ayaklarına kara sular inen coğrafya öğretmeni mola işareti verdi.

114_Bodrum katındaki duvarları nem alan yurtta tadilat çalışmaları günlerdir devam ediyor.

115_Çatı yalıtımının sağladığı enerji tasarrufu yalıtım yaptırmayı maliyet açısından ekonomik yapıyor.

116_Ülkesini savunurken şiddete tanık olan askerler akıl sağlıklarını korumakta güçlük çekiyor.

117_Resimlerinde gökyüzünü hiçbir zaman maviye boyamayan ressam dünyaca ünlü bir sanatkar.

118_Mantar panoya asılacak hatırlatmaları takip ederseniz hangi gün ne yapacağınızı bilirsiniz.

119_Ellerini sıcak sudan soğuk suya sokmayan insanlar risk almak nedir bilmiyorlar.

120_Kitaptaki karakterleri anlayabilmek için satır aralarını çok dikkatli okumak bile yetmiyor.

121_Geri dönüşüm için biriktirilen plastik ve menşei ürünler yeterince iyi saklanmıyor.

122_Elektrik üretiminde sürdürülebilir kaynaklara geçmek kadar tüketimde verimi arttırmak da önemlidir.

123_Çöp kutularını devirerek temizlikçileri sinir eden kedi sonunda sokağı terk etmiş.

124_Fabrikalarda alınacak yeni güvenlik önlemleri resmi gazetede yayımlanarak bugün yürürlüğe girdi.

125_Maden işçilerinin greve gitmesi kömür üretiminde ciddi bir düşüşe neden oldu.

126_Güney Amerika ülkelerindeki yüksek suç oranı ekonomi geliştikçe giderek azalmaya başladı.

127_Kaliforniyada evsiz insanlar sayısı gün geçtikçe artmasına rağmen görevliler önlem almıyor.

128_Uçağa binerken adım attığınız yere dikkat edin çünkü orada boşluk var.

129_Kitaplara düşkün olduğundan ne zaman kitapçının önünden geçsek mutlaka içeri girer.

130_Yanıp sönen ışıkları takip ederseniz yolun sonunda çalışmanın olduğu alandan çıkarsınız.

131_Tadilat parasını toplamak için bir araya gelen köylüler kendi aralarında anlaşamadı.

132_Anotasyon işlemi için gerekli olan kotayı tamamlamak için durmaksızın çalışmak gerekiyor.

133_Yoğun bakıma alınan trafik kazası kurbanı bütün müdahalelere rağmen hayatta kalamadı.

134_Üniversite sınavında yüksek puan almak kadar doğru tercih yapmak da önemlidir.

135_Doğu yakasını kırıp geçiren kasırga arkasında çok büyük mali hasar bıraktı.

136_Sızma zeytinyağını ve sirkeyi ince ağızlı şişe kullanarak salataya yavaşça ekleyiniz.

137_Dünyanın dört bir yanını dolaşan Barış Manço benim en favori şarkıcım.

138_Düğün yeri olarak seçilen salonun bahçesi ve ışıkları herkes tarafından beğenildi.

139_Cam kavanozları salatalık turşusuyla doldurup soğuk bir yere kaldıralım ki bozulmasınlar.

140_Kemençe çalmaya çalışmak gitar çalmaktan çok da farklı bir yetenek gerektirmiyor.

141_Bozuk duş başlığını değiştirirken ayağı birden kayıp küvetin kenarına kafasını çarptı.

142_Kulpları düşen dolabın kapağını açmak için parmağını araya sokup geriye çek.

143_Uçurumun kenarından denize doğru baktığın zaman karşında gördüğün manzara çok güzel.

144_Çocuk sandalyenin ucuna oturup ileri geri sallanırken annesi öteki odadan bağırdı.

145_Ellerine kırmızı saç boyası bulaştığından musluk başlarını ve kapıları dirseğiyle açtı.

146_Pazar yerini geçtikten sonra karşında gördüğün bankamatiğin hemen yanında seni bekliyorum.

147_Anlaşmanın tarafları birkaç farklı hususta ortak bir kanıya varmak için buluştu.

148_Dibi delinmiş şişeyle su taşımaya çalışan çocuk eve geldiğinde şişe bomboştu.

APPENDIX C
EXPERIMENT 3 SELF PACED ITEMS

1_Bence baron ve (cesur) şövalyeyi ödüllendiren kral birbirlerini/onları şatoda dinleyecek.

2_Sanırım hemşire ve (zavallı) hastayı gören doktor birbirlerine/onlara ameliyatı hatırlatacak.

3_Umarım muhabir ve (endişeli) görevliyi duyan bakan birbirlerini/onları toplantıda uyaracak.

4_Mesela antrenör ve (utangaç) dansçıyı tanıyan sporcu birbirlerini/onları yarışmaya kaydedecek.

5_Sözde adam ve (acemi) garsonu farkeden kadın birbirlerini/onları restoranda ağırlayacak.

6_Öte yandan akademisyen ve (unutkan) sekreteri uyaran rektör birbirlerini/onları törene çağıracak.

7_Anlaşılan kuyumcu ve (çaresiz) dönerciyi dolandıran hırsız birbirlerini/onları polise ihbar ediyor.

8_Allahtan öğretmen ve (çalışkan) öğrenciyi unutan müdür birbirlerini/onları okulda görüyor.

9_Belli ki yazar ve (eski) editörü arayan şair birbirlerine/onlara sokakta sesleniyor.

10_Neyse ki adam ve (sakar) çırağı çağıran çilingir birbirlerine/onlara kapıyı gösteriyor.

11_Anlaşılan hostes ve (genç) yolcuyu beğenen pilot birbirlerini/onları uçakta gözetliyor.

12_Aslında hamal ve (kurnaz) tezgahtarı bulan sütçü birbirlerini/onları pazarda kandırıyor.

13_Bu arada yarışmacı ve (şirin) sunucuyu eleştiren seyirci birbirlerini/onları salondan çıkardı.

14_Demek ki şehzade ve (temkinli) veziri dinleyen padişah birbirlerini/onları savaşa uğurladı.

15_Mesela subay ve (dikkatsiz) çavuşu fırçalayan general birbirlerine/onlara dikkatlice baktı.

16_Ne yazık ki profesör ve (azimli) asistanı araştıran dekan birbirlerini/onları projeden vazgeçirdi.

17_İyi ki veznedar ve (iyimser) cerrahı kandıran yatırımcı birbirlerini/onları satıştan caydırdı.

18_Aslında büyükelçi ve (şaşkın) çevirmeni bekleyen başbakan birbirlerini/onları görüşmeye davet etti.

19_Sözde müzisyen ve (alımlı) modele yaklaşan aktör birbirlerine/onlara duyuruyu okuyacak.

20_Kısacası oyuncu ve (uzun) kameramana seslenen yönetmen birbirlerine/onlara sahneyi izletecek.

21_Umarım yatırımcı ve (yorgun) işçiye bakan mühendis birbirlerini/onları planlarla bilgilendirecek.

22_Bence fotoğrafçı ve (geçimsiz) berbere bağıran gözlükçü birbirleriyle/onlarla kahvede karşılaşacak.

23_Belli ki asker ve (kaygısız) bekçiye kızan komutan birbirlerine/onlara kışlayı gösteriyor.

24_Yani kasap ve (çevik) elemana güvenen pazarcı birbirlerine/onlara dükkanı emanet ediyor.

25_Öte yandan marangoz ve (konuşkan) ustabaşına takılan mimar birbirlerinden/onlardan siparişi alıyor.

26_Neyse ki çiçekçi ve (güleç) rehbere danışan turist birbirlerine/onlara hediyeyi seçtiriyor.

27_Allahtan matbaacı ve (özensiz) teknisyene gücenen yayımcı birbirlerini/onları atölyede gördü.

28_Maalesef muavin ve (özenli) biletçiye karışan şoför birbirlerini/onları güzergahtan vazgeçirdi.

29_Demek ki madenci ve (ılımlı) müfettişe ulaşan tüccar birbirlerini/onları telefonla aradı.

30_Üstelik denizci ve (durgun) balıkçıya inanan kaptan birbirlerinden/onlardan rotayı öğrendi.

31_Nedense avukat ve (insaflı) hakime güvenen patron birbirlerinden/onlardan güvence istedi.

32_Yani manav ve (saygılı) delikanlıdan bahseden terzi birbirleriyle/onlarla dalga geçiyor.

33_Nedense piyanist ve (hevesli) seyirciden utanan şarkıcı birbirlerini/onları sahneye çağırıyor.

34_Üstelik kadın ve (sakin) muhtardan çekinen köylü birbirlerini/onları yemeğe buyur ediyor.

35_İyi ki hizmetli ve (hırslı) yöneticiden korkan aşçı birbirlerine/onlara tarifi verdi.

36_Kısacası kiracı ve (dalgın) kapıcıdan bıkan emlakçı birbirlerine/onlara daireyi gezdirdi.

37_Hiç değilse futbolcu ve (taraflı) hakemden usanan direktör birbirlerini/onları yönetime şikayet etti.

38_Sanırım çiftçi ve (sinirli) çobandan kaçan imam birbirleriyle/onlarla meydanda karşılaştı.

39_Maalesef papaz ve (bilgili) rahibeden uzaklaşan filozof birbirlerini/onları tartışmaya zorladı.

40_Hiç değilse hizmetçi ve (ihmalkâr) kiracıdan huylanan tesisatçı birbirlerine/onlara tadilatı tarif etti.

101_Kilitli eve giden sevimli kadın gerisin geri döndü.

102_Karmaşık sokakta yalnız kalan çaresiz adam çok korktu.

103_Kitabını ve defterini unutan çocuk okula geç geldi.

104_Gereksiz konuları merak eden adam fazlasıyla vakit kaybediyor.

105_Sabırsız öğretmeni gören okul müdürü hemen çocuklara seslendi.

106_Sıcakkanlı aşçıya bakan görevli temizliğe biraz yardım etti.

107_Daireyi ve binayı temizleyen kapıcının maaşına zam yapıldı.

108_Yeni ameliyat olan hastayı hemşire çok fena azarladı.

109_Görüşmeye geç kalan öğrenci ödevini zamanında teslim edemedi.

110_Feci kazada ve sonrasında yaralanan olmaması insanları rahatlattı.

111_Emekli öğretmen karşı karşıya kaldığı garip durumu anlayamadı.

112_Arabasını alan ve işlerini bitiren adam gereğinden fazla yoruldu.

113_Defterleriyle kalemlerini evde unutan küçük çocuk durmadan ağladı.

114_Elektrik faturası ve benzin ücretlerinin arttığı bir dönemdeyiz.

115_Şişenin kapağında gördüğü acayip yazıyı dikkatlice okumaya çalıştı.
116_Masasında veya arabasında dağınık bir kağıt parçası bulunamadı.
117_Aşçı pişirdiği yemekleri müdüre ve hizmetliye gururla gösterdi.
118_Korkan hayvanları ahıra götüren çoban az daha ölüyordu.
119_Şarkının notalarını karıştıran tecrübeli piyanist ne yapacağını bilemedi.
120_Maçı kaybeden takımdaki futbolcular değerlendirme yapmak için bekliyorlar.
121_Pistte kalan lastikler uçağın kaza yapmasına sebep olmuş.
122_Kırmızı çizgileri olmayan sporcu çalışmalarını çok sert sürdürüyor.
123_Ahmetle dalga geçen çocuk sonunda hak ettiğini buldu.
124_Çaresiz kalan aşçı depoda kalan son sebzeleri pişirdi.
125_Dinlenmeksizin çalışan işçiler çoktandır mola vermek için sabırsızlanıyor.
126_Yırtılmış gömleklerini tamir ettirmek için terziye gitmiş olmalı.
127_Olay yerine gelen polisler öncelikle şüphelinin eşkalini belirledi.
128_Yaya geçidinde kırmızı ışığın yanmasını beklemeyen şoförler vardı.
129_Sayfalarını karıştırdığı kitabı bir kenara koyup uyumaya başladı.
130_Görevliler elektrik hattını tehlikeye sokan ağaç dallarını kestiler.
131_Çığ tehlikesinin yüksek olduğu yollarda karayolları önlem almalı.
132_Fotokopi makinasının mürekkebini değiştirmek için yeni kartuş gerekli.
133_Muavinin tarif ettiği yol üzerinde dinlenme tesisi yok.
134_Hostes uçuş başlamadan önce güvenlik yönergelerinin hepsini anlattı.
135_Çiçekçinin sattığı laleler çok çeşitli renk ve türlerden.
136_Balıkçılar derneğinin yaptığı duyuruda kotalar protesto ediliyor.
137_Gerekli izinleri alan maden şirketi kazı çalışmalarına başladı.
138_Sporcuları çalıştıran antrenör takımının performansından pek memnun değil.
139_Çevirmenlere iş veren şirket maaşları doğru zamanda yatırmamış.
140_Boyadığı tabloları sergiye çıkaran ressam fazlasıyla gururlanıyor.
141_Yaz tatilini geçirmek için gittiği tatil yerinden esmerleşerek geldi.
142_Karpuzu tamamen püre haline getirdikten sonra yavaşça karışıma eklemelisin.
143_Ateşi yükselen bebeği hastaneye yetiştirmek için hemen arabaya koştuk.
144_Konuyla ilgili açıklama yapması beklenen bakan toplantıyı terk etti.
145_Okulda ve kursta işlenen konuları dikkatlice takip etmek zorundasın.
146_Projeye dahil edilen konuları not almak en öncelikli işimiz.
147_Mühendisler odasının hazırladığı rapora göre inşaatın zemini düzgün yapılmamış.
148_Haberlerde adı geçen dönercinin ürünlerinde birçok katkı maddesi bulunmuş.
149_Son yıllardaki seller giderek daha fazla zarara sebep oluyor.
150_Kaptan gemideki insanları ve kargoyu korumak için demir attı.
151_Yeşil ışığın yanmasıyla hızlanan araba ve motosiklet feci çarpıştı.
152_Kırık sandalyeleri tamir eden marangoz çok çalıştığını söylemekten çekinmiyor.
153_Kelebeğin türünü üstündeki şekiller veya kanadının şeklinden anlamaya çalışabiliriz.
154_Atık sularla kirlenen ve hırpalanan dereyi temizleme işlemleri yetersiz.

155_Yatırımcılar kentsel dönüşüm kapsamında yıkılan yerleri fırsat olarak görüyor.

156_Film sahnesinde yeterli rolü olmayan oyuncu senariste içten yakındı.

157_Kuyumcunun getirdiği bileziklerin işlemeleri gelinin ailesi tarafından çok beğenildi.

158_Fotoğrafçı tek başına çektiği tüm fotoğrafları arkadaşlarıyla internetten paylaştı.

159_Hep beraber gittiğimiz piknikte oynadığımız oyunları çok net hatırlıyorum.

160_Sekreterin kaybettiği dosyaları tek başına arayan profesör çok sinirlendi.

161_Kitapları yerine dizmekten yorulan kütüphaneci insanlardan sessiz olmalarını istiyor.

162_Köşeleri eskimiş çantasını koluna geçiren doktor acilen yola çıkıyor.

163_Tezgahtarın önündeki kumaşlara bakmak isteyen müşteri sesini duyurmaya çalışıyor.

164_Çırağın yanlış bağladığı kabloları düzelten teknisyen çok vakit kaybetti.

165_Vezirin tavsiyelerine kulak asmayan padişah orduyla birlikte sefere çıktı.

166_Hastanın ameliyatı sırasında gelişen durumdan ötürü cerrah operasyonu bitirdi.

167_Dersi biten öğrenciler tatillerini geçirmek üzere ailelerinin yanına gidecek.

168_Hizmetli camların temizliğini bitirdikten sonra oturma odasının temizliğine başlayacak.

169_Işıkları düzgün yanmayan binanın elektrik hattında problem olduğu anlaşıldı.

170_Burada yaşayan köylüler kahveyi kavurduktan sonra elleriyle saatlerce dövüyorlar.

171_Turistleri dolandıran rehberleri yakalayan polis basına açıklama yapmaktan kaçındı.

172_Haftasonu partiye gidecek öğrenciler yanlarında yiyecek ve içecek getirmeli.

173_Sokaklarda dolaşan çocukların sağlıklı büyümesi için oyun parkları yapılmalı.

174_Programın yazılı olduğu ajandayı unutan sekreter kendine çok kızdı.

175_Veznedar bankaya gelen müşteriye imzanlaması gereken belgeleri usulca uzattı.

176_Sokak üzerindeki olağan devriyeye takılan hırsız birden kaçmaya başladı.

177_Tasarımlarını arkadaşlarına gösteren çizer giysileri hemen dikmek istiyor.

178_Yola çıkmadan önce hazırlıklarını tamamlayan kaptan geminin yükünü azalttı.

179_Şehirdeki toplum düzenine katkıda bulunması amacıyla halk kursları açılıyor.

180_Deprem sonrası oluşan hasarların tespiti için mahalleye uzmanlar gönderildi.

Ackema, P., Neeleman, A., and Others (2004). *Beyond morphology: Interface conditions on word formation*, volume 6. Oxford University Press on Demand.

Akkuş, F. (2016). Suspended affixation with derivational suffixes and lexical integrity. In *Mediterranean Morphology Meetings*, volume 10, pages 1–15.

Bonet, E. (1991). *Morphology after syntax: Pronominal clitics in Romance*. PhD thesis, Autonomous University of Barcelona.

Booij, G. E. (1985). Coordination Reduction in Complex Words: A Case for Prosodic Phonology. *Advances in Nonlinear Phonology, H.v.d. Hulst and N. Smith, Editors,*, (2):143–160.

Broadwell, G. A. (2008). Turkish Suspended Affixation Is Lexical Sharing. *Proceedings of the LFG08 Conference*, 198.

Bruening, B. T. (2018). Word formation is syntactic: Raising in nominalizations. *Glossa: a journal of general linguistics*, 3(1):102.

Bürkner, P.-C. C. and Others (2017). brms: An R package for Bayesian multilevel models using Stan. *Journal of statistical software*, 80(1):1–28.

Chomsky, N. (1993). *Lectures on government and binding: The Pisa lectures*. Walter de Gruyter.

Chomsky, N. (1999). Derivation by phase. *MIT occasional papers in linguistics*, 18.

Christianson, K., Hollingworth, A., Halliwell, J. F., and Ferreira, F. (2001). Thematic roles assigned along the garden path linger. *Cognitive Psychology*, 42(4):368–407.

Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective*. Oxford University Press on Demand.

Cinque, G. (2001). A note on mood, modality, tense and aspect affixes in Turkish. *The verb in Turkish*, pages 47–59.

Comrie, B., Haspelmath, M., and Bickel, B. (2008). The Leipzig Glossing Rules: Conventions for interlinear morpheme-by-morpheme glosses. *Department of Linguistics of the Max Planck Institute for Evolutionary Anthropology & the Department of Linguistics of the University of Leipzig. Retrieved January*, 28:2010.

Cousineau, D. (2017). Varieties of confidence intervals. *Advances in Cognitive Psychology*, 13(2):140–155.

Demir, D. Ö. (2014). Adverbial Clauses in Modern Turkish. In *Conference on Central Asian Languages and Linguistics*, page 73.

Despić, M. (2017). Suspended morphology in Serbian: clitics vs. affixes. *Glossa: a journal of general linguistics*, 2(1):1–43.

Drummond, A. (2013). Ibex farm. *Online server: http://spellout. net/ibexfarm*.

Embick, D. and Halle, M. (2005). On the status of stems in morphological theory. *AMSTERDAM STUDIES IN THE THEORY AND HISTORY OF LINGUISTIC SCIENCE SERIES 4*, 270:37.

Erdal, M. (2000). Clitics in Turkish. *Studies on Turkish and Turkic Languages*, pages 12–14.

Erschler, D. (2009). Possession marking in Ossetic: Arguing for Caucasian influences. *Linguistic Typology*, 13(3):417–450.

Erschler, D. (2012). Suspended affixation in Ossetic and the structure of the syntax-morphology interface. *Acta Linguistica Hungarica (Since 2017 Acta Linguistica Academica)*, 59(1-2):153–175.

Erschler, D. (2018). Suspended Affixation as Morpheme Ellipsis: Evidence from Ossetic Alternative Questions. *Glossa*, 3(1).

Ferreira, F., Bailey, K. G., and Ferraro, V. (2002). Good-enough representations in language comprehension. *Current Directions in Psychological Science*, 11(1):11–15.

Ferreira, F., Christianson, K., and Hollingworth, A. (2001). Misinterpretations of garden-path sentences: Implications for models of sentence processing and reanalysis. *Journal of psycholinguistic research*, 30(1):3–20.

Fokkens, A., Poulson, L., and Bender, E. M. (2009). Inflectional morphology in {Turkish} VP coordination. In *Müller, S.(ed.) Proceedings of the HPSG 09 Conference*. Stanford: CSLI Publications.

Frazier, L. (1987). Sentence Processing: A Tutorial Review.

Frazier, L. and Fodor, J. D. (1978). The sausage machine: A new two-stage parsing model. *Cognition*, 6(4):291–325.

Göksel, A. (2001). The auxiliary verb ol at the morphology-syntax interface. *The Verb in Turkish. Amsterdam: John Benjamins*, pages 151–181.

Göksel, A. and Kerslake, C. (2005). *Turkish: A comprehensive grammar*. Routledge.

Good, J. and Yu, A. C. L. (2005). Morphosyntax of two Turkish subject pronominal paradigms. *Clitic and affix combinations: Theoretical perspectives*, 74:315–374.

Gordon, P. C., Hendrick, R., Johnson, M., and Lee, Y. (2006). Similarity-based interference during language comprehension: Evidence from eye tracking during reading. *Journal of Experimental Psychology: Learning Memory and Cognition*, 32(6):1304–1321.

Grice, H. P. (1989). *Studies in the Way of Words*. Harvard University Press.

Guseva, E. and Weisser, P. (2017). Postsyntactic Reordering in the Mari Nominal Domain-Evidence from Suspended Affixation. *Natural Language and Linguistic Theory*.

Haegeman, L. (1994). *Introduction to government and binding theory*. Wiley-Blackwell.

Halle, M. and Marantz, A. (1993). Distributed morphology and the pieces of inflection.

Halle, M. and Marantz, A. (1994). Some key features of Distributed Morphology. *MIT working papers in linguistics*, 21(275):88.

Hardie, A. (2012). CQPweb—combining power, flexibility and usability in a corpus analysis tool. *International journal of corpus linguistics*, 17(3):380–409.

Herbeck, P. (2016). Controlling subject pronouns in Romance pro-drop languages. In *Colloquium talk at the Linguistics Department at the Ben Gurion University, Beer Sheva*.

Hofmeister, P. and Vasishth, S. (2014). Distinctiveness and encoding effects in online sentence comprehension. *Frontiers in Psychology*, 5(DEC):1–13.

Itô, J. and Hankamer, J. (1989). Notes on monosyllabism in Turkish. *Phonology at Santa Cruz*, 1:61–69.

Jäger, L. A., Engelmann, F., and Vasishth, S. (2017). Similarity-based interference in sentence comprehension: Literature review and Bayesian meta-analysis. *Journal of Memory and Language*, 94:316–339.

Johannessen, J. B. (1998). *Coordination*. Oxford University Press.

Johanson, L. (1995). On Turkic converb clauses. *Haspelmath & König (eds.)*, 1995:313–348.

Kabak, B. (2007). Turkish suspended affixation. *Linguistics*, 45(2):311–347.

Kenesei, I. and Others (2007). Semiwords and affixoids: The territory between word and affix. *Acta Linguistica Hungarica (Since 2017 Acta Linguistica Academica)*, 54(3):263–293.

Kharytonava, O. (2011). The morphology of affix sharing in Turkish. *Coyote Papers: Working Papers in Linguistics, Linguistic Theory at the University of Arizona*, 18(4).

Kharytonava, O. (2012a). Word minimality and suspended affixation. *Studia uralo-altaica*, 49:279–290.

Kharytonava, V. (2012b). Taming affixes in Turkish: with or without residue. *Studia typologica: Irregularities in morphology*, pages 167–185.

Kornfilt, J. (1996). On some copular clitics in Turkish. *ZAS papers in linguistics*, 6:96–114.

Kornfilt, J. (1997). Turkish. *London and New York: Routledge*.

Kornfilt, J. (2012). Revisiting "Suspended Affixation" and Other Coordinate Mysteries". *Functional heads: The cartography of syntactic structures*, 7.

Kruschke, J. K. (2011). Bayesian assessment of null values via parameter estimation and model comparison. *Perspectives on Psychological Science*, 6(3):299–312.

Kunduracı, A. and Göksel, A. (2016). Morphology: the base processor. In *Mediterranean Morphology Meetings*, volume 10, pages 88–97.

Levy, R. (2008). Expectation-based syntactic comprehension. *Cognition*, 106(3):1126–1177.

Lewis, G. (1967). Turkish grammar.

Lewis, R. L. and Vasishth, S. (2005). An activation-based model of sentence processing as skilled memory retrieval. *Cognitive science*, 29(3):375–419.

Lieber, R. and Scalise, S. (2006). The lexical integrity hypothesis in a new theoretical universe. *Lingue e Linguaggio*, 5(1):7–32.

Logačev, P. and Vasishth, S. (2016). A Multiple-Channel Model of Task-Dependent Ambiguity Resolution in Sentence Comprehension. *Cognitive Science*, 40(2):266–298.

MacDonald, M. C., Pearlmutter, N. J., and Seidenberg, M. S. (1994). The lexical nature of syntactic ambiguity resolution. *Psychological Review*.

Marantz, A. (2007). Phases and words. In *Phases in the theory of grammar*, pages 191–222. Dong-In Publishing Co.

Martin, A. E. and McElree, B. (2011). Direct-access retrieval during sentence comprehension: evidence from sluicing. *Journal of memory and language*, 64(4):327–343.

Mendia, J. A., Poole, E., and Dillon, B. (2018). Spurious NPI licensing and exhaustification. *Semantics and Linguistic Theory*, 28(2):233–250.

Merchant, J. (2015). On ineffable predicates: Bilingual Greek–English code-switching under ellipsis. *Lingua*, 166:199–213.

Munn, A. (1987). Coordinate structure and X-bar theory. *McGill working papers in linguistics*, 4(1):121–140.

Munn, A. (1993). *Topics in the syntax and semantics of coordinate structures*. PhD thesis, University of Maryland at College Park.

Orgun, C. O. (1995). Flat vs. branching morphological structures: the case of suspended affixation. In *Annual Meeting of the Berkeley Linguistics Society*, volume 21, pages 252–261.

Orgun, C. O. and Inkelas, S. (1992). Turkish prosodic minimality. In *6th International Conference on Turkish Linguistics, Anadolu University, Eskisehir, Turkey*.

Öztürk, B. (2001). Turkish as a non-pro-drop language. *The Verb in Turkish*, pages 239–259.

Öztürk, B. and Taylan, E. E. (2016). Possessive constructions in Turkish. *Lingua*, 182:88–108.

Parker, D. and Phillips, C. (2016). Negative polarity illusions and the format of hierarchical encodings in memory. *Cognition*, 157:321–339.

Pounder, A. (2006). Broken forms in morphology.

R Core Team (2013). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria.

Ross, J. R. (1967). Constraints on Variables in Syntax, unpublished Doctoral dissertation.

Sağ, Y. (2013). The verbal functional domain in the Denizli Dialect of Turkish. Master's thesis, Bo{\u{g}}aziçi University.

Sezer, B., Sezer, T., and Ünivesitesi, M. (2013). TS Corpus: Herkes için Türkçe Derlem. In *Proceedings 27th National Linguistics Conference. May*, pages 3–4.

Slattery, T. J., Sturt, P., Christianson, K., Yoshida, M., and Ferreira, F. (2013). Lingering misinterpretations of garden path sentences arise from competing syntactic representations. *Journal of Memory and Language*, 69(2):104–120.

Smith, G. (2000). Word remnants and coordination. *Deutsche Grammatik in Theorie und Praxis*, pages 57–68.

Swets, B., Desmet, T., Clifton, C., and Ferreira, F. (2008). Underspecification of syntactic ambiguities: Evidence from self-paced reading. *Memory and Cognition*, 36(1):201–216.

Te Velde, J. R. (2005). *Deriving Coordinate Symmetries*. John Benjamins Publishing Company.

Traxler, M. J., Pickering, M. J., and Clifton, C. (1998). Adjunct attachment is not a form of lexical ambiguity resolution. *Journal of Memory and Language*, 39(4):558–592.

Underhill, R. (1976). *Turkish grammar*. MIT press Cambridge, MA.

van Dyke, J. A. and Johns, C. L. (2012). Memory interference as a determinant of language comprehension. *Language and linguistics compass*, 6(4):193–211.

van Dyke, J. A. and McElree, B. (2006). Retrieval interference in sentence comprehension. *Journal of Memory and Language*, 55(2):157–166.

van Gompel, R. P. G., Pickering, M. J., Pearson, J., and Jacob, G. (2006). The activation of inappropriate analyses in garden-path sentences: Evidence from structural priming. *Journal of Memory and Language*, 55(3):335–362.

van Gompel, R. P. G., Pickering, M. J., Pearson, J., and Liversedge, S. P. (2005). Evidence against competition during syntactic ambiguity resolution. *Journal of Memory and Language*, 52(2):284–307.

van Gompel, R. P. G., Pickering, M. J., and Traxler, M. J. (2001). Reanalysis in sentence processing: Evidence against current constraint-based and two-stage models. *Journal of Memory and Language*, 45(2):225–258.

Vasishth, S., Mertzen, D., Jäger, L. A., and Gelman, A. (2018). The statistical significance filter leads to overoptimistic expectations of replicability. *Journal of Memory and Language*, 103(i):151–175.

Wagenmakers, E. J. (2007). A practical solution to the pervasive problems of p values. *Psychonomic Bulletin and Review*, 14(5):779–804.

Wagers, M. W., Lau, E. F., and Phillips, C. (2009). Agreement attraction in comprehension: Representations and processes. *Journal of Memory and Language*, 61(2):206–237.

Wälchli, B., Others, and Walchli, B. (2005). *Co-compounds and natural coordination*. Oxford Studies in Typology and.

Willits, J. A., Amato, M. S., and MacDonald, M. C. (2015). Language knowledge and event knowledge in language use. *Cognitive psychology*, 78:1–27.

Woolford, E. (2006). Lexical case, inherent case, and argument structure. *Linguistic inquiry*, 37(1):111–130.

Yoon, J. H. S. (2017). Lexical integrity and suspended affixation in two types of denominal predicates in Korean. *Glossa: a journal of general linguistics*, 2(1):45.

Yoon, J. H. S. and Lee, W. (2005). Conjunction Reduction and its Consequences for Noun Phrase Morphosyntax in Korean. *Proceedings of the West Coast Conference on Formal Linguistics*, 24:379–387.